Margaret Ann Hall

Radio After Radio: Redefining radio art in the light of new media technology through expanded practice

Thesis for PhD degree awarded by the University of the Arts London

June 2015

Abstract

I have been working in the field of radio art, and through creative practice have been considering how the convergence of new media technologies has redefined radio art, addressing the ways in which this has extended the boundaries of the art form. This practice-based research explores the rich history of radio as an artistic medium and the relationship between the artist and technology, emphasising the role of the artist as a mediator between broadcast institutions and a listening public. It considers how radio art might be defined in relation to sound art, music and media art, mapping its shifting parameters in the digital era and prompting a consideration of how radio appears to be moving from a dispersed 'live' event to one consumed 'on demand' by a segmented audience across multiple platforms. Exploring the implications of this transition through my radio practice focuses upon the productive tensions which characterise the artist's engagement with radio technology, specifically between the autonomous potentialities offered by the reappropriation of obsolete technology and the proliferation of new infrastructures and networks promised by the exponential development of new media. *Switch Off* takes as its overarching theme the possible futures for FM radio, incorporating elements from eight 'trace' stations, produced as a series of radio actions investigating these tensions. Interviews have been conducted with case study subjects Vicki Bennett, Anna Friz, LIGNA, Hildegard Westerkamp and Gregory Whitehead, whose work was chosen as being exemplary of the five recurrent facets of radio arts practice I have identified: Appropriation, Transmission, Activism, Soundscape and Performance. These categories are derived from the genealogy of experimental radiophonic practice set out in Chapter One.

Acknowledgements

I would like to thank James Backhouse and Angus Carlyle for their time and invaluable support, and Cathy Lane, who let me follow my own path and reminded me how important feminism is. Many thanks to my case studies and all those who supported me or took part in the many projects which make up this research. Special thanks to Theo Sykes and Genetic Moo.

I wish to dedicate this text to sound and radio artists across the globe, and to my son Ewart.

Contents

Practice Portfolio:

Exhibitions, Events, Broadcasts and Talks Conducted as Part of Doctoral Research

Exhibitions

2014

- *Spiritual Radio*, commissioned for *Unbinding the Book* by Jotta and Blurb for London Art Book Fair, Whitechapel Gallery,25th–28th September.
- *Siren,* installation, 1st June. Whitstable Biennale, Whitstable Beach.
- *Radio Recall*, installation forming part of *Radio Arts Dreamlands Showcase*, exhibition that I curated at the Beaney House of Art and Knowledge, Canterbury, 19th–27th April. With new work from Gregory Whitehead, Joaquin Cofreces and Genetic Moo.
- *Radio Recall* broadcast on Resonance FM, 23rd July, and Phonic FM, 4th September, as part of series of *Dreamlands* broadcasts that I curated, featuring Joaquin Cofreces, *Dreamland,* aired on Radio Reverb 23rd–24th June; Radio Papesse (Italy), 27th June; Sound Art Radio, 29th June; Resonance FM (UK) 23rd July; Australian Broadcasting Corporation (ABC) 27th July. Michael McHugh, *Dream of The Dream Scientist*, aired on Radio Reverb 23rd–24th June; Radio Papesse (Italy) 27th June; Sound Art Radio (UK), 29th June; WGXC (USA) 90.7FM, 12th July; Resonance FM, 29–30th July: Gregory Whitehead, *Crazy Horse One Eight,* aired on Radio Papesse (Italy), 27th June; Sound Art Radio (UK), 29th June; WGXC (USA) 90.7FM, 12th July; Resonance FM, 23rd July.
- Radio Arts Workshops, The Beaney House of Art and Knowledge, Canterbury, 25th January and 31st May. Horsebridge Arts, Kent.
- *Radio Mind*, Marrakech Biennale, *Here. Now. Where?,* 25th February–6th March.

2013

- *Numbers* installation for *Canterbury Exchange Exhibition*, 22nd October–Dec 15th December. University Galleries, Illinois State University, USA.

- *Radio Recall* installation, 31st October. LV21, Gillingham Pier, Kent, part of a residency.

- Radio Art workshops: *Duchamp Festival,* Beach House, Herne Bay, 3rd August. August 30th, The Old Lookout Gallery*,* Broadstairs, and 12th October, Turner Contemporary*,* Margate.

- *Radio Recall,* installation, 29th August–3rd September. The Old Lookout Gallery, Broadstairs, Kent.

- *Commercial Break*, 5th June broadcast for Muse Ruole: Women in experimental music, Radio Edition in Museion Passage, Museum of Modern and Contemporary Art, Bozen, Italy.

- *Commercial Break,* 7th–30th June, listening station at the Women's Museum in Meran, Italy.

- *Numbers* radio installation, 9th–27th April, *The Collected*, Sidney Cooper Gallery, Canterbury, Kent.

- *Numbers* broadcast at the *Addicted2 Random Festival* on Radio Corax, July.

- *Commercial Break*, 15th March. Lightworks International Arts Festival, UK.

2012

- *Radio Mind*, 13th October, broadcast from Transmission Arts Colloquium on WGXC 90.7-FM and free103point9fm USA.[1]
- *Babble Station*, interaction/installation 9th and 16th September. Whitstable Biennale, Horsebridge Arts Centre, Whitstable, Kent.

---

[1] See Transmission Arts Colloquium, 2012.

- *Radio Mind and Commercial Break*, Boat Radio DAB, broadcast 13th–21st July, across Kent, Sussex, Hampshire and Essex.
- *Commercial Break, Lone Broadcast, Numbers* radio installation, 12th–19th July. The Old Lookout Gallery, Broadstairs, Kent.
- *Radio Jam,* live broadcast networked interaction, 7th, July. V Summer Radio, 22 Gallery London.
- *Radio Mind*, installation, 19th–28th, May. Deep Wireless Festival, Toronto, Canada.
- *Lone Broadcast* part of group show,1st–10th April. Untitled BCN, Barcelona, Spain.
- *Radio Mind*, 16th March. The Lightworks, Annual International Arts Festival. Grimsby, UK. Winner of Sound Commission.
- *Numbers,* installation 1st–17th March, London College of Communications (LCC), University of the Arts, London, PhD group show, London. Work in Practice, with a film of the artist by Ben Rowley at the *Radio Mind* (2011) installation. View at http://vimeo.com/32043583
- *Sound Train,* live soundscape broadcast train journey via Canterbury to London 14th February.

2011:

- *Radio Mind* micro radio installation, 2nd–7th September. The Old Lookout Gallery, Broadstairs, Kent.
- *Radio Mind*, Exhibit #1, group show, 19th October–1st December. Burton Gallery, Canterbury Christ Church University, Broadstairs.
- *Radio Mind* broadcast on Radio Futura 102.1 MHz, – Porto, part of Future Places, Digital Media and Local Cultures, 19th–22nd October. Porto, Portugal. http://futureplaces.org/.

2009:

- *Reinventing the Dial: Explorations In Experimental Radio Practice*: Curated one-day radio symposium, 27th October at Canterbury Christ Church University, Kent, UK. Guest speakers: Dr Andy Birtwistle, Dr Angus Carlyle, Andy Cartwright, Peter Cusack, Dr Lance Dann, Dr Kersten Glandien, Kaffe Matthews and Tom McCarthy.

2007:

- *Feedback Fiesta*, 6th July, Sonic Arts Expo Bright, on live Radio Art interaction on FM Radio Reverb, Brighton.

2006:

- Radio Art workshops, Albany Centre, Deptford, London, 27th March–28th April, and July. Funding via European Social Fund, Fast Forward Grants and Awards For All. Produced two-hour radio shows for Resonance, Deep Wireless Festival, Toronto, 2007; CKLN FM and NYC free103point9fm. South London Radio Arts www.radioarts.org.uk

2005:

- Curated and produced *Group Radio Art Show*, Prix Europa's European Radio Day, broadcast Resonance FM 16th October. Featuring: Javier Aregger, Jim Backhouse, Richard Bowers, Carter Tutti, Angus Carlyle, Jem Finer and Marcia Farquhar, Iris Garrelfs, William English, Magz Hall, Bjorn Hatleskog, John Lovett, Grant Newman, Mark Pilkington, Tom Wallace, Chris Weaver, Adam Windbush and Dan Wilson.[2]
- *You Are Hear* radio show producer and presenter, 2002–06: live weekly live arts and new music show, Resonance FM, London, www.youarehear.co.uk and 2007–2010 for Totally Radio www.totallyradio.com, *You Are Hear* podcast, Critic's Choice, The *Independent*, 21st February, 2008, Robert Moss.

Research-Related Talks/Papers

- *Outside Sounds*, 6th September, 2014. Extrapool, Holland.
- *Theatre in the Cloud*, 24th November, 2013. Gulbenkian Theatre, Canterbury.
- *The Symposium on Acoustic Ecology*, 9th November, 2013. University of Kent.
- Guest artist talk, October, 2013. University of Kent.
- *ECREA Radio Research Conference*, 11th September, 2013.[3]
- *International Radio Conference*, University of Bedford, 10th July, 2013.[4]

---

[2] See Hall, M. *Group Radio Art Show*.

[3] See European Communication Research and Education Association, 2013.

- Parasol Unit Foundation for Contemporary Art, 15th April, 2013. London, [5]
- *Transmission Arts Colloquium*, 2th–14th, October, 2012. Wave Farm, NYC, USA1.[6]
- *Trans X,* Transmission Art Symposium, 27th May, 2012. Toronto, Canada.[7]
- Sound::Gender::Feminism::Activism, Postgraduate Research Event, 17th May, 2012. London College of Communications, University of the Arts.[8]
- 18th April, 2012, University Abat Oliba, CEU Barcelona. ; 11th June, 2012, Milan, University, Italy.
- *Radio With Out Boundaries,* Conference, 27th May, 2006. Deep Wireless, Toronto, Canada.
- Central St Martin's, London, guest artist, MA Communication Design Course, 2005.
- *Takeaway Festival*, 30th March, 2006. Dana Centre, Science Museum, London.[9]
- *Sound and Anthropology*, 21st June, 2006. University of St Andrews. [10]

Interviews conducted for this research:

- Vicki Bennett (25th February, 2011)
- Anna Friz (15th November, 2010),
- Douglas Kahn (4th October, 2006)
- Tetsuo Kogawa (10th October, 2010)
- LIGNA (11th December, 2005)
- Dirk Maggs (8th September, 2010)
- Willem de Ridder (24th May, 2008)
- Hildegard Westerkamp (10th December, 2005)
- Gregory Whitehead (13th October, 2012)

---

[4] See International Radio Conference, 2013.
[5] See Parasol Unit Foundation for Contemporary Art, 2013.]
[6] See Transmission Arts Colloquium, 2012.
[7] See New Adventures in Sound Art (NAISA), 2012
[8] See Her Noise Archive, 2012.
[9] See Takeaway Festival, 2006
[10] See Sound and Anthropology, 2006.

List of Illustrations

---

[11] Digital Radio website [online]<http://www.getdigitalradio.com/dab-news/view/360>[Accessed 06/9/12]

*fig.*27 *Spiritual Radio* (2014) Unbinding The Book commission

Additional photos of all *Switch Off* projects can be found at http://magzhall.wordpress.com/

Pen Drive Contents and Practice Websites:

(Dates exhibited/broadcast listed in Practice Portfolio)

Switch Off folder

(separate audio mp3 files for each project)

1. *Numbers* (2012) 12.40 seven voice mono mix of surround installation
2. *Radio Mind* (2012) 1-hour installation mix
3. *Radio Recall* (2014) 14.25 mix of surround installation
4. *Lone Broadcast* (2012) 12.30 installation
5. *Commercial Break* (2012) 04.57 installation sound
6. *Babble Station* (2012) 08:51 mix of surround installation
7. *Radio Jam* (2012) excerpt of 2-hour live broadcast on V22 Summer Club Radio– Radeq 04.02

Additional Practice folder

1. *Feedback Fiesta* (2008) 2hrs broadcast Radio Reverb
2. *Radio Arts Show* (2005) Broadcast Resonance FM 1 hour
3. S*piritual Radio* (2014) 1 hour

Case Studies Interviews folder

(separate folder for each artist)

1. Hildegard Westerkamp Interview
2. Anna Friz Interview
3. LIGNA Interview
4. Gregory Whitehead

Additional Interviews (folder)

5. Douglas Khan
6. Willem De Ridder
7. Dirk Maggs

Dreamlands Commissions folder

1. Gregory Whitehead *Crazy Horse One Eight* (2014) Radio Edit.
2. Joaquin Cofreces *Dreamlands* (2014).
3. Michael McHugh *Dream of the Dream Scientist* (2014) edited version for Radio Arts Showcase.
4. Esther Johnson *Plunge Flip Bump and Score* (2014).
5. Magz Hall - Radio Recall (2014) Resonance FM version.
6. Michael McHugh *Dream Scientist* (2014) version for Radio Arts Showcase, the Beaney Gallery.

Practice Websites

http://magzhall.wordpress.com/

http://radioarts.org.uk/

http://youarehear.co.uk/shows.html

http://feeds.feedburner.com/youarehearpodcast

Introduction: Tuning In

Chapter Outlines

The research in this thesis involves the scholarly investigation of historical examples, interviews with contemporary practitioners, exploration of their work and analysis of diverse theoretical positions. In parallel to this investigation, creative practice has been undertaken, primarily in the form of exhibited installations but also as workshops, curation and commissioning. Both of these strands – the scholarly and the creative practice – have sought answers to a research question that has been vital throughout the doctoral programme. The research question asks, 'How, from the perspective of an active practitioner, can radio art be understood in a world where there is a potential tension between radio's analogue heritage and its digital future, when the very definition of radio may itself be changing?' This tension has informed, engaged and circumscribed my practice. The proposed switch-off of analogue radio in the United Kingdom, to move terrestrial radio to digital platforms, has proved to be a move fraught with tensions. Many issues have not been resolved and the deadline for analogue switch-off has been postponed to an indefinite date by the UK government. I have produced a series of radio artworks that engage with the proposal in a creative and speculative way, considering both the loss and potential of such an action.

It is generally considered that terrestrial television in the UK has enjoyed a smooth transition from analogue to digital infrastructure, whereas radio's future remains open-ended for particular technical, historical and social reasons. FM radio is still the dominant way the public listens to radio and, to the dismay of industry cheerleaders, the take-up of Digital Audio Broadcasting (DAB) has been far slower than expected. This is for many reasons, not the least of which is its inferior sound quality, reflected in most new sets having only a mono speaker. Radio Joint Audience Research (RAJAR) figures show that the analogue radio set is still the most common platform through which the general public listens to radio, and it seems the future of listening is most likely to be via hybrid smart radio devices that switch themselves to the strongest signal, be it digital or analogue. If FM radio can be considered the dominant platform through which an ageing population prefers to listen then the younger generation's listening habits may be characterised by a propensity to surf through audio 'content' via a succession of screens. My body of practical work, which I have entitled *Switch Off,* examines the tension between the two temporalities of which these listening modes are emblematic. Radio is a still resilient medium, an 'art of sound', as pioneering British Broadcasting

Corporation (BBC) producer Lance Sieveking wrote in *The Stuff of Radio* (1934). It has moved across frequencies and technologies from AM to SW to MW, LW and FM, satellite, and it is now embedded in digital culture via the internet and DAB.

In 2008, the BBC seemed to move away from the name 'radio', appointing a director of 'Audio and Music' in Tim Davie, but in 2013 they reverted, appointing a Director of Radio with Helen Boaden. This was not just a symbolic act, as 'radio is thriving in the digital age' (Boaden, 2014). This was reflected in a recent *Independent* article which was aptly titled 'Radio: Who needs pictures in a digital world?' The medium is still remarkably resilient and the article highlights figures from RAJAR, Ipsos Mori and RSMB that show that '91 per cent of the UK population is tuning in (or searching, tapping in and scrolling down) to a radio station each week' (Hogg, 2014).

Listening figures across BBC Radios Six, Two and Four have increased. BBC Radio Four's weekly reach of 11.2 million listeners for the end of 2013 was up from 10.9 million in the same period in 2012, the highest figures since 1999 (Ponsford, 2014). However, at BBC Radio One, the music station for the under twenty-fives, listening figures are in terminal decline. The same RAJAR figures in 2013 showed a loss of 122,000 listeners, although some of this loss has arguably been mitigated by its thriving online following and its move to embrace the younger smartphone generation via its YouTube channel.

However, this optimism about growth across the sectors has not precipitated a dedicated radio art programme on the BBC as yet. Australian public radio ABC (Australian Broadcasting Corporation) Radio National has been more open to the form by setting up a new Creative Audio Unit (CAU) in May, 2014 which now airs two radio art programmes: Radiotonic and Soundproof 'presenting a mix of fiction and non-fiction, essays, radio dramas, soundscapes, composed audio features and radio art' (Lindgren, 2014). I will discuss this further in Chapter Two when I consider public radio's role in the art form. These new Australian programmes reflect the fact that radio genres are leaking into each other, creating non-genre-defined hybrids, a point also noted by Tim Crook (2012, p.120). This can in part be attributed to the freedoms created by podcasts and online media: radio has become what Michelle Hilmes terms 'soundwork' (2013, p.43), which perhaps leaves the field so open that any digital sound clip becomes potentially part of radio's 'new materiality', which encompasses 'the entire complex of sound based digital media' (ibid). Such a contention, while representative of the contemporary territory of media convergence and the exponential proliferation of digital

'content', also requires the careful consideration of the aesthetic and historical particularity of radio within this media ecology lest its aesthetic autonomy be subsumed into being simply another constituent part of the complex of sound-based digital media. There is a movement away from any clear definition of radiophonic attributes; anything goes, it often seems, once the tag 'radio' is applied.

I have been working in the field of radio art, and through creative practice have been considering how the convergence of new media technologies has redefined radio art and in what ways this has extended the boundaries of the art form. There can be few forms of artistic enquiry that can claim such a long and potent history, and with such broad implications for the spheres of the aesthetic and the political as that of radio art, while yet remaining so marginal within art historical consciousness. As one of the earliest discernible forms of 'media art', tracing the trajectory of radio art over the past century in its mediation between broadcasting institutions and a dispersed public affords an insight into the passage between the aesthetic and the political, offering further understanding through which to illuminate the impasses and potentialities within the contemporary media landscape. This research is timely as radio art has emerged at the turn of the twenty-first century as a distinctive international art form. Several key texts and a number of international conferences on the subject have emerged from within continental Europe, America and Canada, and all have helped to uncover a shared historical framework from which to piece together a fragmented sense of the medium's history.[12] Such piecemeal and fractured texts have also reflected the current cultural interest in radio art and experimentation outside of British waters. As yet no UK academic book devoted exclusively

---

[12] *The First International Festival of Radio Art*, Dublin, Ireland, August, 1990. *Hearing is Believing* 1995 (105.8 FM 'Britain's first experimental radio station' (Thorn,1996) Liverpool. *Hearing is Believing 2*, conference, University of Sunderland, 2nd March, 1996, brought radio art onto the UK academic agenda. A paper from the conference by Richard Thorn has been used as a discursive platform for Chapter Two of this research. *Re–Inventing Radio*, 2004 and 2005. *Ars Electronica* festival – See Ars Electronic, 2004. Ars Electronica is a key international web festival and conference]. *Talking Back to Radio*, University of Wroclaw, December, 2005. I attended this key international conference, interviewed case studies and recorded participants for this research, took part in LIGNA workshops and a performance of the Future of Radio Art. *Relating Radio*, 4–5 October, 2006, conference hosted by Radio Corax in cooperation with the Institute of Media and Communication Studies, Martin-Luther-University, Halle-Wittenberg. Part of *Radio Revolten Festival,* , Halle, Germany. Interviewed and recorded participants for this research. See Föllmer and Thiermann, 2006. *Radio As Art*, University of Bremen. Key Annual International Radio Art Conference is *Radio Without Boundaries*, Part of the *Deep Wireless Festival of Radio & Transmission Art*, Toronto Canada. [website]<www.naisa.ca/deepwireless> [accessed 3/8/05] a key radio art event and conference started in 2003. Gave a paper in 2005 on experimental radio in the UK as part of this research. *Sounding Out* 5 Bournemouth University, UK. See Sounding Out, 2010. Attended and interviewed participants for this research. *Megapolis Festival* – See Megapolis Festival, 2009–.. *Trans X Symposia* running yearly since 2012, gave paper in 2012, Toronto, Canada. *Radio As Art* Symposia 2014, Bremen University, Germany.

to the subject has been published, and this omission is one of the motivations that propels my research into the area.

Chapter One is a literary review of the last hundred years of international radio art, considering divergent documented practice across Italy, Russia, France, Mexico, the UK, Germany, the United States of America, Ireland, Amsterdam, Japan, Poland, Canada, Austria and Australia. It addresses the growth of artist-led radio stations internationally. After reflecting on the complex media landscape of the 1980s and 1990s I will then examine how a radio art renaissance flourished across Canada, Australia and Europe.

I will consider the role of public radio in the art form in Chapter Two, which reflects upon public radio's role in the development of the art form, moving on to focus on UK community arts radio with particular focus on Resonance FM, which leads me to consider the implications of the internet towards radio art practice.

Chapter Three engages with definitions of radio art and whether, in a world where on-demand, internet streaming, webcasting, and podcasting is common, the perception and practice of radio for both public and practitioners alike has fundamentally shifted. It seeks to define radio art practice through a theoretical enquiry into radio art shaped by key questions raised by Richard Thorn in 1996. It concerns the role of experimental radio and an investigation of the art form's current development through the medium of contemporary theorists' manifestos and definitions. It considers how radio art might be defined in relation to sound art, music and media art, mapping the shifting parameters of radio art in the digital era and prompting a consideration of the implications of radio's move from the shared 'live' event to one consumed 'on demand' by a fragmented audience.

In Chapter Four I consider the work of five artist case studies: Gregory Whitehead, LIGNA, Hildegard Westerkamp, Anna Friz and Vicki Bennett, working in five categorisations of practice I have identified from my study of the field: Performance, Activist, Soundscape, Transmission and Appropriation. Key issues and themes brought together from Chapter Two and Three are further explored and informed by extensive interviews which enable me to explore these contemporary issues from a number of relevant perspectives.

Chapter Five is a review, critique and analysis of the practice carried out for this research. I have produced a substantial portfolio of work under the banner *Switch Off,* the project which takes as its overarching theme possible futures for FM after it has been abandoned for DAB. It

will consider the eight fictive stations that make up *Switch Off*: *Radio Mind, Numbers, Lone Broadcast, Sound Station, Babble Station, Commercial Breaks, Radio Jam* and *Radio Recall.* These form a sequence of divergent radiophonic works where fragments of familiar, strange, overlooked and unheard sounds coalesce with experimental drama, radio art and sound poetry. These fictional stations represent different aspects of how FM radio could sound in the future. Each trace station functions as an abstract, self-contained narrative as well as forming part of an overall suite of works. I have conducted a series of live radio experiments, using expanded radio art practice via installation, actions, interventions and macro and micro broadcasts. This structure allows me to explore the boundaries of radio art practice and explore the five recurrent facets of experimental radio practice I identified in Chapter Two. I will also consider additional practice that I have conducted, including the *You Are Hear* podcast, the *Radio Arts* workshops, the *Reinventing the Dial* symposium and the *Radio Arts Showcase,* as well as fully interrogating the *Switch Off* project and its component trace stations.

This original research study aims to explore the theoretical, technological and aesthetic contexts that inform innovative radio art practice. The questions which animate and underpin my research project include: is the gap between sound-related disciplines closing? Is the death of radio imminent? Will it become 'an obsolete technology relegated to the subcultural fringes' (Apple, 1987) as was often discussed in the early 1990s, or is media convergence redefining the medium? (Hilmes, 2013). As a radio artist, producer and lecturer of radio I have been experimenting with traditional forms of radio. My own practice developed through my participation in helping set up the first full-time dedicated radio arts station, Resonance FM, in London between1998 and 2006, as well as drawing upon my experience as a musician, having engaged with new audio technologies for experimental ends. This proceeded into an involvement in radio production and arts radio, and subsequently into an academic career as a university radio lecturer. Having spent many years making music, experimentation with radio was a natural progression; a Higher National Certificate in Radio provided me with my initial radio production skills. Being part of the Action Group for arts station Resonance FM's first incarnation at the Royal Festival Hall, London in 1998 was liberating and exciting: a month of live 'no rules' radio. International radio art and Fluxus performances were broadcast from a dressing room behind the vast Festival Hall stage while Shirley Bassey and John Peel's Meltdown Festival happened up front. Sharing an elevator with broadcasting legend John Peel at the time was experienced as a clash between the conventional and experimental broadcasting worlds. After such an exhilarating hands-on experience, I was committed to

getting the station back on air.

After gaining a Postgraduate Certificate in Education (Post-Compulsory Education and Training) (PGCE[PCET]) in Further Education and Training, focusing on Sociology, Media and Radio, I became a lecturer and course leader of a Business and Technology Education Council (BTEC) course in audio and radio at Lewisham College from 1998-2003, joined the Community Media Association (CMA) and helped, as one of its directors between 1999 and 2001, to lobby successfully for community radio in the UK. In 2001, the first 'community' licenses were offered as part of a year-long Access Radio pilot scheme. The opportunity to help run and be part of a community arts station had led me to spend many years pushing to make Resonance a permanent station. I became part the steering group who set up Resonance FM as a full-time station. Involved with all aspects of its set-up and running in its formative years, I have drawn on my own experience and that of others to reflect upon key issues faced by the community arts radio sector, and the issues and limitations of long-term unpaid volunteer work in the sector, in Chapter Two. After working as an associate radio lecturer at Sunderland University, whilst I gained a Masters Degree with distinction in radio production and management in 2005, with further work at the University of West London and the London College of Communication. I became a full time lecturer at Canterbury Christ Church University (CCCU) in 2006, which has allowed me to reflect on my past and ongoing experiences with radio as a teaching resource. I have been excited by the possibility of opening out an autonomous space by incorporating new technology and methodology into radio art productions; developing a critical engagement with new radio technologies; and demystifying radio production and broadcasting for artistic ends. Having produced and programmed unique content for Resonance, I went on to produce a series of monthly podcasts and internet radio shows as part of my research practice between 2006–2010. These were based around live experimental music performances which received critical acclaim in *The Independent* (Moss, 2008) and had nearly a million downloads in their first two years.

In 2006, I ran two months of radio art workshops at the Albany Center in London as part of this research practice, aimed at artists from other media and those with an interest in making experimental radio.[13] My experiences of lecturing on radio in further and higher education institutions ran counter to my own broadcast experience, with the curriculum and peer and

[13] Details can be found at the Radio Arts website.

student expectations emphasising conventional approaches. These radio arts workshops allowed me to take my expanded radio practice and my appreciation of the more avant-garde context out of the studio and beyond more formal academic constraints, to deliver a sense of these to artists from other media and to the general public. It also offered potential artists a way into making content for community stations like Resonance, who aired the works produced, but were unable to offer hands-on training at the time. I organised *Reinventing the Dial* a symposium at Canterbury Christ Church University in 2009, which provided further insights from practitioners in the area.[14] I wrote a new BA theory module at CCCU focused on radio arts and new perspectives in radio, based directly on this research, which I taught between 2012–14. I ran a further series of radio art workshops in 2013–15, across arts venues in south east Kent and gained funding and commissioning funding for radio art works from Arts Council England (ACE) and Kent County Council (KCC). I also organised and exhibited a Radio Arts Showcase at the Beaney Gallery in Canterbury and a series of broadcasts featuring my own and new work commissioned from Gregory Whitehead (US) and Joaquim Cofreces (Argentina), and UK artists Michael McHugh, Esther Johnson and Genetic Moo. I was commissioned by the Lightworks Festival (2012) and Jotta and Blurb (2014) to make works for exhibition in the UK and USA. Other research installation work for this practice has been exhibited in galleries in the UK, Spain, Italy, Germany, USA and The Deep Wireless Festival (2012) Canada. Works for this research have been broadcast on Resonance FM, Sound Art Radio, Radio Reverb, NTS, Radeq, Phonic FM and BCB, Boat Radio DAB and the Dark Outside in the UK; Radio Corax and Reboot FM (Germany), Radio Papesse (Italy), WGXC 90.7-FM and free103point9fm (USA), Radio Futura (Portugal) and CKLN FM (Canada) ABC (Australia) and in a Marrakesh taxi as part of the Biennale (2013). I have been interviewed about my research practice on Crane TV, BBC Kent, Resonance FM, WGXC 90.7-FM, BRFM, Red Sands Radio and Tone Radio.

This research asks, has the definition of radio changed, and if so how does that enable us to understand and define radio art? What are its consistent strands and modes of practice, and what are its new modes of practice? How can radio art be understood in light of radio's

---

[14] A day-long radio symposium held at Canterbury Christ Church University, Kent, UK on 27th October, 2009. Speakers: Dr Andy Birtwistle, Dr Angus Carlyle, Andy Cartwright, Peter Cusack, Lance Dann, Dr Kersten Glandien, Tom McCarthy. Convened by Magz Hall.

analogue heritage and its digital future? These questions and tensions have informed, engaged and circumscribed my practice. These are important questions which help us understand the art form, and help us to respond and reposition it within wider media arts practice. This thesis is important as it contextualises key developments in radio art history previously not presented in one place allowing the reader greater understanding of the scope of international practice, by incorporating pioneering projects across the globe which intersect literary, media and art histories to provoke future avenues of interdisciplinary enquiry. Within the framing device of a future, vacated FM spectrum my practice has worked as a speculative space within which to re-imagine the utopian potentiality of radio as revealed at its apparent point of obsolescence and bring to the fore current debates on analogue and digital radio in a politically engaged and wholly creative way. I've also provided a detailed history of arts community stations in the UK from an insider's perspective, and have conducted interviews with radio artists whose work spans over half a decade as such this work offers an important perspective of contemporary radio art practice which will be an invaluable educational text for practitioners and researchers alike.

I have also included a pen drive of my radio art practice which has my radio work stored as audio files, as listed. I will refer to this audio when necessary, to allow the reader further insight into the projects being discussed. The location of each audio file that I wish to be heard will be clearly signposted in the text in relevant chapters for ease of use.

Chapter One: Histories

1.1 Introduction

Through an extensive literature review, I have identified a number of relevant sources, some of which have now come to be regarded as 'canonical' in sound studies. One significant work is the reader edited in 1990 by Canadian practitioners Dan Lander and Micah Lexier: *Sound By Artists*. Lander's many writings on the subject in the 1990s have been essential reading for this research and make him a key figure in the development of radio art in Canada. Equally useful have been the American-based writer Douglas Kahn and the radio artist and producer Gregory Whitehead; their compendium *Wireless Imagination* (1994) has had international influence. American academic Alan S Weiss has written several books that touch on the field from a theatrical perspective, discussing the more historical and literary side of experimental radio practice. One example would be Weiss's edited work *Experimental Sound and Radio* (2001), an anthology which originally appeared as a special issue of *TDR/The Drama Review*. The book explores the aesthetic, cultural, and experimental possibilities of radio and sound art.

> Taking the approach that there is no single entity that constitutes 'radio', but rather a multitude of radios, the essays explore various aspects of its apparatus, practice, forms, and utopias (Weiss, 2001, back cover).

Austrian producer Heidi Grundmann, of Österreicher Rundfunk (ORF), the Austrian national radio and television broadcaster, is a founder of Kunstradio – 'original artworks for radio' – and edited *Re-Inventing Radio: Aspects of Radio Art* (2008), a volume which focuses on contemporary radio arts practitioners but expands its remit to also include several academics such as American-based Daniel Gilfillan, whose *Pieces of Sound: German Experimental Radio* (2009) has also informed this chapter. None of these books reference British experimental radio and, as academic Martin Shingler has noted, the focus of such books

> tends to be on specific individuals or particular national movements, and there is little sense of how experimental radio works from one decade to another and from one country to another connect and correspond. (Shingler, p.197)

Although I have split this chapter into regional sections, I have moved across locations where important links are made to give a wider perspective of shared practice and discuss cause and effect, making key connections where possible. I have also brought these disparate movements

and histories together in the first chapter, highlighting those who have displayed a critical engagement with media technology, its intended use and often unintended misuse to aid creative work. I have recounted an historical overview, focusing on the key innovators who have adopted advancing technology in the development of an artistic, experimental radio practice during the last hundred years of radio. This approach is appropriate since it reflects my own quest to experience and create new work in the light of available technology. The historical overview will begin in the early years of the twentieth century by exploring both the European avant-garde and the work of the UK state broadcaster, the British Broadcasting Corporation. The technical and aesthetic advances and retreats at the BBC will be contrasted with the more overtly experimental German experience – in particular, its pioneering use of tape editing since the 1920s. In a section entitled 'Literary Repression,' I will also consider how producers' reliance on traditional literary narratives might have helped militate against the development of more experimental radio practices (although I also acknowledge that early experiences of radio themselves influenced the literary avant-garde).

The overview will then move further into the twentieth century in an effort to appreciate how media convergence may have altered radio art practice, and I will focus initially on the intermedia practice of Max Neuhaus, from 1966 to 2008. From the 1970s onwards, the availability of affordable transmitters opened up the radio medium to artists and to a nascent Free Radio movement: this, too, will become an area of investigation. As Neil Strauss has stated 'it's a decadent art: In politically embattled countries there's little – or more likely – no radio art' (1993, p.11). Strauss's perspective might suggest that radio art is bound to the fate of the middle-class dominance and dilettantism of most art forms but there are, however, points in radio arts history, such as Radio Alice in Italy, where classes were united by radio actions against the state. I will examine how this conjunction of expanded artistic practices and technologically-facilitated media activism evolved into an emergent terrain of transmission arts and the establishment of the artist station.

The history of radio art and experimental radio can be read as a 'counter-history' of radio, one which works both in parallel with as well as against the grain of a canonical broadcasting history, which has focused mainly on radio as a mass medium. This history has explored its social role as a professional and regulated agency, whether a public service or commercial one, and examined the ongoing relationship with government legislation rather than the quest of

individual artists to use the medium for creative ends.[15] As Weiss states only too tellingly, 'if the history of mainstream radio is a suppressed field, the history of experimental radio is utterly repressed' (Weiss,1995, p.3).

It has been argued that the dominance of a visual culture generally and, in the field of sound, a music-oriented culture, until recent years restricted contemporary radio art discourse. A new wave of inquiry in the 1980s, pushed forward by Dan Lander and others, helped many new theorists, working both within and beyond academia over the last twenty years, to re-examine the situation and to explore the international field of audio arts. In *Sound By Artists*, Kevin Concannon writes of this musical dominance that for many 'Audio Arts are merely an extension of the musical avant-garde'(Concannon, 1990, p.163). Certainly, John Cage's radio work has been overshadowed by his music and mostly documented from that perspective. Douglas Kahn has reflected on how, compared to photography, phonographic development was, in his words, 'retarded' (Kahn, 1990, p.301–3); a scenario that resulted from a 'regime of the visual' (ibid) in Western societies that infiltrated on every level and caused a '*100 year gap between the eyes and the ears*' (ibid). Even in the late 1940s the visual dominated audio branding, meaning that tape recorders were known as 'sound mirrors' (ibid). A generally noted scarcity of archival information on the historical development of radio art in most of the texts reflected upon has created a situation in which there can be said to be a limited 'canonical' and definitive history of radio art. Such an absence leaves the terrain open to being mapped through a multiplicity of theoretical and historical approaches. Contemporary accounts of its history, however, tend to give only a fleeting overview in which key practitioners and moments of artistic radio breakthrough are understood to have evolved from the perspective of western modernism. All these accounts refer to the effects of art and film through modernism on radio and how experimentation with sound recording techniques have moved forward artistic radio practice.

My own approach is to write this chapter in an attempt to document the movement of not only those innovative practitioners working against the grain of accepted forms of radio practice but also those who have done so with the aid of new technology. I aim to do this by piecing together traces, picking up lost transmissions and radiophonic actions and focusing on those artists who have not been addressed through contemporary accounts, primarily those

---

[15] Canonical texts that identify radio's conventional history: Cardiff and Scannell, 1991; Crisell, 1994; Hendy, 2007;McLuhan, 1995.

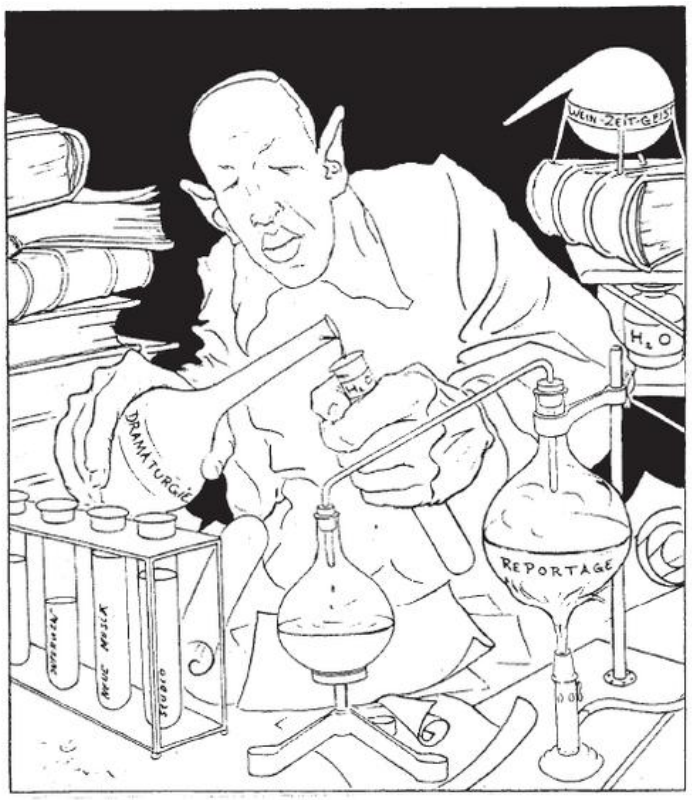
emerging from the important North American and Canadian perspective developed by Dan Lander, Douglas Kahn, Gregory Whitehead and Allen Weiss. One of the motivations for embarking on this study is to expand these relatively limited accounts and, specifically, enter the debate from a UK perspective, especially since no book from this country has been entirely dedicated to this subject. Many contemporary analyses, such as that by Michael Murin, refer back to *Wireless Imagination*, whose authors emphasise this lack of documented history.

> Douglas Kahn and Gregory Whitehead emphasise that there is no history of the development of Sound Art and radio art, that no linear continuity exists, no biographical plots in their development and, as an object of history, their volume therefore cannot provide any chronicle for the general history of art. (Murin, 2005, p. 67)

Lander reiterates Concannon's earlier point that it was music discourse that stifled sound art and, in turn, radio art history. This 'attachment to music') argues imposed a 'musical template' onto 'sound' which 'leads us to a dead-end conclusion: all sound is music'(Lander and Lexier, 1990, pp.10–11). Concannon, Lander and Kahn give an indication as to why these histories have been overshadowed by music and visual culture and a possible explanation as to why expanded radio arts discourse is a very recent phenomenon. Certainly, Concannon's and Lander's concerns with the territorial borders of the field, and the confusion at those borders caused by contemporary composers referring to all sound as music, opens an important and wider definitional debate which I will return to in the next chapter. According to Weiss, there is not one radio but myriad forms: 'there is no single entity that constitutes "radio"; rather, there exists a multitude of radios' (1995, p.2). Current archaeological explorations, it seems, can only look back to the fragmented history of radio artists whose experiments have pushed against the populist demands of the radio industry and explored the boundaries of the form. In the following sections, I will trace a rough chronology from the early years of the twentieth century onwards, moving between countries as the baton of innovation is passed from one group of individuals to another.

The scoping out of the first hundred years of radio art practice for my first chapter's literature review has been a fruitful activity which has fed into my practice, helped me engage fully with the historical roots of the medium, and helped me to cross-pollinate ideas to create new work. Like the illustration (*fig.*1) of German producer of Hans Flesch (1931) where he is shown as a

scientist, a mixer of radio forms, distilling reportage, drama, and new music to make his radio productions, I too have been experimenting with elements of radio arts practice and history to make new work.



Hans Flesch caricatured as "Mixer of Radio Plays." From *Der Deutsche Rundfunk* 20 (1931): 4. Copyright 1931. Artist and image rights unknown. Courtesy of Deutsches Rundfunkarchiv, Frankfurt am Main.

*fig.*1 Hans Flesch Caricature (1931)

1.2 Futurist Birth of Radio Art

Academic accounts of radio art's history (Weiss, Lander and Kahn) follow a similar pathway in placing Marconi's invention of the wireless and the Futurists and Constructivists' fascination with it as being key to understanding the emergence of this creative practice. F.T. Marinetti's *Technical Manifesto of Futurist Literature* (1912), with its evocation of a 'wireless imagination' and his notion of words in freedom – '*parole in liberta*' – infer the collapse of syntax and analogy in communication. Thus, Marinetti's early transmission has been inspirational for many artists and writers engaged by the notion of radio art. It has become a cornerstone for many sound artists and writers, as Fisher and many others contend. The Italian Futurist manifesto *La Radia* (1933), written by Pino Masnata and Marinetti, has been given the status of being 'the emblematic, if not historical, beginning of a new audio art and the precursor to post-World War II developments in audio art' (Fisher, 2002, p.54). However, this once exciting influence has become a lazy cliché among arts programmers – as also discussed by Anna Friz (2011) – the work too often enacted at sound events and festivals worldwide.[16]

In 1933, *La Radia* was a forceful polemic; it gave life to the radio *sintesi* (short performances) realised in Italy through the 1930s. This unique document listed twenty proposals for what *La Radia* should be, with technical and poetic instructions. The poet Ezra Pound, having met Marinetti, shaped his own radio aesthetic 'in the context of Futurism, Dadaism and surrealism' (Fisher,2002, p.62). *La Radia* brought forth a 'controversial new art of electricity, wavelength and vibration' (ibid), imagining the potential of radio across the world and the need to dispense with realism by openly criticising nine radio producers for an outmoded commitment to the form. It proposed a programme of anti-realist, radiophonic art to use sound without narration beyond its use in cinema and theatre. The final section pushed artistic ideas of vibration, spatialisation and amplification of materials of all kinds,

> such as 'a diamond or a flower'; 'gastronomic music'; an orchestration of sounds and silences that will act as 'strange brushes' to spatialize the infinite darkness of radia; the utilization of interferences among stations and of the rising and fading of sounds; the

[16] An recent example occurred at the Science Museum London, 14th, June 2014 with a live performance of *Art of Noises* by Resonance Radio Orchestra to mark the centenary of Luigi Russolo's and Piatti's *Art of Noises* performance at the London Coliseum on 15 June, 1914.

> geometric limitation and building of silence. (Kahn, 1990, p.320)

Gunter Berghaus encapsulates a key strand which has been applied to radio art theory by Lander and Whitehead and others, that of the political nature of technology,

> the influence of technology upon human perception is politicized by the very nature of who owns, has access to, and is affected by technology. It reaches beyond drama, poetry, and other manifestations of the aural avant-garde. (Berghaus, 1998, p.529)

Marinetti and Masnata's radio manifestos challenged understood codes of communication by producing a highly optimistic work using the language of 'speculation, abstraction, and unreality' (Fisher, 2002, p.54). However, the group's own influence on Italian radio was in fact limited and marginal, and as Fisher points out 'the Futurists never succeeded in dominating the radio' (Fisher, 2011. p.16); apart from the occasional tribute, Fisher argues the official listing guide *Radiorario* avoided giving them space to set a cultural agenda around radio technology, as they would have liked (Fisher, 2009, pp.229-262); it seems Futurist access to the medium was just as limited by the radio institutions as it was for artists elsewhere. Even if they were not able to dominate the air waves, they were able to push forward sound as performance.

> The artists of these radical movements, in their fractious, cubist, simulacral, amplificatory, and recombinatory manipulations of words and sounds in performance, could be said, like Pound, to have anticipated radio's potential to achieve a plasticity of voices, words and sounds. (Fisher, 2002, p.43).

Russian Futurist poet Victor Khlebnikov's visionary manifesto of *The Radio of the Future* in 1921 is often quoted, and his poetic vision can be understood to correspond to that developed by contemporary approaches to radio arts, particularly notions relating to the use of the internet for radio broadcasting. Khlebnikov wrote:

> The Radio of the Future … the central tree of our consciousness … will inaugurate new ways to cope with our endless undertakings and will unite all mankind. (cited in Douglas, 1985, p.155)

Khlebnikov's ideas of the early nineteen-twenties reflect the positive utopian and enlightening properties of radio, which are embraced and mirrored to an extreme industrial effect by Marinetti and Pino Masnata in *La Radia*. Such European art movements of the 1920s and 1930s

had a great influence on artists and radio pioneers, not only in Britain but round the world, shaping broadcasts as far away as Mexico, which I will discuss later. Radio experimentalism, for most of the pioneering producers across the globe, was only a fleeting phase, which was to be mostly ironed out with the outbreak of war and more conservative times. Radio was born out of military use; it was a new weapon that 'could be brought into pragmatic use (communication, music), or as aesthetic focus (interference, silence, sensations), or could serve futurist ideology(simultaneity). Set against this background, *La Radia* offers a picture of Futurism undergoing significant changes' (Fisher,2002, p.53).

1.3 Early Russian Radio

Like the Futurists, Dziga Vertov's approach can be also be retrospectively understood as constituting a modernist aesthetic; his work is viewed as an early prototype of 'new media practice' by Lev Manovich (1998). Vertov, having founded a *Laboratory of Hearing* in 1916–17, developed Radio-Pravda; his 1926 manifesto took forward his notions of *Kino-Eye, Radio-Eye*, which were the product of a 'frustrated ear' (Kahn, 1990, p.316). Unable to manipulate the sounds he wanted from a Pathephone wax disc recorder he turned to film to provide 'equipment that won't describe, but will record, photograph' sounds, allowing him to edit them (Crook, 1999b, p.35). Vertov often referred to himself as a composer and a musician; a letter from Charlie Chaplin in November, 1931 reinforces this notion. Upon hearing his *Enthusiasm,* Vertov's 'symphony of noises', Chaplin wrote of the beauty of arranged mechanical sounds: 'I regard it as one of the most exhilarating symphonies I have heard' (Kahn, 1990, p.170).

Bringing back into the frame the open distinction between sound and radio works and music, as discussed earlier, it is interesting to note that many documentary radio producers I have invited as guest lecturers at Canterbury Christ Church University, including Andy Cartwright, Mark Burman and Francesca Panetta, have described themselves as composers when talking of their practice. Like them, many present-day BBC producers have studied music. Equally resonant is the fact that montage, which had moved from phonographic sound to film via Vertov, rebounded back to radio as Russian film montage influenced early BBC radio producers in the 1920s, something which I will be addressing in the coming pages.

In 1929 the state of Russia introduced the position of Sound Producer into its radio stations, a person who was responsible for 'all manner of artistic and technical experiments with sound'

(Smirnov, p.156). Many studios were inspired by the experimental radio theatre at the Moscow Telegraph, which became the template for new studios wishing to experiment. Producers such as Alexander Norvogrudsky in 1932 used sound to give semantic meaning and to add emotion. For Norvogrudsky '[s]ound in radio art is not just a make weight alongside words'(Smirnov, ibid).

The first experimental radio works in Russia were broadcast in 1931 – the same year the Radio Film Factory was founded – and sound was recorded on film, as it was in Germany. Vladimir Alexandrovitch Popov was the Factory's sound expert, and pioneer of 'Russian Soundscape', through his expansive work in the field for the Theatre of Radio Miniatures: he produced a 'brilliant noise symphony' of Moscow (Smirnov, p.159). Unlike Walter Ruttmann's *BerlinWeekend* soundscape a year before, sound was not captured but created and composed through sound effects, created with audio Foley: 'devices that had nothing in common in appearance with their corresponding sounds' (ibid). Ukrainian David Burliuk was regarded by many as a father of Russian Futurism, from his co-authorship of the 1917 Futurist manifesto, *A Slap In The Face of Public Taste,* with Alexander Kruchenykh, Vladimir Mayakovsky and Victor Khlebnikov. His *Manifesto, Radio-Style. Universal Camp of Radio-Modernists* is now available in translation. The manifesto cover featured in an exhibition, *Breaking the Rules: The Printed Face of the European Avant Garde 1900–1937*, at the British Library.[17] I have not been able to find any substantial academic discussion regarding the manifesto, which is briefly mentioned by Kahn (1994, p.98). Burliuk's later artworks, exhibited at the Ukrainian Museum in New York in 2008–09 (the first major exhibition of his work in America in half a century) are now gaining contemporary recognition.[18] Burliuk emigrated to the USA in 1922, where he founded the Universal Camp of Radio-Modernists in New York. He worked from 1923 to 1940 as the art editor for *Russian Voice*, a Communist newspaper and published an art journal called *Color & Rhyme.* His radio manifesto informed his own artwork and was broadcast from New York on short wave radio in 1926, announcing a 'radio age' with the goal of uniting all radio. His sentiments echo some of fellow Russo-Futurist Khlebnikov's positive ideas on the radio medium.

[17] See British Library, 2007.
[18] See Ukranian Museum, 2008.

> The Radio-Epoch is the epoch of Cosmopolitanism. The voice of a song sung in Chicago is now heard in Australia and in the Steppes of Russia. The moment is not far distant when all inhabitants of the earth will listen all at once to the declamations of the GREAT. (Burliuk, 1926)

Burliuk caused a stir in New York with his outlandish clothes and earrings, but also with his claim to reach heightened awareness through fasting, which helped him produce artwork that tapped into his higher senses. Radio-modernism was a style of painting that expressed unseen vibrations and moods in the ether. Burliuk's approach was tinged with Eastern transcendental ideas of perception, influenced by his time in Japan.

> The hypothesis of the five senses is incorrect – there are more. When Rimbaud spoke about the color of the vowels, he pointed out that sound and light are manifestations of one and the same order – possessing, however different degrees of vibration … Today – the beginning of the historical radio era, we are witnessing the mechanization of the human mind or of the mental qualities of man. This is the beginning of the creation of a mechanical mentality. (Burliuk, 1926)

The mystical side of radio and its so-called magical, healing and spiritual powers has been articulated since the invention of the medium. Stalin's proclamation in 1928 that radio would heal the ulcer of society and 'cure alcoholism' (Kahn, 1990, p.102) is only one of an abundance of early twentieth-century notions about the vast uses and effects of the medium that emerged from artists and poets as well as from politicians and mystics. A group of Anglican preachers, including the Canadian Archbishop du Vernet, author of *Spiritual Radio (*1925), saw radio as a powerfully active current of change and communication – a phenomenon explored by Pamela Klassen (2007) who examined the mystical and religious use of the medium and its links to automatic writing (this, in turn, also reflects several of the themes in Surrealist Paul Deharme's work, which will be explored in the next section, on Surrealist radio art in France). Burliuk's own Futurist take on the medium saw that radio broadcasting brought forth a new mechanical mentality able to influence thought processes – perhaps an unwitting premonition of radio's use as a propaganda tool. In a sense, this idea that a technological device can shape thought might have comparisons today with those arguments that see the internet as altering human cognition, as described in two recent publications: *You are not a gadget: A manifesto* by Jaron Lanier (2010) and *The Shallows: What the Internet Is Doing to Our Brains* by Nicholas Carr (2010).

It is possible to imagine Brecht's *Der Rundfunk als Kommunikationsapparat* [Radio as an Means of Communication: A Talk on the Function of Radio] (1932), as a critical response to Burliuk's radio-modernism. Published only six years after Burliuk's text, Brecht's could be found attacking the radio medium directly and calling out for radio to change from being an apparatus of distribution to one of communication. This pivotal and important text has being rightly quoted by countless radio theorists as a key moment in the birth of radio. Certainly, contemporary theorists such as Breitsameter (2007, pp.62-64) have argued a compelling case that Brecht's utopian vision of radio as a two-way medium is at last being realised by radio's convergence with the internet.

1.4 The BBC: Dramatic Control

The European experience of radio as a challenging art form was reflected in the artistic movements and manifestos which emerged in its infancy and contrasted with the UK's more dogmatic and pragmatic approach to broadcasting. This may be in part because the BBC was quick to professionalise its staff as civil servants rather than as 'creatives', a situation echoed by reflections made by producers at the time. It seems prescient to talk of the work of radio producer Tyrone Guthrie who, reflecting on BBC radio in 1924, saw that it offered 'wide possibilities.' However, he noted there was 'not much interest in its artistic potentiality; the focus was almost exclusively on the technical and scientific side' (Guthrie, 1931, p.29). Technically, the BBC at the time worked towards enhancing its live broadcasts and productions, as all drama and BBC programming at the time was aired live.[19] The development of the first prototype mixing desk was seen as the way forward. This futuristic and sleek-looking Dramatic Control Panel was pioneered by Lance Sieveking and the BBC Research Unit, and is extensively documented by Sieveking in *The Stuff of Radio* 'as a very flexible musical instrument' which provided the ability to mix sounds between microphones and studios (Sieveking, p.53). His book explores the experimental features and techniques used at the BBC in the 1920s and '30s whilst staple radio genres and radio drama techniques were still evolving. Sieveking noted radio's influence on filmmakers at the time and was in turn inspired by them, discussing at length the Russian film director V.I. Pudowkin and the 'unsuspected similarities' of the approach of producing slow motion effects on speech

---

[19] The development of British radio can be found in the following: Cardiff and Scannell, 1991; Crook, 1999; Gielgud, 1957;Hendy, ;2007; Matheson, 1933; Sieveking, 1934; Scannell, 1986; Scannell, 1996; Drakakis, 1981.

(Sieveking, p.35). One can conclude from his book that Sieveking is clearly influenced by Soviet film, 'applying such techniques as close-ups, fades, mixes and superimpositions to radio production' (Shingler, p.201). Sieveking's own writing conveys a sense of the reciprocal relationship with creative film-makers in the UK: '[m]ore and more, as time goes on, the technique of film direction learns from the technique of radio-production (London radio-production)'(Sieveking, p.41). His filmic influence is also demonstrated by his use of montage in his (and the world's) first-ever radio feature *Kaleidoscope 1* in 1928. It was structured like a 'mosaic' (Sieveking, p.26), mirroring montage techniques without tape but via mixing sounds between studios, using the BBC's prototype mixing desk, the Dramatic Control Panel, for the first time. Tim Crook (1999a, p2) has written extensively on Sieveking, noting from his research on the subject that no original features broadcast prior to 1933–4 were preserved by the BBC for archiving; 'Sieveking's radiogenic experiments are only available as scripts'(Crook, 1999b, p.204), several of which are in *The Stuff of Radio*. *Kaleidoscope1* inspired and enabled Tyrone Guthrie, who in 1929 produced several experimental radio plays, such as *Squirrel's Cage*. Guthrie wrote of three of his radio plays in 1931, that he had believed in the 1920s that theatre was fated to become, as he put it, 'like polo attainable only by the rich' (Guthrie, 1931, p.7). He saw that if radio were to become free of commercial concerns, as it was at the BBC, it would then hold more promise than the cinema:

> [t]he BBC has subordinated the question of popular appeal to principles of moral philosophy but has none the less been moderately adventurous and quite encouraging to technical experiment. (Guthrie, 1931, p.7)

Guthrie was interested in experimenting in what he termed 'canned' drama. He commented that the radio drama and programmes being produced at the time were inferior to the technology that had been developed. Barely eight years after the BBC had started broadcasting, he seemed to share some of Brecht's dissatisfaction with the underuse of the medium. Aspley notes 'all radio drama might possess an avant-garde/neo garde quality in its erosion of the frontiers of the inner and outer worlds' (Aspley, K, 2006, p.239): this is a fascinating idea but when faced with notion of canned drama, the idea seems somewhat generous. However, one can conclude that radio drama today is as fiercely defended as it was by Sieveking, who appears to have taken literally the comment that '[r]adio drama is not "canned" (I should have preferred the more English "'tinned")' (Sieveking, p.51). It was to him 'far from being canned – that is, made and stored up, and put out in a state of fixed preservation'(ibid). Sieveking

puts forward the argument that the radio plays were live broadcasts and thus not canned, although he did not entirely ignore the fact they could perhaps be constrained by live production methods, questioning if '[a] radio-play which was recorded and cut, cinema fashion, might not be essentially a different thing from the present- radio plays. Or might it?'(Sieveking, p.111).

This creative debate aside, the Dramatic Control Panel nonetheless enabled Guthrie to experiment with the medium alongside Sieveking in the Drama department, and mix live between several studios. From the outset Guthrie points to the overshadowing of content by technological advancements, noting that the audience were just happy to hear anything, and stating that the situation would not improve until public interest shifted from 'the practical and mechanical to the artistic and philosophical applications of this new medium' (Guthrie,1931, p.7). This is a critique that could be applied today to many radio projects on the net, which do not push forward the boundaries of the radio medium, merely replicating radio on another medium, something which I will discuss in the following chapter.

Guthrie's plays made full use of the Dramatic Control Panel: *Squirrel's Cage* used four studios simultaneously to mix and fade between actors, chorus, noises and orchestra; combining intimately-voiced scenes with rhythmic voice and music-based interludes that reflected the subconscious mind. The Control Panel enabled the production of live non-linear voice, sound, effects and music for a mono listening format. The play was a huge success, working as it did without a conventional descriptive narrative form. In the words of Val Gielgud in 1929, it was 'written straight for the microphone, and was directed immediately at the listener's ears without any thought for his other senses' (Crook, n.d.). On its second airing in 1928, the *Radio Times* declared it 'a successful radio expressionist play' (ibid). Guthrie worked in the BBC Features Department and not the Drama Department, yet went on to make other such inspired radio dramas. At the time Radio Drama followed the conventions of traditional theatre and its narrative whereas Features was more open. Thus BBC features producers and writers '[w]ere in a better position to subvert production orthodoxy and discover and experiment with the potential of radio's imaginative spectacle' (Crook, 1999a).

Guthrie was harnessing new technology through experimental practice and simultaneously pushing forward the limits of the medium. Such an historically important fusion of artistic thought and creative action led to a shifting of possibilities; although, inevitably, such experimentation eventually became established technique. 1928 was a pivotal year for

experimentation in Britain and overseas; with 3 million listeners, radio in the UK was the central mass medium. Radio drama in the UK came of age in 1929 (Crook, n.d.) and many theoretical ideas about radio drama practice as discussed here still ring true today. The success of *Squirrel's Cage* and other such BBC productions reached a plateau for such experimental radio drama and features at the BBC, although many notable exceptions broke through in ensuing years. One can argue that the growing acceptance of 'best practice' and the influence of the critics came to the fore, and these forces were the undoing of passionate, focused experimentation at the BBC as the form itself became more conventional. Val Gielgud, Head of the Drama Department, stopped using the Dramatic Control Panel in 1932, having found it to be unsatisfactory and far too complex (Gielgud, p.60); it was 'unpopular with producers due to the fact long rehearsals were required to orchestrate the live elements', (Shingler, p.202) while mixing between several live studios placed the creative producer at the mercy of the engineer. In hindsight, Guthrie wrote, the long-termist comfortable civil servant-style role taken on by those who worked at the BBC attracted 'prudent rather than daring men and women; once in, there is every incentive to play safe and none to stick your neck out' (Guthrie, 1961,p.52).

This lack of risk-taking is still a current problem, as discussed by producer Lance Dann (2012), who raises the issue with reference to his crossmedia radio drama, *Flickerman,* which he discovered the BBC was unable to take on because its social media content derived from the Flickr website; this pushed him to produce it independently, outside the influence of the BBC, to be later aired on ABC Australia and on Resonance FM. One can argue, as Dann has done, that the BBC commissioning process stridently controls output, limiting such new innovative drama content, as the schedule in fact shapes content. Rather than commissioning being formed from the creative ideas of producers, audience listening patterns were the lynchpin in programming scheduling. 'The more pragmatic of independent producers see their role as being not to sell programme ideas to the BBC but to sell the network controllers "scheduling solutions"' (Dann, p.3). The problem, it seems, has remained. Guthrie's *Squirrel's Cage* reflected not only his talents in working with the new medium of radio drama, it was also a satire of the dull conformist middle-class types who worked there; 'I shudder to think what Americans must think of the style which the BBC has made its own: the tone of one stranger to another, of a slightly lower rank, in a suburban train' (Guthrie, 1961, p. 52). The BBC policy before the Second World War of producers having to be anonymous 'stripped the British Radio Producer of an individual voice. Producers and announcers were "symbols of the

institution" rather than individual personalities' (Fisher, 2002, p.223). Tyrone Guthrie's career at the BBC was cut short by personality clashes with Val Gielgud which resulted in 'a "cultural black-listing" not an uncommon factor in the under-representation of a considerable number of playwrights, authors and directors' (Crook, n.d.). One wonders what other experimental and creative opportunities were lost due to such tyrannical behaviour at the BBC. In the prologue to his biography of Guthrie, James Forsyth writes:

> Anti-Broadway, anti-West End, anti-everything implied in the term ''Legitimate Theatre', he ended up with a legitimate claim to the title of 'most important, British-born theatre director of his time'. (Forsyth, 1976, Prologue)

Guthrie became part of the theatre establishment and was knighted in 1961 for his work in spreading classical theatre to an international audience. His dalliance in experimental radio production highlights the limited artistic freedoms at the BBC in its formative period. BBC pioneers Guthrie and Sieveking harnessed their personal creativity to the new technologies of the day, most notably in the Dramatic Control Panel which allowed live multitracking and mixing for artistic ends before tape was commonplace in the UK.

The BBC's Research Unit was set up and headed by Lance Sieveking, who coined the term 'radiogenic' to describe the new use of sound in radio features. It started in 1928 with Mary Hope Allen, E.J. King-Bull and Edward Harding, a group of producers who were able to push forward the boundaries from 1931 until 1933 at the BBC's Savoy Hill facility. The unit had 'an undefined roving commission to browse over the whole field of programmes, to initiate ideas, to experiment generally' (Gielgud, p.27).

Edward 'Archie' Harding had joined the BBC in 1928, producing an innovative first feature, *Imperial Communications* (1929), about the wireless network run by the Post Office across the British Empire. The producer of a number of actuality-based features focusing on political hot spots, his techniques developed in the BBC Research Unit were 'a blend of education, politics, and the aestheticisation of sound' (Fisher, 2002, p.78). As the producer of Pound's radio opera, *The Testament of Francois Villon* (1931), Harding '*broke technological and theoretical ground*' since it 'featured the use of artificial echo throughout the performance to distinguish scenic location, and the operation of an electric audio mixing board to combine prerecorded passages with live performance' (Fisher, 2002, p.2). A second opera, *Calacanti*, was written for radio by Pound between 1931 and 1933. It was never broadcast, initially due to delays and then

later because of the composer's incarceration on the grounds of treason for broadcasting propaganda from Italy during the Second World War, echoing his sympathies for Marinetti's work, the ghost of whom enters into dialogue in Pound's *Italian Canto LXXII*

Harding subsequently produced 'the world's first global link up' (Fisher,2002, p.3) and founded the BBC's first training programme, which some may argue started the decay of experimentation as practice became further refined and BBC radio moved ever further away from its experimental roots in favour of more populist output. Harding's transfer to Manchester in 1933 can be seen as 'the demise of the research group and formalist experiments in pure radio' (Cardiff and Scannell, p.140), which Fisher argues had 'created a small body of works that paralleled the development of radio art in the Weimar culture' (Fisher, 2002,p.72). BBC producer Donald McWhinnie strongly identified with Pierre Schaeffer's work with *musique concrète* in the Studio d'Essai, Paris, writing how it was 'investigating and perfecting sound techniques which we are only now beginning to value' (1959, p.86). He also gives an insight into the mindset in the 1950s BBC producer and the wish to avoid what he terms 'Art for Art's Sake.' An obscure place it seems:

> [w]here intellectual spiders spin their interminable webs, I hope it is true to say that in any artistic medium the only limitation on choice of theme is that medium's capacity for expressing it. This is, alas, not so true of artistic media which also have a function as mass means of entertainment; here there may be considerable restrictions on the artist's freedom of expression. Sound Radio is still part of the entertainment industry, an industry whose main concern is not inevitably creative expression. (McWhinnie p.96)

Being part of an 'entertainment industry' sums up the BBC industrial approach to creative radio and is why, unlike in Germany, there was no creative pulse to experiment in case it brought forth the 'intellectual spiders' bemoaned here by McWhinnie. Guthrie's notion of clichéd 'canned drama' has been an issue since the 1920s. Dann's 'programming solutions' are far too often heard. Only the rare BBC drama on BBC Radio Four could be deemed to be radio art. If they are to be heard at all they are allocated to the only dedicated slot for experimentation, provided the work is narrative-led, BBC Radio Three's *Between the Ears*. It is thus we move to Germany which has continued to craft a dramatic form of radio art, known as *Hörspiel*, since the 1920s.

1.5 The German Experience

In contrast to the British experience exemplified by Guthrie and Sieveking at the BBC, experimental radio moved at a faster pace in Germany from the 1920s onwards. Hans Flesch – whom we saw in cartoon form in the Introduction – was the pioneering programme director and innovator of the early experimental radio drama form that came to be known as *Hörspiel*. The term *Hörspiel* comes from the German for 'hear play' and invokes a genre of radio drama that mixes radio documentary, soundscape, electroacoustic music and sound editing techniques to produce a unique form of radio which is far more experimental than its UK counterpart. Flesch was the Artistic Director at Radio Frankfurt from 1924 and then at Berlin Radio Hour from 1929 until 1932, when he was pushed out by the Nazis and imprisoned in 1933 (Gilfillan, 2009, p.85). A study by Wolfgang Schivelbush of intellectual life in the 1920s argues that Flesch helped make Radio Frankfurt the 'center of innovation for the radio genres of reportage, new music, the radio play and open debate' (Gilfillan, 2009, p.67). Flesch deployed a firmly modernist approach and exhibited an eagerness to develop new and maverick production techniques. He dug substantial analytical foundations for the birth of the genre through a multitude of essays and commentaries that he wrote for the *Weimar Radio Journal.* The roots of *Hörspiel* can be traced back to the 1924 Radio Frankfurt broadcast of Flesch's first and only experimental drama, *Zauberei auf dem Sender: Versuch euner Rundfunkgroteske* [Wizardry on the Air: Attempt at a Radio Grotesque].The play – an attempt to break down the radio equivalent of the cinematic fourth wall – was broadcast as an imagined interruption of normal broadcast by a meddling wizard who creates chaos in the studio in an effort to hypnotise the audience with sonic illusions. It used 'imprecise notions or spatiotemporality, feedback distortion, physical presence, and ethereality within the bounded and technically driven space of a broadcast sound studio' (Gilfillan, 2009, p.44).

Flesch wrote the play as a 'theorist', which I will define in his terms: as a way of experimenting directly with the radio medium. By this I mean his intention was to produce a radio play not transferable to the theatre or concert hall. He was testing his understanding of the new medium and clearly wanted to move away from the literary binds of conventional authorship and narrative and to play instead with the particular relationships and conventions of the medium. His playful hoax broadcast drama predates Orson Welles' much later *War of The Worlds* (1938), which tricked listeners through a fake newscast-style play and sought to subvert the conventions of radio news reportage.

In contrast, Flesch's drama used the station itself as its subject matter. It confronted listeners with the actual staff in the studio: alongside the wizard were heard the artistic director Hans Flesch himself, his assistant, the announcer, the business director, a technician, a violinist from the radio orchestra and a typist. A sense of reality and fiction melding was evoked by Flesch as author and theorist of the work by constructing ' a dialectic between establishing order through entertainment and promoting disorder though artistic innovation'(Gilfillan, 2009, p.74). One can argue that the play's narrative of a magician taking over through persuasion is a deconstruction of a live broadcast. Gilfillan notes it also draws out the medium's recent history and conflicts; 'it is speaking to the government fears about unsanctioned use of the airwaves and the *Funkerspuk*; and at its core, when it thematizes the disruption of a broadcast' (Gilfillan, 2009, p.75). Flesch's own modernist approach can be understood as the rejection of naturalism and the pursuit of novel dramatic forms with the aim of creating social emancipation, producing a critical awareness in the listener by breaking through the accepted conventions of the medium, thus fitting with Michael Tratner's definition of modernism as 'as the production of new social structures' (p.17).

Flesch developed his own radiophonic art form, working with the notions of radio's ethereality, calling into question accepted practice by throwing out the schedule and putting the technical apparatus in the spotlight. In direct contrast to the BBC productions at the time, Breitsameter notes that *Zauberei auf dem Sender* was the '[t]he first original German Radio Play' that 'leads us to the electro-acoustic space of digital networks and its potential for a radio interaction and participation' (Breitsameter, 2007, p.60). It highlighted the conflicting media architectures of the 1920s between radio as broadcast versus radio as multi-user space, (ibid, p.61) a radio and media dichotomy that is still highly relevant today. In 1928, Flesch invited German film-maker Walter Ruttmann to the Berlin Broadcasting System to create a pre-recorded piece for radio in an effort to extend the wave of dramatic experiments in new genres, formats and styles of programming that he had already instigated. Ruttmann's innovative radio work, *Weekend* (*Ein Film ohne Bilder* [A Film Without Pictures]) broadcast on 13th June, 1930, opened the air waves to the aesthetic of the avant garde by splicing the sound track, repeating, reorganizing the sequence and duration of sounds of a weekend in the city.

Thus, whilst the BBC stuck with live radio production in 1929, in Weimar Germany *Hörspiel* radio plays were being developed using experimental tape recording techniques. Ruttmann was the first to broadcast using optically recorded sound film stock – the so-called Tri–Ergon

process – and referred to *Weekend* as his first sound film. One does get an audible sense of the city as a sound journey for the ears, the first sonic postcard, and it seems the earliest example of radio art to have been preserved. It was 'born neither of the *macchina da scrivere* nor of the literary mind, the first radio work removed from theatrical concerns, and the first to employ sound film as an artistic medium' (Fisher, 2002, p.67). As Radio Berlin's director Alfred Braun explains '[a]coustical film was the term we use in Berlin for a radio play that through its dream-like, quickly moving sequence of images gliding, jumping, overlapping each other, alternating between close- ups and distance shots blending in and out deliberately transferred the techniques of moving pictures to radio' (Schöning and Cory, 1991, p.316). According to Fisher, this result was also, to some extent, achieved by those working in the BBC Research Unit using the Dramatic Control Panel; however, it can be argued that the magnetic tape, invented and developed by the Germans from film stock at this time, enabled far more experimental artistic opportunities on German radio. In fact, tape was not used in most BBC radio productions until after the Second World War, thus constraining artistic and technological radio developments in the UK by producers such as Sieveking, who was clearly influenced by filmic editing techniques.

Other notable German productions broadcast at this time came from a wealth of forward-thinking writers and artists such as critical theorist Walter Benjamin, who seemed clearly to have absorbed Brecht's ideas in his extensively cited 1932 essay identifying radio as a two-way medium for communication. Benjamin's own productions run from the interactive *Radio Games: poets by Keywords* and an experimental drama broadcast in March, 1932 to *The Brouhaha around little Kasper*, a children's radio play which exploited the medium to the full and explored radio's ability to be heard in private spaces, its 'mobility' and 'omniprescence' (Leslie, p.127).

> It dealt with radio's intrusion into the most intimate space, the bedroom. It reflected on the alienation and commodification of cultural work – and significantly did this by using a folk-theatre figure, Kasper, now resident in new media space (ibid).

Notions of radio space have been key to German radio art from past to present and this will be discussed further in Chapter Three, when I consider the work of case study LIGNA, who have taken the theme of radio space into contemporary radio actions: most notably their radio ballets in train stations and shopping malls. When Brecht wrote of his 1929 radio play, *Der Lindberghflug* [The Flight of the Lindberghs], he considered his 'Utopian' views on radio and its

limits as an institution: 'I am aware that these vast institutions cannot do all they could, and not even all they want' (Brecht, 1964, p.52).

German academic Rudolf Arnheim,[20] cultural editor of the Berliner *Weltbühne* paper between 1928 to 1933, had fled to Rome then to England before the war, where his book *Radio* was published in 1936. The book reflected on European practitioners of radio art and the growing creative interest in radio. Arnheim writes extensively of radio as a serious art form in its own right, discussing the medium intellectually and considering it a possible basis for philosophic enquiry. *Radio has* been quoted extensively by those radio theorists who have taken onboard his discussion of the senses and the priority of sight as a possible and contributing rationale for its ongoing underdevelopment as a medium and art form. Lander states that Western art discourse has been 'preoccupied' with the gaze (Lander, 1994, p12). This notion is endorsed by Crisell when he considers radio a blind medium and writes of the '*mind's eye*' (Crisell,1994, p.10). Crook (1999b) argues such negative connotations do a major disservice to the medium by focusing on what it lacks rather than the unique qualities it possesses.

This first wave of German innovative radio programmes and producers lasted until the Second World War, when such artistic radio experiments were crushed as broadcasters like Flesch were sacked then interned by the Nazis. After the war, in the early 1950s, Germany producer Alfred Andersch worked towards a thoughtful and collaborative radio as he engineered his own radio essays and features. These were supposed to encourage thought, allowing the listener to switch off the radio, discuss and ponder the ideas on his programmes – a world away from the propaganda broadcasts before and during the war (and perhaps closer to the radio that Brecht had envisaged).

It was also German producers in the 1960s who brought along Das Neue Hörspiel, to incorporate techniques such as the radical vox pops of the 'O-Ton' (Original Sound), pushing radio experimentalism still further and, in the process, dissolving one of the then conventions of journalism. '[T]he O- Ton artist simply begins recording and then assembles out of the recorded original material a coherent and sometimes surprising, sound portrait' (Schöning, 1992, p.363). Producer Paul Wuhr used radical vox pops to edit words to create meaning unintended by the speaker, today a popular technique used in satire. Cassette Boy's *Parker Tapes* (2002) and Chris Morris's *Bushwhacked* (2003) recordings are good examples of this. Paul

[20] *Harvard Gazette*, 2009.

Wuhr and fellow producer Ferdinand Kriwt's work can be characterised as found sound assemblage of recorded actualities of the 1960s and 1970s edited together in ironic and unusual ways. Kriwt produced what he called '"*Hörtexts*, Radio Texts" – radio pieces composed of noise and sound bite and samples' (Hübner, 2007. An example would be *Apollo Amerika* (1969), a collage made for German stations Westdeutscher Rundfunk (WDR), Bayerischer Rundfunk (BR) and Südwestrundfunk (SWR) of the media reaction to the Apollo moon launch. He won the Karl Sczuka Prize for radio art for his audio collage *Radio Ball* (1975), for WDR; a mixing of languages, football experts and reporters.

> Kriwet's works are an attempt at communicating an idea of listening to something that constantly surrounds us on short, medium and long wave frequencies. His politically engaged and avant-garde approach was influenced by aesthetic and conceptual currents in constructivism, new music, beat generation and pop. (ibid)

In summary, it can be argued that many groundbreaking experimental editing techniques started in Germany and grew from a wider engagement with the medium and a sense of open awareness of what radio could be rather than should be. Features made by European experimental producers between 1920 and 1990 '[e]xploited the medium to reject, question and pose a challenge to conventional or mainstream broadcasting' (Shingler, p.208), using amongst other approaches montage, glossolalia and sound distortion. Walter Ruttmann's and Pierre Schaeffer's European experimental influence has not only lasted but also widened as their tape recording and editing techniques have become internationally respected as legitimate compositional strategies. Other postwar radiophonic experimentation can be traced to the roots that grew from these pioneers' work, when artists such as William Burroughs and John Cage – who had established reputations in other media – dabbled in highly creative radio projects by deploying the kinds of tape recording, editing, splicing and cut-up techniques that are still used by practitioners today.

1.6 French Radio Arts Roots: Dadaism to Surrealism

It became clear to me whilst researching a three-channel radio work for the Duchamp Festival in 2013, that Duchamp's *Large Glass* from 1923 could be interpreted as being about wireless radio communication. Excited about the concept, I asked the artist Ralph Steadman to draw me Duchamp roller skating and listening to the radio with reference to influences which were completely overlooked by the speakers at the Duchamp Symposium in 2013. It was thus

gratifying to hear Hank Bull proclaim *Large Glass* as 'the first work of radio art' at the Bremen Radio As Art Conference, 2014, impossible to prove but a provocative idea nonetheless. However, radio art has had multiple births, most of them undocumented, and in following chapters I will also consider taking radio out of its box. What is clear is that European avant-garde artists embraced the new wireless medium across all art forms, from paper to paint and in the ether: not only did the Futurists and the Constructivists claim radio territory as their own, Surrealists also made significant incursions into radio production. The pioneering work of producer Paul Deharme in his *Proposition for a Radiophonic Art* (1928) has cast new light on later Surrealists' radio practice, which counters Kahn's discussion as to 'why was there no Surrealist sound practice of any type' (1990, p.314). This recent shift in perspective gives a concrete demonstration of how radio arts history is still very much a work-in-progress, with new documents still coming to light. As Weiss has claimed:

> Multiple (and contradictory) histories of radiophony could be constituted, depending both upon the historical paradigms chosen to guide the research and the theoretical phantasms behind investigation. (1995, p.3)

Early French radio had several theoretical works on radio plays which, to date, 'remain unedited and uncommented upon by radio historians' (Birkenmaier,2009a, p.404). Paul Deharme's work was one such case and Birkenmaier's text alludes to further possible rediscoveries. Paul Deharme was a close friend of Andre Breton via his wife, the poet Lise Deharme; he was a key member of the Surrealists and his production partner Robert Desnos was also a founder member. Later joined by the Cuban novelist Alejo Carpentier, Deharme and Denos together effectively became dissident members of the Surrealist group, working as creative producers for Phroniric, Deharme's radio production company founded in 1932. In his *Proposition for a Radiophonic Art* 1928, Deharme outlined twelve rules towards a surrealist-inspired radio technique concerned with creating a dream state in the listener. As he wrote in his introduction,

> We have known silent art, and now we have blind art. This project, in its spirit close to surrealism, should not be received by the public as the early literary manifestations of that doctrine were … Surrealism owes its beginnings and really its life to the subconscious, as it is called today. And it is this same subconscious that we aspire to touch with the help of the wireless, but in a direct fashion, thus avoiding to awake the conscious mind and its disturbing actions. (Deharme, 1928, p.407)

Deharme's 'Pour un art radiophonic' (1930) lays out the rules of a surrealist radiophonic art and attempts to define its unique potential, its independence from vision and its capacity to dispense with analytic reason via sound. Radio was the perfect medium for surrealism, the ideal way to share an inner voice.

> Similar to the surrealist automatic writing, it made its audience listen to the dictate of an unknown voice; also, it allowed for instantaneous communication between audiences all over the world that resembled the quasi-telepathic communication achieved by the first members of the movement in their creative sessions. (Birkenmaier, 2009a, p.357).

Deharme died in 1934; however, his partner Robert Desnos carried on the company and went on to produce experimental radio productions echoing Deharme's surrealist radio philosophy. On 4th July, 1936 Desnos staged a 'radiophonic enactment' of Walt Whitman's *Salut Au Monde!* Germaine Blondin from *Radio Magazine,* when reviewing the work, described him as 'a master of radio art … he has appeared to have found sounds, songs and music that appear to have sprouted from the same place in his brain and his verse' (Blondin cited in Conley, 2004, p.107). In August, 1937, he went on to make his most memorable surrealist radio programme, *La Clef des Songes* [The Key of Dreams], and, importantly, his 'most successful experiment with interactive radio' (Conley, p107). Running from February, 1938 to June, 1939, the programme invited listeners to submit their dreams for interpretation and dramatisation, encouraging highly poetic responses from this interaction. Desnos wrote of the show, that '[a]n invented dream delivers the same secrets, carries the same portents as a real one. Dream on then, Dear readers' (Conley, p.108).

Robert Desnos died in 1945, aged forty-four, in a concentration camp in Terezín in Czechoslovakia. Alejo Carpentier was to carry on their radio work in Cuba. Although in the west he is still primarily known as an author, he was a classically-trained pianist, musicologist, avant garde radio producer and theorist who produced radio works in France, Venezula and Cuba between 1932 and 1959. He also curated a conference on the 'unexplored zones of sound' (Brennan, p.17) at the Cuban Institute of Culture in Havana in 1939, which included an illustration of *musique concrète* with 26 pianos played synchronously. Schaeffer's highly influential and groundbreaking studio production is often mistakenly considered by many as the root of radio art, a point also made by Black (2010, p.198). This emphasis is all too often exaggerated at the expense of the earlier German tradition of *Hörspiel*, to which it is closely linked. Pierre Schaeffer was influenced by the radio forms that preceded him as there is a long

history of experimental radio in France. Such slippages of documented history across countries are key to gaining a fuller understanding of radio art's history.

Deharme, Burliuk and du Vernet all share similar notions of the spiritual unconscious unleashed via radio vibrations and my research on this chapter has informed my practice, enabling me to draw on these links and on comparable works to inform and create new practice which will be discussed in Chapter Five.

I will now consider the literary use of radio and how its repression has furthered radio art practice.

1.7 Literary Repression

In the 1920s, Hans Flesch was certainly aware of narrative restraints on the medium. It was only after having thrown away his author's hat – which kept the focus firmly on the authority of words and their linear progression – and by writing anew as a 'theorist', in the specific terms that I outlined earlier, that Flesch was able to make a distinctive move away from conventional page-bound narrative. In much the same way, Paul Deharme, Robert Desnos and Alejo Carpentier tested ideas to push forward the art of radio drama. In my opinion, it is the work by those writers, who have moved against the grain of linear narrative, that has inspired the most experimental early radio work, William Burroughs being a good example of a writer whose influential cut-up experiments and recording techniques depart from the accepted and dominant influence of the more conventional written word but which are still firmly described as being marked by his literary interests.

Robin Lyndenberg's chapter in *Wireless Imagination* on the audiotape cut-up collaborations of William Burroughs and Brion Gysin takes a literary perspective. Lyndenburg writes that 'Burroughs launched into his cut-up tape experiments believing they could produce superior effects' (Lydenberg,1994, p.433). In 1970, Burroughs was recorded as commenting on the 'effects of simultaneity, echoes, speed-ups, slow-downs … all the sorts of things you can do on a tape recorder that cannot possibly be indicated on a printed page' (Odier, D; 1970, p.29). By 1982, in an interview with Nicholas Zurbrugg, he was sure that tape recorders were 'of no use to the writer whatsoever'. It is apparent that a thirty-year love affair had come to an end and yet Burroughs' influence on radio and sound artists has carried on far longer, as shown in Douglas Kahn's discussion of Burroughs in *Noise, Water, Meat* (2001). The limiting effect of literary writers on radio drama is rarely discussed. However, Elke Huwiler's study of German

radio plays between 1929 and 2002 explores how the written word has been the dominant influence of all plays in Germany as well as those from the UK, and how writers in Germany were actively encouraged to write radio plays, claiming that even *Hörspiel* was strongly influenced by literary traditions.

Elke Huwiler writes that the 'tendency to involve literary writers in the making of radio plays, thereby enabled them to shape the art form' (Huwiler, pp. 45-47) and this ultimately led to the notion held by conventional radio theorists that the radio play is a literary or dramatic art form. She argues that this misinterpretation has also been caused by a lack of a dynamic theory which takes on board the non-verbal and radiophonic use of sound in production alongside narrative; these have been overlooked and the current framework and methodology for reading such media texts are dominated by narratological and semiotic theories. Thus 'music, noises and voices and also technical features like electro-acoustical manipulation or mixing, can be, and often are, used as tools to signify story elements and therefore should be analysed accordingly' (ibid). Huwiler's critique seems to miss the points made by Klaus Schöning, Cory and others, that musical composition and sound design are central and on an equal footing with narrative and this gives such works a distinct quality that is lacking in much contemporary BBC drama, for instance. To only analyse such works from the perspective of the literary narrative does a disservice to such work's specifically radiophonic qualities, particularly in those cases such as Cage's work with Schöning, which is defined as a form of radio art.

It is pertinent that within the tradition of *Hörspiel* sound is on an equal footing as an essential element to narrative, and is integral to understanding the listening process and engagement; such an integrated approach to sound material and form, as well as a fidelity to the material conditions of radio in its production, dissemination and reception within the wider media ecology go towards forming an overall ethic of radio art, encompassing a multiplicity of strategies, techniques and approaches.

I accept that radio artists choose how they want to navigate this terrain: works by artists such as Gregory Whitehead demonstrate a heightened use of sound production while equally other artists such as LIGNA dispense with such an apparent aestheticism, using radio for its disruptive potential within the public sphere; for me both are important. There is a shared materiality in the potential of radio; how works are framed by the artist is important and something that is repressed by mainstream radio.

Having taught a radio theory course which explored the narrative ideas of Vladimir Propp alongside such sonic narratives, it is clear the tide has turned in terms of the combining of textual and acoustic analysis of radio. However, I would nevertheless agree that much of the terminology and theory on the subject is borrowed from film theory, and more recently from sound designers and theorists such as Chion, as used by Crook (1999b). Chion's concepts are reinterpreted for the medium and connected to visual dialogue of film; this emphasises the key problem, that radio does not have its own clear core theoretical vocabulary for debating and exploring such issues. The literary use of radio has left an indelible mark on and certainly shaped the medium; it may even have helped limit perceptions of the potential of the medium. Ironically, it has been visionary writers such as Brecht and Khlebnikov who have predicted its future uses and demanded more from it. Conversely, it has been jobbing, rather than visionary, writers who have only written for the conventional ear and assumed audience expectations, who have held the medium back and kept it 'canned.'

American academic Bert Cardullo argues in *Theatre of the Avant Garde* (2001) that those who actually pushed modernist and avant-garde theatre forward were outsiders, artists from all walks of life and disciplines with no background at all on the stage. This parallels the developments in experimental radio which, like avant-garde theatre, was also fed by 'any but professional or commercial *dramatists*' (Cardullo and Knoff, p.2). Radio influenced such writers, whose work continued off-the-stage to other media. Most historical accounts of radio art identify poet and writer Antonin Artaud's 1947 glossolalia-led radio production *To have Done with the Judgement of God* as a pivotal moment. A radio extension of his Theatre of Cruelty, it was never actually broadcast due to the assumed effect such an exorcism of such primal pain would have on its audience. Recordings survive which allow one to hear at first hand the pain of the artist (then suffering from bowel cancer), screaming at the listener in a clear challenge to the notion of radio as a 'calm and collected friend in the corner'. This was a 'hypnotic, blasphemous poem, invoking the primal elements of humanity God and the cosmos – shouts and incantations mixed with the sounds of percussion instruments' (Cardullo and Knoff, p.376).

The recording possesses the audible sense of a past era; brittle and aged, it is certainly percussive and hypnotic to a non-French speaker and works as glossolalia. The contemporary ear does not recoil from the programme, but rather becomes enchanted by its guttural utterances, noting a primal musicality about it which leads the listener almost towards the

apprehension of sound poetry. It uses a different radiophonic register and creates an atmosphere still very different from today's conventional radio dramas, such as those heard on BBC Radio Four in the UK, where too often drama is sterilised by being made too palatable and middlebrow. By its ongoing requirement for a familiar and well-worn accepted narrative focus, structure and editing have allowed Guthrie's 'canned' drama to remain the prevalent norm at the BBC. *To Have Done With The Judgement Of God* still has a peculiar contemporaneity as experimental radio listening. One wonders if such work could ever shed its role as an exceptional experimental play on such a station. The primal unsettling screams of Artaud jar with and disrupt convention, offering a little-heard darker side of radio that links the listener with pain, insanity and raw body politics, places and sounds that are all too often smoothed over and made homogenous by conventional editing.

Literature has shaped radio's content but there are also examples of radio's influence on modernist poets and writers, whose own experimental styles might be seen as being inspired by the medium of early radio's distinct qualities: the chaos from a listener's perspective of random and broken narratives, feedback and static which have fed back into modernist literature. James Joyce's 1939 *Finnegans Wake* is a good example of a text being wholly written and structured to reflect the way in which radio was received by Joyce while listening to the Irish Radio Athlone in Paris in the 1930s, with its sponsored programmes and advertising. Joyce writes of dreamers connected by:

> high fidelity dial dialler with supershielded umbrella antennas capable of capturing skybuddies, harbour craft emittences, key clickings, vaticum cleaners, due to a women formed mobile or man made static. (Joyce, 1969, pp.309–14)

Finnegans Wake provides 'constant allusions to a wireless or shortwave radio as a central symbol or unifying device' (Bengal, p.26). James A. Connor has given a compelling reading of the book in this light.

> Radio Air was full of noises, wandering signals, high altitude skips, and super-heterodyne screeches, and anyone who listened to it had to gradually attune themselves to a cacophony of voices all speaking at once.(Connor, p.18)

In *Ulysses* and *Finnegans Wake* the new language of advertising and its radiophonic sounds were reformulated and reset 'in an older form, the novel' (ibid). Thus, by bringing the new technology of radio into the older one of the printed form something groundbreaking, the

birth of the cut-up was enabled.

> Simultaneous action, everything happening at once – what could be a better description of radio before digital dials, noise filters, and stereophonic sound? The language of the *Wake* flows and shifts, is noisy and hard to grasp, much like competing radio signals, so the reader, must listen with the same intensity as a radio hound in 1933. (Connor, p.31)

Rubin Gallo's writings on Mexican radio have also outlined how such radio sounds informed and inspired modernist poets in Mexico, and the French poet and artist Guillaume Apollinaire in Paris. Apollinaire's 'Lettre – Ocean', published in *Les Soirees de Paris* on 15 June, 1914, 'is literally mediated by radio transmission' (Gallo, p.161) and came out of his fascination that a telegram message could cross the ocean. 'Apollinaire represented the heterogeneous, anarchic quality of a radio broadcast by transforming the page into a jumbled calligram showing text running in all directions' (ibid). Gallo compares the poems of Luis Quintanilla, a Mexican poet from the Estridentista group, who wrote under the pseudonym Kyn Taniya, to a faux-orientalism that reminds one of Burliuk's *Manifesto Radio Style*, written in the same year as Taniya's radio-inspired sound poetry. Both artists not only share an interest in Asian exoticism but developed radiophonic-inspired poetry. In this case, Taniya's 1926 poem 'IU IIIUUU IU' has much in common with Apollinaire – although directly inspired by Mexican radio rather than radio telegrams – and formed part of a collection of poems called *Radio: Poema inalambrico en trece mensajes* [Radio: Wireless poem in thirteen messages]. I became aware of his work after seeing a copy of the book in an exhibition of Mexican prints at the British Museum in 2010. Its cover, by artist Roberto Montenegro, is hugely engaging with its literal reference to the medium: a visual depiction of the ether as a night sky with the letters 'R A D I O' spaced out akin to stars and planets, while a disembodied mouth and ear float by, lightly connected by a web of strings to surreal bird-like creatures, caricatures of listeners filled with the knowledge of a cosmos that is strange and inspired. The poem 'IU IIIUUU IU' is an onomatopoeic representation of the high-frequency sounds heard while tuning a radio intermixed with fragments of news and other broadcasts so as to relay, as Joyce did, the 'speed and disorientation that radio had introduced to the world'. (Gallo, p.165) By drawing on radio sounds for inspiration,

> Kyn Taniya has thus constructed an elaborate textual machine: Hertzian waves travel from the poet-antenna to the radio-text and are finally spoken by the reader loudspeaker. (ibid, p.167)

Radio broadcasting in Mexico was also intertwined with the work of the avant garde artists of the 1920s and 1930s as Mexico was a cultural hub for international artists and visited by many, such as Arthur Cravan, Tina Modotti, Edward Weston, D.H. Lawrence, André Breton, Antonioni, Artaud, and Sergei Eisenstein. Mexico City's first radio station was set up by a weekly literary publication *El Universal Ilustrado*, edited by Carlos Noriega Hope, which published the 'most experimental writers of the 1920s, from Tina Moditti to Manuel Maples Arce, from Diego Riviera to Salvador Novo' (ibid p.123).

The inaugural programme of the station in 1923 featured a reading of a Futurist poem, 'TSH', the Spanish acronym for '*telefonica sin hilos*', or wireless telephony, by Manuel Maples Arce – founder of the political *Estridentistas* movement – and 'included a verse celebrating radio as the "nuthouse of Hertz, Marconi and Edison"… [O]nly in Mexico were the precious seconds of the first historical broadcast turned over to a twenty three year old futurist poet' (ibid).

I have already briefly mentioned Cuban writer, radio producer and arranger, Alejo Carpentier, who, as well as being a prolific author, was to continue his work as a radio producer which he had begun in France and carried on in Cuba and Venezula for several decades during and after the war. Carpentier was 'a great connoisseur of music and radio art. Many of the conferences he gave about that art form still exist in the archives of the international broadcasting station Radio Habana Cuba' (Quiroga). This highlights how Cuban radio art, like much of early South American radio, is an area open to further research beyond my formative studies here. Influenced by Deharme and Desnos' Surrealism, Carpentier wrote of 'creating a spectacle for the ear' (Brennan, pp.25-26) and, like the Futurists, he wrote about radio's rhythmic qualities of sound: the voice should be used as a 'talking machine', and that dialogue should be 'anti-radiophonic' (ibid) (although this may have been more to do with his love of Latin Afro Cuban music and jazz, than any influence of Futurism).

Oyvind Fahlstrom (1928-76) played a key role in the formation of text music on public national radio in Sweden, along with the Society for New Music and Intermedia Art *Fylkingen* (Stockholm). Swedish writer and curator Teddy Hultberg has written of the beginnings of the radio art form which became known as text sound. Fahlstrom realised the potential of radio as

a medium, having performed his concrete poems on the radio. He contended, as Apollinaire had done over forty years earlier, 'that books as a poetic medium had outlived their usefulness and that tape recording with its astounding resources should be adopted' (Hultberg, 2000). Composer Karl-Birger Blomdahl had become head of the music department of the Swedish Broadcasting Corporation in 1963, on the proviso that a studio for electro-acoustic music be built and, most importantly, it would not employ the usual restrictions on non-composers. *Birds in Sweden*, broadcast in January, 1963, broke narrative and structural rules; a collage of Fahlstrom's concrete poems with his 'monster-languages' and 'dialects' it mixed sound effects, birdsong, bird books, jazz, classical and pop and radio programmes. 'Never previously had a poem or audio piece of this nature been broadcast in Sweden' (Hultberg, 2000).

In 1965, influenced by Fahlstrom's concrete poetry, Lars-Gunnar Bodin, with Emil Johnson, Ake Hodell, Imar Laaban and Sten Hanson, formed the core of early Swedish text-sound composition. Lars-Gunnar Bodin and Bengt Emil Johnson created a series of six individual radio plays known as *Semicolon* that, for Hultberg, were evidence that the Swedish Broadcasting Corporation realised the importance of 'radio as a medium to develop a specifically radio art form' (ibid).

It is clear why so many experimental writers, from the modernist era up until Burroughs, were inspired by the radio but one needs to ask why in the same period there seem to be few examples of experimental radio being written directly for the medium. Such crossover appears to be a far from common occurrence, certainly on the BBC, as Guthrie discovered all those years ago. In radio's infancy, being heard clearly was the main priority and, apart from such mavericks as Guthrie and Flesch, this clarity seems to have sufficed for many broadcasters at the time. With the ability to record radio only properly arriving after the war, many experiments have been simply lost to the ether. On the other hand, recent interest in the medium is slowly unearthing exciting material, such as Gallo's work on Mexico, Huwiler's reassessment of *Hörspiel*, and Birkenmaier's bringing Surrealism back into the frame after Kahn's dismissal of it. However, Cage's use of James Joyce's text neatly takes us to the next part of this chapter, where his use of sound brought a different influence to bear on radio arts: that of contemporary music.

1.8 Cage and German Radio

In 1942, the Columbia Broadcasting System approached John Cage to write a score to accompany a radio play, *The City Wears a Slouch Hat,* by the poet Kenneth Patchen. Cage's original idea was to score it exclusively for sound effects instead of musical instruments

> Every scene in the play has some reference to the aural imagery surrounding the characters: music, street noises, telephones, ocean waves. Indeed, the main character of the play is simply 'The Voice', and his magical freedom of movement throughout the play suggests the permeation of space by sound. (Pritchett, 1995)

When Cage delivered his score to the station – he had written 250 pages of score for new instruments – he was informed it would be impossible to realise. Instead, within just one week, he delivered a more modest score, using just percussion instruments, recordings, and amplified 'small sounds'. The result is still one of the most engaging dramas I have heard, creating a sound environment that holds up well today. However far ahead of its time this work was, the radio station never invited Cage back. Not deterred by the experience, Cage went on to use radios as compositional devices, stating '[m]usic is the noise of the radio' (Krolczyk, 2012). In 1951 he wrote *Imaginary Landscape No 4*. for twelve radios and in 1956, composed *Radio Music* for eight performers on eight radios. Each performer was instructed to tune his radio to different frequencies between 55 and 156 kHz at specific times throughout the six-minute score. He also produced *Neue Hörspiel* under the auspices of various European radio stations such as WDR, a German public radio station. His first *Hörspiel* was *Roaratorio*, from 1979, made with producer Klaus Schöning and subtitled 'An Irish Circus on *Finnegans Wake*'. Cage describes one of his many pre-production techniques in making *Finnegans Wake*

> I then used Louis Mink's book which gives a listing of all the places mentioned in *Finnegans Wake*; and I could go to those places and make recordings of environmental sounds and put these where they belonged in relation to the text. (Cage, cited in Kostelanetz p.226)

Mixed during a month in Paris at the Institut de Recherche et Coordination Acoustique/Musique (IRCAM), *Roaratorio* won Cage the coveted German Radio Karl Sczuka

Prize,[21] a prize for radio art established by the SWR in 1955 that highlights the cultural respect for and investment in radio art in Germany. The citation for the award read:

> Cage opens up an endlessly rich acoustic world, although it is strongly rooted in literary and musical ideas. It is a world made up of sounds, text and music. (Kostelanetz, p.216)

Working alongside Schöning, Cage produced several more *Hörspiel* plays, including *Ein Alphabet* (1982), *Muoyce* (1973) and *HMCIEX* (1984). According to the Cage critic, Richard Kostelanetz, '[c]ritically speaking, these *Hörspiels* represent an intermedium between the domains of poetry and music, drawing upon both, without falling completely into either' (Kostelanetz, p.216). In 1982 John Cage was commissioned by Radio Bremen and Pro Musica Nova to compose a new work to mark his 70th birthday; this became*A House Full of Music*, a concert and live radio event at the Bremen Overseas Museum. It was realised with more than 800 youngsters playing all genres of music in 37 different places at the same time. The one-and-a-half-hour performance allowed each visitor to the Museum to have a unique listening experience, an open structure whose precise outcome could not have been known by the composer; all was moving and continually changing 'a place of flux and also a social sculpture radiating social warmness' (Langebartels, 1996). This live performance was then simultaneously mixed by Cage and broadcast across 25 different countries, a precursor to live internet network art events on Kunstradio but with the kind of funding most could not dream of. The lack of European publicly funded opportunities for artists in the United States produced several papers concerning the art of *Neue Hörspiele* and the need for a similar financial regime in America.

In 1987, Everett C. Frost wrote of the hostility to radio drama from the public radio system; two of the reasons cited being the cost and the reliance of stations on listener subscriptions (Frost, pp.112 –13). In Germany in the same year, Klaus Schöning – who had expanded the notion of 'ear play' to develop Ars Acoustica 'for ears and the imagination' (Strauss, 1990, p. 14) – celebrated the fact that the 100-day-long *Documenta Festival* in Kassel, one of the world's largest international art expositions, now featured a new component entitled 'Acoustic Radio Art'. This was something that could not have been imagined two decades earlier. As thousands

---

[21] See Karl Sczuka Prize.

of visitors encountered acoustic art for the first time '[i]t signified the integration of acoustic art, traditionally supported by radio, into the contemporary cultural scene' (Schöning, p. 307). The situation could not have been more of a contrast in terms of funding and wider cultural interest with that bemoaned by Frost in America. The wider connotations of placing of such radio art outside of the radio will also be an area for deeper discussion in the next chapter.

1.9 The rise of the Radiophonic Studios: Women, The Radiophonic Workshop and the Polish Radio Experimental Studio

It seems pertinent to talk about women's absence from the formative years of radio art before the Second World War. This thesis does not claim to be inclusive and misses many people and places – indeed, each country could richly merit a thesis to itself – but I hope to have given a insightful understanding of several producers and productions that I have yet to find mentioned in radio art texts. The biggest absence in this early overview is women: modernist, unconscious, mystical, the power of radio technology widely excited men, we are told by (his)tory. Yet it is poignant and telling that little has surfaced from the archives regarding women artists' use of the medium in its early stages, let alone those who worked full-time at the stations. The writer Gertrude Stein used her interest in radio participation in the 'public sphere' to shape her writing, according to Sarah Wilson (2004, p.261). However, with regards to women's participation in radio's early history, Caroline Mitchell has written that although women worked in early radio as producers they were less visible, mainly confined to work on perceived 'women's subjects' of the time, such as children's radio. At the BBC in the 1920s and 1930s women 'mainly worked as entertainers and behind the scenes as secretaries' (Mitchell, 2000a, p. 205). Kate Lacey explored the role of women in Weimar radio, the so-called *Frauenfunk*. Although it created new careers for women as writers and announcers, as it did at the BBC, it still addressed women in predictably traditional terms: 'women's radio very quickly became predominantly a space for women as housewives, consumers, and mothers' (Lacey, p. 242). The list of winners for the Karl Sczuka Prize for Radio Art since 1955 is also unsurprising male; only seven women have won it in nearly seventy years, the first being Alison Knowles in1982, reflecting the lack of headway women radio composers have made within such institutional awards. Although over half of my case study practitioners are women, this hardly goes any way towards redressing the imbalance established in this first chapter. Nevertheless, it might be understood to reflect a huge change in women artists' use

of and access to the medium against what radio artist Ellen Waterman has asserted are 'seminal radio art narratives' of the pre-history of radio art, written by Douglas Kahn, Gregory Whitehead and Dan Lander, that 'are driven by primarily masculinist narratives of avant–gardism and technology' (Waterman, p.120).

The proliferation of radiophonic studios across Europe, which started in the 1940s, highlight that radio production had evolved and was influenced by French and German studio techniques. Radio was being taken more seriously as a musical and compositional-based art form. The Polish Radio Experimental Studio (PRES) started in Warsaw in 1957, a year before the BBC Radiophonic workshop, following in the footsteps of Studio di Fonologia Musicale in Milan (1955), Studio für elektronische Musik in Cologne (1951) and Studio d'Essai in Paris (1942).

> It was a period in which the previously explicit aesthetic differences between the Parisian musique concrete and the elektronische Musik of Cologne began to blur and the term experimental music started to become popular. (Szlifirski, p.223)

From this point, eastern European composers and artists were able to make use of experimental studios established throughout eastern Europe, and this encouraged the production of independent electro acoustic compositions, music rather than radio art. Public radio, which I will also consider at the start of Chapter Two, has played a key part in nurturing radio art, sound design and compositional work, and led to the creation of radiophonic studios. Such radio studios were concerned with making *musique concrète* and electronic music, although the BBC preferred to use the term radiophonic and pushed this as a new art form to its audience, the first radiophonic poem being produced and introduced by Donald McWhinnie. *Private Dreams and Public Nightmares* was broadcast on 7th October, 1957 and McWhinnie called the programme an 'experiment, an exploration' which, he claimed, '[w]e think it is worth broadcasting as a perfectly serious first attempt to find out whether we can convey a new kind of emotional and intellectual experience by what we call radiophonic effects' (cited in Neibur, p.29).

Daphne Oram had pushed for the BBC to follow French broadcasters and set up a *musique concrète* studio in London. The BBC's RadiophonicWorkshop was set up after much consideration and ran from 1958 to 1998; it has been documented by Desmond Briscoe (1983) and Louis Niebur (2010). Having been teamed with studio manager Briscoe, Oram's

time there was cut short, due to internal politics which saw her demoted and Briscoe given the workshop to run; she left in 1959. She set to work on her own studio and developed her Oramics machine. In the UK women were crucial to the success of the Radiophonic Workshop and unlike other BBC departments there was a balance of genders working there. Daphne Oram was the BBC's first choice to run the Radiophonic Workshop as one of its studio managers, because of her musical and radio production skills. Having worked as a music balancer during the war she became an engineer and studio manager in the Music Department, where she campaigned for such an electronic studio. Her arrival at the workshop in 1958 was to be followed by a steady stream of talented women musicians joining the workshop throughout its life,[22] documented by Briscoe who controversially downplayed Oram's role in setting up the Workshop, something that Neibur offers an account of (p.73).

'Rather than replace Oram outright, the Radiophonic Effects Committee (REC) decided to revert to the original idea of a rotating field of studio managers' (Niebur, p.71), a plan which allowed talent to circulate and could be argued as representing a template for all station management. This was an option that I would consider much later with regards to UK community radio, as discussed in the second part of Chapter Two.

Poland has a rich history of avant-garde practice. In 1924, Stefan Themerson, then aged fourteen, built his first wireless receiver: '[m]y handmade wireless-set became something more than a 'receiver', without losing the magic of the receiver. It became an instrument for producing new, hitherto unheard sounds, which at the time no person would have thought had anything to do with "'music" (2007, DVD booklet), his later article 'The Potentialities of Radio' in 1928 (ibid), addressed the similarities between radio and film and started his quest to make 'optical music film,' the pursuit of 'a mutual transposition of sound and image', became key to his entire film collaborative practice with Franciszka Themerson. Whist working on such a film –*The Eye and the Ear* (1957), which Stefan described as 'an attempt to create for the eye an impression comparable to the experience of the ear' – he planned to put together a '[s]ynaesthetic sight and sound co-ordinator,' later called the *phonivisor*. In his notes for the machine in 1957 Stefan wrote:

---

[22]Women who joined the Radiophonic Workshop and year they started: Maddalena Faganini,1960; Jenyth Worsley 1961; Delia Derbyshire, 1962; Margaret Etall, 1963; Janet Gibson, 1965; Bridget Marrow, 1965; Glynis Jones, 1972; Sue Cassini, 1974; Trina Hughes, 1975; Val Doulton, 1977; Elizabeth Parker, 1978; Amanda Alexander, 1980; Isobel Sargent, 1980; Gill Pell-Hilley, 1981; Diana Howell, 1981; Sue Thomas, 1982; Alison Taylor, 1982; and Anna Antoskiewicz, 1982. See Briscoe, D. and Curtis-Bramwell, R.

> It is a kind of keyboard capable of producing optical arrangements of space on a kind of screen and – at the same time – producing musical notes, which would possess a one-to-one relationship with the screen. (2007, ibid)

The Experimental Film Production Fund did not support Stefan Themerson in the construction of his keyboard. Although the film was completed, it was to be his last, as he became known as the avant-garde publisher of Kurt Schwitters and Apollinaire. However, the *phonivisor* was conceived just before radiophonic pioneer Daphne Oram was funded to make her Oramics machine in 1962, and one can see shared ideas of optical sound creation. These ideas seem to unwittingly reflect the work of Russian Arseny Avraamov, the first person to make experimental sound works from drawings in 1930 (Smirnov, p.177). Such sound technologies and experiments, developed in Russia from 1929, were known as graphical or drawn sound and have recently come to light, thanks to the research of Andrey Smirnov (Smirnov, p175).

The Polish Radio Experimental Studio (PRES) was unusual in that it was the result of a temporary Soviet 'thaw' in Poland, as the doors of the Studio were open to composers from eastern bloc and western countries. Many were drawn to it by the opportunity to work as composers with skilled engineers – unlike in many western studios of the time, they didn't have to learn how to operate machines or instruments. An initiative by the Swedish Broadcasting Corporation followed in 1963, when they set up an electro-acoustic studio that was not restricted to composers, as discussed earlier, with relation to text-sound composition.[23] Those studios who opened the doors to non-musicians pushed forward experiments within radio as an art form. PRES compositions emerged through discussion and resulted in a number of unusual works. The composer's only obligation was to provide a score and these produced 'some extraordinary scores that attempted to translate highly abstract sound qualities into graphic notation' (Muzyczuk, 2013). It also attracted innovative visual artists in collaborations in the 1960s. One example was Krzysztof Wodiczko, a designer for Unitra – the state electronics conglomerate – who worked with the studio to construct his electronic *Instrument Osobisty*/Personal Instrument (1969). The device was worn on the head and hands and responded to movement,

---

[23] 'Text-sound composition took its form from the combination of concrete words and sounds and their processing via the new electro-acoustic technologies such as tape recorders and sound studios. At the same time, the genre used as its platform a temporary alliance between national radio and a radical society for new music called Fylkingen' (Hultberg, 2000).

> allowing the individual to amplify or diminish the flow of sound from the environment. A sensor on the glove turned the hand into a microphone. With his or her arms raised to filter the sounds, the wearer seemed to be conducting the city, making the traffic and conversations and footsteps of the passersby seem like instruments in a great urban orchestra. (Crowley, 2014)

It is interesting to see audio art practices develop through the PRES studio across art forms. In effect, this work can be seen as a simultaneously a precursor to the later glove transmitter works by Tetsuo Kogawa, whom I will consider in later in this chapter, while also harking back to the earlier city symphonies of Vertov and Ruttmann, achieving what they could only do on film tape. Radio was of increasing interest to artists from the 1960s as more worked for or around the medium, none more effectively than Max Neuhaus, whose work highlights the move towards network-based radio art.

1.10 Max Neuhaus Radio Events

Max Neuhaus counts amongst the most significant artists operating at the conjunction of broadcast radio and contemporary art practice, his work from 1966–77 constituting some of the earliest intrinsically transmission- and network-based art practice. Neuhaus, in his 1967 *Drive In Music* installation, used radio transmitters distributed along a road that allowed the driver to tune into his work, for which he coined the term *sound installation*. *Public Supply* in 1966 and *Radio Net* in 1977 were amongst the first radio art events to be realised live on air, non-linear broadcast audio works that develop spatially.

Through live radio art events such as *Public Supply*, Neuhaus sought to subvert broadcast and transmission technology to bridge the gap between listener and broadcaster. A spontaneous two-way interactive radio work, *Public Supply* used the apparatus of the American National Public Radio (NPR) Broadcasting Corporation as a prototype live answering machine, using ten phone lines to enable listeners in New York to contribute to the broadcast event. *Radio Net* extended the *Public Supply* project to a national scale and was realised through a specially devised call-in system, through which listeners were encouraged to whistle on air during a two-hour broadcast that turned the whole NPR system into an amorphous, interactive musical instrument, predating any such digital online experiment. *Radio Net* articulated the relationship between the transmission infrastructures of the telephone and broadcast networks through an open-ended, interactive broadcast assemblage.

> In those days radio programs on NPR were distributed by what they called a Round Robin – telephone lines connecting all two hundred stations into a large loop stretching across the country. Any station in the system could broadcast a program on all the others by opening the loop and feeding the program around it. I saw that it was possible to make the loop itself into a sound-transformation circuit. (Neuhaus, n.d., 10)

Primarily concerned with 'sound sharing,' Neuhaus's agenda was to make new sounds by pushing current communication technology in new ways. These works were about reinstating a primal and forgotten shared musical experience, not to be listened to as a sound or music, but to create a non-linguistic dialogue between people (Neuhaus, n.d., 18). Using only the sound from incoming telephone calls as his material, he controlled it with automatic mixing desks and worked with radio technology using the NPR loop to aesthetically process his material. Instead of merely transmitting signals from one station to the next, Neuhaus converted the whole system into a closed loop through which the sounds could circulate. Neuhaus described the loops created as a living thing that could get out of hand very quickly, and he later wrote about his role as 'holding the balance of a big five-looped animal with as little movement as possible' (Neuhaus, n.d., 12). Whistled sounds phoned in by participants from each of the cities passed through a mixer and started looping, making new layers, overlapping at different pitches until each sound gradually faded away.

Radio Net is an example of a radio art which can be defined as a shared event breaking the rules of accepted content of programming and foregrounding the apparatus of the transmission network. To differentiate these works from his later practice, Neuhaus referred to these projects as 'radio events', in *Broadcast Works*, a term which has come to inform my theoretical approach to my own radio art practice, which will be discussed in Chapter Five.

> Although a radio event certainly gets attention and encourages people to enter into it, at the same time it makes it difficult to do so as it generates congestion …. [In] *Radio Net*, 10,000 won and got their calls through. This probably means that 100,000 tried and weren't successful. (Neuhaus, n.d., 18)

But there were issues with the radio event, as it was also noted that the strategy discouraged group dialogue due to inherent time restrictions. Such shortcomings, perhaps intrinsic to work on this scale, informed the direction taken by Neuhaus in his subsequent work, *Audium* (1977),

which moved from the artist-led radiophonic 'event' towards using radio as the site for a self-perpetuating, collectively operated open network, one that participants could call at any time and stay as long as they wanted, creating a new 'kind of sound dialogue. It becomes an entity – a 'virtual place'(ibid). Neuhaus had envisaged the realisation of the project through appropriating sectors of the AM spectrum abandoned by commercial broadcaster and running via an automated system:

> Right now the AM band and many of its transmitters are being abandoned – deserted for the world of FM. *Audium* could live quite happily in all that empty territory, emanating from a few of those unwanted transmitters. (ibid, p.19)

Audium was to be connected to the phone network and a transmitter and was to be programmed by the people who used it. However, the AM band was not abandoned in the USA in 1977 as Neuhaus had predicted; also key to the project's subsequent failure was that *Audium* was impossible to realise as an unstaffed electronic system. One is prompted to ask whether it matters if a radio artist chooses to embrace an idea before the technology is there. Will the project always deflate but the idea linger until new technology emerges to embrace it; the idea perhaps even a partial catalyst for that technical change with such unrealised possibilities from the past haunt the future until realised? With the exponential expansion of networked media, Neuhaus's pioneering radio/network projects would become increasingly prescient as subsequent decades expanded the technical horizons of the possible.

Neuhaus's influence is notable in *Horizontal Radio*, a 24-hour live multi-media telematic radio network project, involving twenty stations around the world, that took place on 22–23 June, 1995, aired via the Austrian ORF radio arts programme, Kunstradio. The abandonment of the AM spectrum which Neuhaus foresaw also has greater resonance in the current media climate and relates to my own current artistic investigation into possible consequences of the proposed 'analogue switch-off' in the UK, scheduled for 2015. I have explored the political and ontological implications of this transfer through my own research practice, which will be outlined in Chapter Five.

Max Neuhaus's *Project Auracle* (2004) drew upon the unrealised ambitions for the earlier *Audium* project towards a global entity for live sound interaction available over twenty-four hours, a vision which could now be realised via the internet. Neuhaus saw *Project Auracle* as a public instrument played by the participants' voices. Neuhaus used the metaphor of '*an*

ongoing building' when elaborating on the project to Brandon Labelle (2008), describing the non-linear open-structure of the piece as 'a facility for people to operate a virtual architecture'. As a pioneer in the varied fields of audio and new media arts, his work operated through the spaces between sound, transmission, sonic, installation, network, communication, new media and radio art and could thus be described as *intermedia* in nature, operating towards the erosion of disciplinary boundaries and towards the condition Felix Guattari referred to as *transversality*.

1.11 Artist Radio Key Influences, Free Radio

The point where the collective appropriation of the media converges with the birth of the artist radio station can be firmly traced to the Free Radio movement that emerged in western Europe in the 1970s, most notably in Germany, Italy and Holland.

Essentially open-access stations run by collectives of artists and political activists, stations such as Radio Alice in Bologna, Italy, broadcast music alongside reports from the student movement, the far left, feminists, homosexuals, working-class and radical civil rights activists, and 'comments on a wide variety of topics by anyone who cares to telephone or drop in to the station's headquarters'(Cowan, p.67). This constituency were fitting deviants for writer Felix Guattari when he asserted in 1979 that '*light-weight*' radio and not '*heavy-duty*' television, had been the medium of choice (1996, p.74). Radio technology was and still is concealable, adaptable, affordable, available and replaceable in a way that TV transmission is not. Guattari wrote,

> [technical] choices always conceal political and micro-political choices… today one has the tendency to base the legitimacy of this choice on the nature of things, on the 'natural' evolution of the technology. (1996, p.74)

Radio Alice eroded the distinction between broadcaster and listener, professional and amateur, and evaded the intellectual division of labour in terms of both form and content. 'Let's start from the lessons of Dadism' (A/traverso,1976, p.4). As Mikkel Bolt Rasmussen considers:

> Following Dada, Surrealism and the Situationists, Radio Alice strove to abolish not only the separation between speaker and listener, between artist and audience, but also between art and life. (Rasmussen, 2007, p.43)

Compared with Italy, development of artist stations in the UK has been prohibited by the available technology and the availability of the medium itself. Free Radio stations grew from politico-activist radio in Italy and are an important part of the artist network there today, which has now spread onto the web politically motivated , as in the last twenty years, '*hacktivists*' (Bazzichelli, p.1) have created a vast underground network of people online, sharing political, cultural and artistic objectives.

> [I]t reflects the new role of the artist and author who becomes a networker, an operator of collective networks, reconnecting himself with the artistic practices of the Neo Avant-garde of the 1960s (Fluxus being the first), but also with Mail Art, and with Neoism and Luther Blissett. (ibid)

Poet John Giorno broadcast *Radio Free Poetry* as part of *The Software Show* at the Jewish Museum, New York in 1970, broadcasting through the electrical wiring in the building; the work aired for museum visitors on transistor radios. The *New York Magazine* reported the forthcoming Giorno event as ' Radio Free Poetry with poets reading their works on transistor sets' (Felker, p.48). The project was set up as a guerrilla radio station at St. Mark's Church and the Jewish Museum in New York City. The name itself was a nod to the influence of Free Radio in Europe at the time and the grassroots activist experiments being conducted in Italy.

> Activist sentiment fueled the operation. Giorno hoped to inspire others to do the same, and circumvent FCC regulations in order to broadcast alternative points of view as well as literature that was not easily embraced by mainstream media. Giorno's work foreshadows today's telecommunications systems, and prefigures a possibly Utopian view of the Internet as presenting an opportunity for anyone to become a cultural producer. (Barliant, 2005)

Free Radio in Amsterdam in the 1980s bred stations such as Radio Dood (Radio Death), Patapoe and Radio 100. The DFM collective's *LCD* show on Radio 100 was a 'super spatial stereo programme' (Lovink, 1993, p.121) which broadcast two music shows simultaneously on the right and left channels of its frequency, and which the audience could mix together or listen to separately. The tape recorder introduced a new freedom to artist's mobility. No longer stuck in the studio, it allowed artists 'to throw away the script' (Lander, 1994, p.25). From these roots the first dedicated artists' stations grew, permitting the development of a radio art form that had historically been stifled by a lack of artists' access to the airwaves, as

discussed by Lander:

> [the] radio apparatus itself has historically been consigned to the control of state and corporate interests, in a bogus effort to protect the general well being of the public. Radio, and other electronic and digital technologies, are derived from military research and development, sought primarily as weapons of destruction and social control. (ibid, p.13)

1.12 Telecommunication Arts

Communication and telecommunication arts have developed in parallel and have come to inform present-day radio art and transmission art. Eduardo Kac discussed the role of the TV producer when defining telecommunication art forms; his arguments and observations could equally apply to the role of radio producer as 'the artist (context-creator) that produces telecommunication events sets a network without fully controlling the flux of signs through it'(Kac, 1992, pp.47-57). Telecommunications art is about process as it is not limited by notions of a centred subject. As Kac saw it, such works should aim to achieve:

> [a] collapse of the distinction between form and content, however effective art is relative to the person viewing some such art. Aesthetics are culturally determined by the theoretical framework of those viewing or listening. (ibid)

Slow Scan Television (SSTV) was an experiment led by amateur radio enthusiasts in the US, which offered a novel two-way process of broadcasting and receiving. Slow Scan TV allowed pictures to be sent over radio space rather than telephone lines, pictures are transmitted via sound tones (1200-2300 HRZ) over the air. Popper notes that communication art is concerned primarily with networked event creation and reception, and has described how it demands a new ontological approach to transmitting and receiving such work which is not about a material object but about event creation:

> [a] network of human relationships without discrimination, in real time and without geographical limitation, and thus an entirely new way of relating to space and time, and most importantly planned and conceived by an artist that allows creative communication. (Popper, p.138)

SSTV offered artists and radio enthusiasts a shared terrain within the existing radio infrastructure through which to articulate the convergence of audio and visual communications

occurring in the wider media terrain, albeit an articulation open only to those with access to the hermetic codes and technologies required of the experiment. Many pioneering SSTV artist experiments occurred between 1979 and 1986 and have been chronicled by the artist Robert Adrian. *Interplay* (1979) was a conference and radio programme linking twelve cities from two locations, run by Robert Adrian and Richard Kriesche. It was a live broadcast of the Network Conference in Kunst Heute aired on O1, a programme described by him as the forerunner to Kunstradio on ORF (Adrian, n.d). The chaos of this live telematic broadcast is described by Grundman as 'the first live radio and telematic project'(Bosma,1997) to be broadcast live on public radio.

> We could not say, now this is from San Francisco this is from Sydney there were just too many messages. It was extremely difficult to give the listeners any impression of what was going on … The radio studio had become one more live node in a telematic network'. (ibid)

Links stemming from telematic art were key in the formation of Kunstradio and its wider net activities and have been documented by Grundmann (2004, 2007, 2008). An understanding of historical telematic practices such as those described above are crucial to the development of a genealogy of networked media art which might illuminate the historical development of contemporary expanded radio practice and – crucially – reveal points of departure from its impasses. For Grundmann, from the end of the 1980s, the very meaning of radio had changed importantly as a result of such projects:

> I am convinced that radio is not only about sound anymore. I am not happy with the term Internet radio myself, but definitely if there is such a thing, if you webcast something, if you do live activities in the internet, then it's definitely also visual radio – radio to look at. It's by no means only about sound'. (Bosma, 1997)

This comment marks a key shift in the understanding of radio art. The internet had taken forward the networked performances and installations of Neuhaus discussed earlier. Importantly, radio art was no longer just about sound; it could be understood as a conceptual form on the net, and a visual side could be part of the practice, embracing those who choose to work across media forms.

1.13 Tetsuo Kogawa: Micro FM

Felix Guattari was interested in popular Free Radio and discussed what he saw as a split in the means of mass communication. He noted two distinct directions: the huge state controlled monopolies, the 'hyper-concentrated systems', and small individual collectives, which he described as a:

> miniaturized systems that create the possibility of a collective appropriation of the media, that provide real means of communication, not only to the large masses, but also to minorities, to marginalized and deviant groups of all kinds. (Guattari, p.73).

I will now examine two examples of artists' 'radio' from the 1980s: Wojciech Bruszewski *Radio Ruins of Art* and Tetsuo Kogawa's *Mini-FM.* These projects can be interpreted as representing two distinct paths to a shared destination for the radio artist-led station; where radio becomes appropriated for personal artists' projects in a reflection of new technological recording advances that consequently increase access. The Italian Free Radio collectives of the 1970s strongly influenced the Japanese Kogawa's work, which focused on the use of radio transmitters as a way to create small communication networks. Starting his own form of free 'mini FM' micro radio networks in Japan in the early 1980s, Kogawa made his own low-power transmitters through workshops and transmitted mini FM broadcasts with his students, creating a shared community and making a decisive break with the 'culture of distance' (Kogawa, 2005, p.194) as he noted in his seminars at the time. The 'mini-FM' radio movement started in 1981 and boomed in 1983 (ibid, p.197), giving a voice to a growing countercultural group in Japan. In the early 1980s most cities in Japan had only one FM station. 'People were longing for diversity in culture yet there were no radio or television stations in Japan covering subcultures. Mini-FM became a "cultural craze"' (Kogawa, 1994, p.288). However, as far as Kogawa was concerned, difficult issues persisted as these new subcultures were absorbed by capitalism, as the young became a new market, stripping them away from their radical roots as they were targeted as 'new consumers'.

A similar trend is notable in Italy in the 1980s: following the demise of Radio Alice as part of the wider suppression of the new social movements there followed a notable subcultural shift towards conformist consumerism. This co-opting threatened the activists' power and created a 'dilemma' which, for Kogawa, was solved by Felix Guattari's approach to the Italian Free Radio movement.

> Guattari stressed the radically different function of free radio from conventional mass media. His notions of transmission, transversal and molecular revolution suggested that, unlike conventional radio, free radio would not impose programs on a mass audience, whose numbers have been forecast, but would come across freely to a molecular public, in a way that would change the nature of communication between those who speak and those who listen. (Kogawa,1994, p.288)

Kogawa's involvement with mini FM led to a realisation that a small micro broadcast area brought a community together in a physical space and created a new form of communication – 'the station was not only a transmitting place but also a totally unconventional space for artists, activists, students and bohemians'(Kogawa, 2008 pp.128–135).

1.14 Wojciech Bruszewski – *Radio Ruins of Art*

In 1988, Polish artist Wojciech Bruszewski and German artist Wolf Kahlen were granted an ongoing analogue radio license with which to transmit Bruszewski's art radio project *Radio Ruins of Art*, intended as a 'philosophical discourse on infinity' (Bruszewski, 2007). Bruszewski's interest in radio developed from his earlier investigations into transmission processes via video. His *Intersection* (1973) installation saw the acoustic space of a busy traffic crossroads transmitted live into an empty exhibition hall, while two video installations *INPUT – OUTPUT* (1) and (2) in 1976 and 1978 were video transmission installations. His inspiration for the radio project came after living in Berlin for a year and then returning to Poland which was under martial law in 1981and where he was unable to leave or travel. He perceived that Poland and Berlin had become political islands so wondered what to do and came up with the idea that the 'best material for the artist in this situation was the radio wave'(Bruszewski, 2007).He set up a station in West Berlin with collaborator Wolf Kahlen as a piece of art in 1988. For this radio station Bruszewki developed computer software which enable the automated 'playout' of a random and ever-changing loop of recorded ideas: a philosophical enquiry that would be broadcast indefinitely, using a chance-based compositional playout system, where the characters 'artificial synthesised voices sounded as if they were talking in real time.

> [The] discourse was led by two characters: Gary and Paula, whereas a 'radical cross-section' of the world's philosophical writings was presented by a computer. It did so by picking arguments at random, and so despite the pre-fixed amount of

> KNOWLEDGE those accidental encounters Plato, Schopenhauer, God, Chuang Tzu, James, Russell and other Renowned Philosophers happened to have with each other would result in the unexpected NEW THOUGHTS'. (Bruszewski, 2007)

Radio Ruins of Art was the first full-time radio art station run solely by an artist for one piece of work, marking a significant achievement in the establishment of radio art as a discipline. It began broadcasting on 30th July, 1988. However, the fall of the Berlin Wall led to greater commercial concerns which forced the station to switch off *Radio Ruins in Art* in December, 1993. The state was less concerned with radio art in perpetuity than with the further liberalisation of the airwaves, revoking the license as part of a movement to open up the spectrum to commercial broadcasters. Bruszewski had considered the option of making the station solar-powered in case of an unforeseen catastrophe; however, the unexpected happened when the German Post Office withdrew the license and granted it to Radio Brandenburg instead. Intended as a 'philosophical discourse on infinity', Bruszewski's work may be considered the world's longest radio art programme installation to date on terrestrial radio yet it failed in its bid to become a permanent broadcast, closed instead by free market concerns. However, the means of communication in the hands of a single artist vision was certainly a most inspiring project. My research has led me to the opinion that Bruszewski's work in this field seems unknown outside of Poland, whilst Kogawa's Japanese micro radio influence has been far-reaching internationally. Both laid the foundations for the current artist-led stations and projects which have developed since, starting with Radio Rethink in Canada.

1.15 Radio Rethink, Canada

The communities of listeners and broadcasters facilitated by Tetsuo Kogawa's micro radio experiments inspired artists in Banff, Canada to further experiment in the fields of radio art and micro-community broadcasting. *Radio Rethink* was a broadcast and exhibition, curated by Dan Lander and Daina Augaitis in the Banff Centre in 1992 in Alberta, Canada. However, this was not the first radio art to be broadcast in Canada, as community stations were open to artists. Hank Bull and Patrick Ready produced the live weekly *H.P Dinner Show*, between 1976 and 1984 on Vancouver CO OP Radio 102.7FM as an 'art work in progress' (Grundmann, 2007,p.202). The station also broadcast Hildegarde Westerkamp's *Soundwalking* programmes which I will discuss as part of Chapter Four. Hank Bull was invited, along with Archer Pechawis, Rita McKeough, Christof Migone, Robert Racine, Colette Urban and Hildegard Westerkamp, to create new works or radio art while in residence at the Banff Centre. The aim

of the project was to rebalance the undocumented nature of radio art activity in Canada via a 'series of events, projects, broadcasts and programmes relating to contemporary art' (Augaitis and Lander, 1994; p.xiv).

The Banff radio arts broadcasts were held between 17th January and 13th March, 1992 on RADIA 89.9, a gallery station of live radio art performances and commissioned pre- recorded works. The station sought to make a decisive break from established codes and conventions of professional broadcasting in both public and commercial mould, instead allowing participating artists access to the radio airwaves as a public gallery for experimental transmissions.

> [A]rtists were keen to engage in an opportunity to create new work outside some of the existing definitions of art production and to develop new audiences. Responding to emerging desires for community involvement and increasingly blurred distinctions between artist and non artist. (Augaitis and Lander, 1994, p.2)

Colette Urban's *It's On Your Head, It's In Your Head* comprised a set of six fake-fur hats, each concealing a radio receiver and transmitter; participants would walk around public spaces broadcasting a story being read from the gallery. A playful use of the medium, 'the intention of the piece was to examine the frontier between private and public space' (Bull, 1993, pp.161-166) as did the broadcast itself. This work also reflects Kogawa's mini FM work and the portability of radio technology, something I am exploring within my own practice.[24] The fur hats concealed the apparatus to broadcast fiction to the street in a radio art interaction which indicated the shift from large public broadcasts to its use for a micro audience in an intimate personal setting, and an absurdist reflection of Kogawa's broadcasts.

Key to the development of radio art in Canada in the late 1980s was Dan Lander, an instigator of Radio Rethink, who saw radio's potential to 'offer an unlimited space in which an art (of radio?) could proliferate' (Lander,1994, p.13). Clearly demonstrating the interlinking of the forms but seeing the scope of a new art form, radio art, Lander acknowledged that radio was 'underdeveloped because it refuses to recognize the perpetration of its self-defined limitations. Like television, radio is a stagnant technology' (ibid). Radio may be a resilient medium – as the history in this chapter in part demonstrates – but Lander was correct when he wrote that:

---

[24] It is not known if the artist was inspired by the very first radio hat, which was manufactured by American Merri-Lei Corporation of Brooklyn, NY in 1949, an AM radio built into a pith helmet and available in eight colours: 'Lipstick Red, Tangerine, Flamingo, Canary Yellow, Chartreuse, Blush Pink, Rose Pink and Tan' (Radio Electronics, 1949). Clearly targeted at women, alas if the wearer moved her head it would affect reception.

> Unless access to radio is gained, we may never imagine, experimentation and chance taking could occur, the numerous possibilities that the medium may hold might begin to bear fruit. Although there are practitioners of radio art, the conditions governing the medium make tenuous the realization of an art of radio. (Lander, 1994, pp.13-14)

The internet has allowed everyone to be a producer but still the access to vast audiences remains in the hands of the elite power structures. It can be argued that there is much evidence that radio art came of age whilst being explored by artists in the 1980s. The 1980s marked the start of new artist-led radio art events and projects. New American Radio was founded in 1981 by Helen Thorington and Regine Beyer, it commissioned and distributed over 300 works for public radio to a host of stations across North America and Europe between 1987 and 1998, and introduced North American radio artists such as Gregory Whitehead to a wider European audience. The New American Radio website and radio works are now archived on the web and constitute part of the radio art archive at the Weserburg Museum of Modern Art in Germany.[25]

1.16 The First International Festival of Radio Art

The First International Festival of Radio Art was held in Dublin, Ireland in 1990.[26] It was organised by researcher Bruce Girard, with the support of the Asociación Mundial de Radios Comunitarias (AMARC) as part of the 4th World Conference of Community Radio under the theme 'The Right to Communicate'. The Festival sought to address the theme from the perspective of alternative broadcasters struggling to express themselves politically and creatively. More than 300 alternative radio broadcasters from 50 countries took part. Recordings of the radio work submitted were produced as a set of tapes, archived online by Kogawa.[27] Listening to seventeen artists as mp3s over two hours and 47 minutes does reduce the impact such work has, as opposed to hearing it as a live broadcast. However, the original tape format reflects the period concerned: Gregory Whitehead's own radio art career grew out of the mail art and audio tape cultures in which he was immersed. In retrospect, the work seems playful, kitsch and retro; a strong DIY 1980s ethos is evident through the material. Musical influences are apparent, with cut-ups and montage reflecting the use of music sampling at the time, reminding me of alternative musicians and DJs such as Steinski or DJ

---

[25] See The New American Radio website..
[26] See Kogawa, 1990.
[27] See Kogawa, 1990.

Shadow and the plunderphonic work of John Oswald or Negativland. Helen Thorinton's *In the Dark* is a moody and literally dripping soundscape of unease, whilst the Tape-Beatles produced a clicking soundspace to a throbbing mantra, to 'listen to the radio' over a self-help recording, cut-ups, montage. Psychic Rally's *The Right to Communicate* is, at 22 minutes, a dirty and wild mix of fast cuts and plunderphonic jumping from one radio and sound recording to the next. It is not clear where one artist starts and another ends. But the tapes are a very useful document of a selection of the radio art material submitted to the festival. On Side B of the first tape Tim McLaughlin's work *What Is Radio?* is a playful cut-up in answer to the question; a range of odd answers succeed each other until we hear 'live events that one would agree are very unpleasant and unfortunate' and 'think about it'. The early static sound reflects samples that are snippets of a radio lecture on the nature of the radio experience:

> radio is a mirror reflecting back what we already know to be true, the derivative pop insulting commercials, inane chatter and lifeless vocal manikins. Like any sign of great power it is often perverted prostituted and twisted but that only makes it more precious when it is treated with an artist's sensibility explored scientifically for all of its qualities and used as a true means of self reflexive communication. Read between the lines listen between the frequencies and hear the glorious white noise which resides there. (Kogawa, 1990, transcript of extract, tape B, 20 mins in)

Christof Migone's *One Watt of Truth* stands out, as it pieces together the story of black power radio station WTRA at John Hayes Homes, Springfield in America in 1989, splicing together fragments of a speech about the station being shut down by police and the legal writ which closed it down and led to arrests for non-compliance as the station continued to operate. This piece still has resonance and works because it is addressing the medium and reflecting upon it. It is engaging because it is part social document and part artist collage, which brings to life a minor radio history that is long forgotten and ignites the imagination on many levels. It still has impact. Kogawa, in his *Radio Art Manifesto*, describes such early work as being made for conventional radio programming.

> At the time, however, radio art was mostly considered as an art using the existing radio station that consisted of regular transmission facilities. The difference would be in the contents and the audio facilities. In short, radio art was mere[ly] a new family member of radio programs. (Kogawa, 2008, pp.128–35)

Heard on any conventional station today any of these radio art pieces would have an instant rupturing effect, by virtue of being so removed from formatted radio. But one could argue that if the same pieces were heard on an arts station such as Resonance FM or Kunstradio over twenty years later, much of their impact would be lost, and many fulfill an expected cliché in terms of form and content.

Interestingly, no one from the host country, Ireland, made it onto the tape, nor did any UK artists. Although international in scope, the significant majority of works were from North American and Canadian producers, also including a few pieces from European practitioners. This national subdivision is indicative of the explosion of radio art activity at the time in North America and Canada, and highlights the comparative dearth of activity in the UK at that time or South America, Africa or the rest of the world.

Throughout this extensive literature review I have moved over time between countries, and shown how reciprocal radio art practice is. The early history of radio, from the 1920s to the 1950s, serves to show how artists' ability to make art on air was heavily restricted as formats quickly developed. In the UK it was the radio feature rather than the radio drama, which, by working across genres, allowed the most experimentation; this is still the case today at the BBC. Radio artists in radio's early years were in fact its production pioneers: producers and engineers across regions who were motivated to express and understand radio as an art form. The longwave broadcast band meant that broadcasts could be heard across the world, and this helped inform and create new avant-garde work. *Ulysses*, as we heard, was partly inspired by Joyce's listening to Irish and American radio from Paris. Radio was part of the modernist aesthetic. Visual artists and musicians in the 1960s sought to play with radio and find access though Free Radio stations and alternative tape networks. Free Radio influenced Kogawa, and in turn Canadian artists were inspired by micro transmission. Definitions of radio art have expanded over time: there is not one clear path as radio art is a shifting and open form, the implications of which will be discussed when I consider the subject of definition in Chapter Three.

At the moment, it is enough for me that radio art is an acoustic media art that serves to explore these relationships inherent in the medium. There have been consistent strands and modes of practice, such as the feature, which has found more life through file-sharing. *Hörspiel* has now endured as a practice for nearly a century and micro transmission, although a younger form, offers wide applications to contemporary artists. Radio art's emergence and its

subsequent growth towards wider interests can be understood in the context of the erosion of the various limitations that have been outlined here – technical, aesthetic, political. Ironically, the very lack of access to radio might have been key to the drive of artists to use the medium which has opened up over time via community radio, micro broadcasting, and latterly via digital means. Artistic spheres of practice have evolved which reflect these radio forms. Technology has been key to artistic production and as it has become affordable, a DIY ethos has also grown around the medium which demystifies broadcasting. This issue will be discussed further in Chapter Four, in relation to my case studies, and in Chapter Five, in relation to my own practice.

My next chapter is concerned, in its first part, with the role of public radio which has, depending upon the country in focus, either nourished or limited potential creative practice. I will also consider how community radio in the UK has pushed open the door to artists and how the role of the internet has enabled ever-widening spheres of practice.

Chapter Two: Public Radio, UK Community Radio and the Internet

2.1 Introduction

Before moving on to focus on community radio in the UK and then offer a further section on the internet, I will consider in this first section how public radio has played a key role in the shaping and funding of radio art in Europe. It is an important area to discuss, as in recent years public radio worldwide has been affected by financial cuts. Public radio commissioners want value for money, want the widest audience, and public stations are far too often loath to take editorial risks. State-sponsored art is perhaps a difficult place for the artist to work free of constraints. In the past ground-breaking programmes have been commissioned and not aired, such as Ake Hodel's radio composition for the Swedish Broadcasting Corporation, *Mr. Smith in Rhodesia* (1969), an attack on the white dictatorship in the country of its title which made headlines in 'the *Daily Telegraph* before it had even been premiered' (Hultberg, 2000). His use of the children of UK diplomats and political slogans such as 'Mr. Smith is a murderer' ensured it would only be played at the text-sound festival in 1970, and would not be broadcast on the radio until 1985. It is now one of 'Hodell's most admired and most frequently performed works' (ibid). This was also the case with Artaud's final radio work, *To Have Done with the Judgment of God*, which was banned in 1948 by French radio before being broadcast. Now it seems such programmes are less likely to be commissioned in the first place. The ability to experiment seems to eroding as tried and tested formats are constantly rehashed.

Worldwide public radio has been affected by cuts, and key radio arts programmes and stations, such as Australia's ABC's Listening Room and Sweden 's online station SCr, both of which I will discuss shortly, have borne the brunt of these shifts in the financial weather. It is problematic to see this happen, especially when one considers this in the light of renewed interest of more open radio forms which are thriving on the internet. As DeLys and Foley state, it is:

> [i]ronic that the 'rationalization' of radio arts by public broadcasters occurs at the same time that audio arts activity and the creative use of sound are expanding exponentially in community spaces, in galleries, games, and online. And radio art too is thriving, outside the public radio sphere. Not only are new radio-making tools once again firing the imagination, they allow radio artists greater ease in working

> independently of government institutions and commercial facilities. (DeLys and Foley, 2006)

For Kersten Glandien, contributing to the *Reinventing The Dial* symposium which I organised (2009), the interest and availability of public radio funding in the '80s and '90s created a heyday that allowed producers and broadcasters to commission work, run external events and prizes, following on from the work of the Prix Italia,[28] the Karl Sczuka Prize for Radio Art,[29] and the Prix Europa.[30] This institutional status 'provided public radio with a well-functioning network that connected stations nationally and internationally' (Glandien, 2009).

Two long-running international radio art competitions have functioned through public radio means. The Prix Italia was set up by Radio Audizione Italiane (RAI), in 1948 to encourage creatives to work with radio. It was set up to 'foster works conceived and created exclusively in terms of the special requirements and very special resources of radio technology' (Ida de Benedictis, Novati, 2012, p.187). The Karl Sczuka Prize for Radio Art was established by SWR in Germany in 1955, and like the highly regarded Prix Italia still continues to this day. Sadly, no such radio art competition or open call for new radio art work has ever been run by the BBC in the UK, highlighting the BBC's resistance to radio art. Founder of Kunstradio, Heidi Grundmann claims that 'without the involvement of state radio there would be no radio art' (Glandien, 2009, keynote). Radio outside of the UK has demonstrated its ability to nurture the experimentation of radio, through regular festivals and competitions and most importantly, through programming. Clearly, this has enabled groups of composers and artists to benefit. However, it can also be argued that such a public role can be limited to the needs and tastes of the commissioners, to agency and state agendas, with which all involved must side in order to be deemed acceptable. Publicly funded projects, it could be argued, tend to play it safe as stations and content are highly regulated. Most public radio stations have closed archives which, as Kahn (Kahn, interview, 2006) contends, could be opened up and shared

---

[28] Prix Italia, founded in Capri in 1948, an International Competition which awards prizes for radio, television and multimedia programmes run by RAI, Radiotelevisione Italiana; includes the Special Prize given for extraordinary originality and/or to a programme which in an innovative way develops and renews the radio documentary language form. See Prix Italia.

[29] See Karl Sczuka Prize.

[30] Prix Europais, the biggest annual European tri-medial festival and competition. Its open juries sample and select the best television, radio and emerging media productions of each year. The festival takes place in the third week of October in Berlin and Potsdam and is hosted by the German broadcaster Rundfunk Berlin-Brandenburg (RBB). See Prix Europais.

with a new generation. It is good to see that ABC is sharing new radio art works online in 2014, but as with the BBC there is a huge archive not openly shared because of rights issues.

Key electronic music and experimental forms of radio drama were also the direct product of public radio's support for sound laboratories, workshops and studios between the 1950s and 1990s, including the works by Cage, as discussed in the previous chapter, and 'WDR Cologne's drama department, where Stockhausen produced *Hymnen*, or the later *Studio Akustischer Kunst*; the *Club d'essaie* of ORF, France; and Milan's *Studio di Fonologia,* RAI,' (Madsen, 2010, p.5). German public radio has also carried out many collaborations abroad, notably on projects in Brazil, since the 1970s and '80s. Playwright Heloiza Bauab was awarded a grant from the Konrad Adenauer Foundation and an internship in the WDR for her radio work, *Noturno a duas vozes* (1985), sponsored by the Fundação Padre Anchieta, Radio Cultura FM and WDR, Cologne. Projects carried on into the '90s as Brazilian artists and musicians took up commissions from WDR Cologne and Berlin Deutschland Radio to make *Neue Hörspieel* or 'sound plays' (Costa, 2013).

The Goethe Institute has also supported *Neue Hörspiel* productions in Brazil since the 1970s, and across Europe they have partnered in international collaborations up to the present day. The Institut supported the German-based Mobile Radio (2012) to broadcast a low-powered radio station from the 30th São Paulo Biennial, re-airing works from Brazilian radio artist Lilian Zaremba, radio podcasts from MEC FM Rio and Radia programmes. It is a partner with German and Austrian public radio for the CTM Festival *Radio Lab* commissions. The Institute's outreach to sound and radio arts projects was also important in the academic and practical development of radio art in the UK. In London it hosted the Sound Works Exchanges in 1994 and 1996, bringing together artists from across disciplines; additionally, it supported two radio art series at the London Goethe Institute, in 1997 and 1998, and a symposium run by academic Kersten Glandien.

In Mexico the first *International Biennial of Radio* happened in 1996, organised by the Ministry of Education through the National Council for Culture and the Arts and Radio Education. It has been key to new developments in creative radio across South America. Dr Lidia Camacho (2004), founder and a former manager of Mexico Radio Educación, argues that radio art in Mexico was made known via the radio biennials, which she see as an important contribution to widening the horizon of cultural radio sound in Mexico. This can be noted as more of a rediscovery when one looks at the earlier history of radio art in Mexico, as outlined in Chapter

One, and reflects the growing interest in the medium across regions during the 1990s. The first Mexican radio biennale ran a radio art competition, again reflecting one of the ways in which radio art has been disseminated across Europe and North America via public broadcasters' sponsorship of festivals.

There has been an appreciable on-air reduction in publicly-funded radio art throughout Europe and further afield. The Italian-produced RAI Audiobox was pulled in 1998, as was Australian ABC's landmark experimental acoustic art programme, The Listening Room, which ran from 1998 until 2003. Influenced by European public radio, the programme did much to raise the profile of the art worldwide, putting it firmly on the world map for its innovative radio work. Cuts in Australian public radio since 2012 were seen to further undermine creative radio, including the axing of the radio drama department, along with the cutting of senior features producers from five to two. However, a new Creative Audio Unit was set up to continue ABC's 'tradition of innovation by breaking new ground and redefining audio performance'(ABC, 2012).

There is still ongoing outcry against the cuts from practitioners. Although one online article considered that one effect of the cuts on the arts might paradoxically be a positive outcome for radio artists since it might be that '[n]ow may just be a good time to pitch a creative audio idea'(Stone, 2012). As I mentioned at the start of this thesis, in May, 2014 ABC started broadcasting two radio art-inspired programmes after a ten-year hiatus following the loss of The Listening Room. In my interview with him, Kahn described the shutting down of The Listening Room as part of an 'anti-intellectual'(Kahn, interview, 2006) move started by John Howard in the 1990s to dismantle cultural institutions to win votes. New ABC radio art programmes Radiotonic and Soundproof are a welcome move; however, whether this will make amends for the last lost decade and job cuts across the sector, it is too early to tell. However, it s a promising move forward for international radio artists, whose work is now being featured, including work I commissioned for the Radio Arts Dreamlands Commissions. Digital community services in Australia were also under threat in 2013, thanks to 1.4 million dollars being cut from the community sector by federal government and stations (McKechnie, 2008).

Publicly-funded radio does seem to be moving towards emulating the net's copyright-free music ethos and a Creative Commons use of work; this can be considered positive in terms of moving away from the radio station owning the work and restricting its use. Public stations

like ABC, Raidió Teilifís Éireann (RTE) and ORF are making it easier for artists to get aired with more transparent commissioning. New radio works commissioned by me from radio artists Gregory Whitehead and Joaquim Cofreces have been aired on ABC's new flagship radio art show Sound Proof in 2014, and the artists paid a modest fee. Fees are in some cases absent due to the growth of participatory projects where artists often share sounds, which are curated and aired by commissioned artists or paid producers in charge of collecting the sounds from others.

A recent example is the RTE Lyric FM Nova programme, Hear Space a project carried out in 2014, with artist Karen Power using recorded sounds donated by listeners. ORF had a sound collection project in 2013, and a site for uploading the sounds; the payment was getting them aired. It's a thorny subject but in the UK Artist Network is currently campaigning for better pay for artists who exhibit work in galleries. I see little difference if the gallery is online, an FM broadcast or in a physical space. Musicians were once nurtured by support from record companies (through such mechanisms as 'advances' and studio access). However, if the examples of ORF and Lyric FM are part of an emerging trend towards zero fees (by analogy with 'zero hour contracts'), then the potentially increased opportunities for broadcast that are made available are not matched by equally increased chances for the artist or musician to get paid; without any commissioning budgets available to compete for, those without the means to access digital production are likely to remain excluded.

Another victim of public radio cuts was SRc (Sveriges Radio)which ran from 2001 to 2008 as a net radio art station. It was part of the public Swedish Radio and dedicated to expanding radio art projects across platforms as well as commissioning experimental 5.1 works for radio via the web. 'SR c is a radio channel for art, culture and ideas, and an audio-magazine in themes with visual landscapes to go into and to find radio in. We want to explore new ways of presenting radio and new ways of listening and perceiving radio' (SR c, 2006). It hosted live performances and installations in Stockholm and Uppsala. Marie Wennersten, who managed the station, wrote of making ambiguous radio: '[w]e are using the expanded idea of radio to make it heard on FM in galleries, movie theatres and the city landscape' (2007,p.85). One can argue that this is exactly what the BBC should be doing. As Douglas Kahn put it in our interview in 2006, the BBC has been 'totally slack' when compared with other public broadcasters such as ORF and German and Danish public radio. The Space, a website for artists and audiences 'to create and explore exciting new art, commissioned by us and shared

around the Whole Wide World' (2014) was set up and funded by the BBC with the Arts Council and, for me personally, is disappointing when compared with initiatives such as SR c.

The formation of the New Radiophonic Workshop seems to be more of a BBC rebranding exercise and at present seems limited in scope, with just seven members and seven associates. Its online presence seems poor as it offers no archive or even a list of projects. The BBC's recent radio art experiments on FM have also been extremely conservative in approach. Radio Four's broadcast 'Open Air' radio interventions in 2013, curated by arts organisation Artangel, offered potential; however, the content was very limited, with just fifteen minutes of new work aired over one week. In my opinion, however, this is exactly the kind of thing the public broadcaster should be doing more of: instead of a commissioning ethos which seems to thrive on a populist agenda, there are opportunities to embrace specialist broadcasting, especially in the audio arts. The fear of rocking the boat and not wanting to annoy listeners is in part due to wanting to keep the widest possible audiences in order to justify public funding via the license fee.

Filmmaker Peter Strickland, director of Berberian Sound Studio, is an audio expert and no stranger to radio art; back in 1998, his Sonic Catering Band treated listeners of my daily programme on Resonance FM to a live culinary soundscape making popcorn live on air as musical performance. Peter was an ideal artist for the BBC Artangel project and I asked him online about his experience: 'Open Air provided mass exposure for people whose work might only exist in the shadows. Given both the positive and negative reactions it received from its unexpected airing after the 9 A.M. News, the Open Air exercise also emphasised how fundamental context, or the lack of one, is to the process of listening' (2013).

I would, however, suggest that these five three-minute 'radio interventions' were not quite the radical interjections projected. Rather, the project seemed to be handled with kid gloves by the BBC: being allocated the same slot every day and being proceeded by somewhat over-the-top warnings rather diminished the potential impact of the project, seemingly with the intent to pacify the vocal dissent even these carefully cordoned interventions provoked amongst contributors to the BBC Radio 4 forum. Other participants, Christian Marclay, Mark Wallinger, Ruth Ewan and Susan Hiller, were all well-established visual artists, chosen both for their stature and because they hadn't previously worked within the medium of radio, thus allowing them to reach out to the middlebrow audience that is Radio Four's perceived listenership. Marclay's montage was underwhelming, reminiscent in style of Vicki Bennett's

more subversive early BBC local radio montages; his use of 'the hourly pips' seemed rather leaden and obvious, particularly given that it had been so recently used for experimental effect by Damon Albarn in his Radio Reunited special broadcast, simultaneously transmitted across BBC stations in 2012 to celebrate the BBC's 90th birthday. For what it arguably lacked in execution, the immediate negative reaction to the work lent it a new significance, and it was in a way heartening that a three-minute audio clip could still cause such outrage. As the only intervention allowed to fully function as such, not being preceded by a stern disclaimer, Marclay's piece clocked up over 3000 plays on Soundcloud on the day it was aired (at the time of writing it has 8000). For me it was Ewan, Hiller, Wallinger and Strickland's works which were far more successfully executed. As Peter Strickland argues, context is everything and now that the audience have been primed, why not a regular space on BBC Radio 4 or Four Extra, within which established and emerging radio artists may receive national exposure? The vocal protestations of those for whom doubtless any tinkering or disruption is considered an affront to the sanctity of the schedule should be no deterrent. The BBC needs to embrace and reflect upon the excellent work outside of its studios and offer further radio art commissioning opportunities. While the community sector remains the key platform and nurturing ground for new radio art activity, more funded radio commissions across the sectors would be wholly beneficial to the art form. Shockingly, radio art was not mentioned or discussed at all by the BBC or journalists during the Open Air broadcast series. In the UK, the only space available on funded public radio for weekly half-hour doses of experimental work is BBC Radio 3's pre-recorded hour-long weekly programme *Between The Ears*, that has run since 1993.

From this perspective, those who, a decade ago, experienced the heyday of radio art diagnosed by Glandien, now find themselves in a frustrating landscape where budgets and commissioning opportunities are extremely rare. With the demise of national public stations willing to accommodate radio art there has been a corresponding reduction in the artistic communities which radio art nurtured, and in the opportunities for a non-specialist audience to find itself captivated by experimental content. The *Recycled Radio* (2013) series was an another example on Radio Four which, for me, failed to really experiment; instead, it achieved a knowing middlebrow sensibility overall, which diluted interest. However the *Independent*'s radio critic liked it. 'With its surreal juxtaposition of bits culled from the corporation library, *Recycled Radio* is in the latter camp: at times it sounded like something on Resonance FM' (Maume, 2012). This prompts us to consider the role of community arts radio in the UK and highlights

the cultural impact that community arts station Resonance FM has had in the UK media and across the sectors.

2.2 Community Arts Radio in the UK History

Due to regulation in the UK, public and commercial radio was until 2002 the only legal place where artists had regular access to the airwaves, mostly as contributors. Artists could be heard; however, they did not have open access to experiment with the medium. In this section I will outline the history of community radio in the UK and draw on my own experiences with Resonance FM and community media, to try and understand how radio artists can work more effectively in this voluntary arts sector. I will explore what this means for wider participation and practice and funding, but first I will outline the recent history of this new tier of arts broadcasting, also called the third sector in the UK or, as it is more widely known, community radio.

In 1995, the first legal experimental radio station in the UK went on air under a Restricted Service License, a short temporary license; the Liverpool-based radio station *Hearing is Believing* 105.8FM (Douglas, 1995) was part of Liverpool's Video Positive event. Its name was also given to an international conference about radio held at the University of Sunderland in 1996, drawing attention to the renewed interest of academics in radio art. From June 9th 1998 to July 5th a second arts station in the UK started broadcasting, again with a restricted service license. This was Resonance 107.3FM, broadcasting as part of the Meltdown Festival from the Royal Festival Hall, on London's South Bank.[31] I became involved as part of the station's Action Group, helping run the station and producing and presenting a daily live programme, which included a variety of creative guests such as the Sonic Catering Band, who made popcorn live on air, a laughter therapist, and the performance artist Marisa Carnesky. Phil *England* 'instigated' Resonance because of the prohibitive legislation and limited opportunities for artists to gain access to radio in the UK compared with other countries

> In many countries, state radio has a regular slot which airs newly commissioned radio works. Campus radio is another site which often allows radical use of the radio medium and in Canada co-op radio has been a very creative site. In many countries,

[31] The Meltdown Festival had been curated the previous year (1997) by Laurie Anderson, with whom the station had hoped to work. A delay in getting a short term license meant the station occurred during DJ John Peel's time as curator of the event, in 1998.

> subscription radio provides community and alternative programming – the question of why this is not currently an option in the UK remains to be addressed. (England, p.1)

UK artists had historically wanted more access to radio, as sound artist Trevor Wishart discussed with me at the *Radio Without Boundaries* conference in Toronto, Canada, in 2006. He had made a piece with BBC Radio in mind in the 1970s yet it took over 28 years to be played on the radio in the UK. It was seen as not sufficiently 'musical' for a music station and not 'dramatic' enough to fulfill the conventions of drama, so fell in-between the limiting genre distinctions of the BBC; a situation many involved in Resonance – including myself – understood. Resonance 107.3FM seized the opportunity and broadcast international radio art work, successfully challenged conventions of radio, and producing and airing new and past radio art. As well as setting up a studio for the production of new programmes it also aired international works curated by Phil England from many of the projects and public stations I have previously mentioned such as ABC's Listening Room, Dublin Museum of Modern Arts, Audio Artists Radio Transmissions (AART), RAI's Audiobox, Italy; ORF's Kunstradio, Austria and New American Radio curated by Phil England.

> Resonance 107.3 FM aims to challenge perceived ideas about radio at a time– particularly in the UK – when everyone has become used to niche marketing, lowest common denominator, formulaic radio. It wants to shake up radio in the UK – principally, the state radio of the BBC which, with its 'public service' mandate is the most likely to respond to the need for artists to have regular ongoing access to the airwaves. As part of this aim the broadcast will include a live-to-air discussion, which will address the question of the lack of current opportunities in the UK. (England, p.1)

The station followed in the footsteps of community stations in Canada, Australia and the USA, which have existed since the 1960s. I joined the former Community Radio Association (now called the Community Media Association) in 1998, primarily interested in getting Resonance a broadcast license as a 'community of interest', in this case via art, something which the organisation had not yet fully embraced. I co-wrote an article in the CMA magazine with Tom Wallace (*Airflash*, 2000, p12) on the marriage between art and community media that related

to Resonance's first incarnation in 1998.[32] For two decades, since its establishment in 1983, the former CMR had lobbied successive governments for community stations, and, after many setbacks, the legislative blocks were removed. The process started in earnest in the UK in 2001 when the Radio Authority put out a call for Access pilot stations to be set up. Initially this was to be a year-long project, but was extended as a green light was given to the sector. The first Access stations went to air in 2002 and were renamed community stations in 2003.

> The culmination of these negotiations was contained in the Communications Act 2003, and then the Community Radio Order 2004, which established the final legal framework for full-time, long-term community radio licences in the UK. (Community Radio Toolkit, 2010)

Resonance 104.4FM commenced as a full-time station in May, 2002, as part of the Access Pilot scheme, the only arts station of the fifteen pilot stations granted. I took part as a fellow instigator of the now full-time station and sat on its steering committee involved in all aspects of the set-up and running of the station, which also broadcast on a parallel webstream, reflecting the exponential rise in high-speed internet access and the concomitant shift in listening patterns that had occurred in the intervening five years. Professor Anthony Everitt's report – 'New Voices' (2003) – commended community radio in his assessment of this new tier of broadcasting in the UK, stating at the Community Media Conference in 2003 that:

> While maintaining a broad editorial reach, Resonance FM has uncovered a rich, little-known stratum of avant-garde practice and made it generally accessible, without diluting the necessary ingredients of challenge, surprise, difficulty, irritation and delight. It is a genuine discovery channel. (Everitt, 2003c, CMA Conference)

Resonance FM won mainstream radio acclaim at the Radio Academy Nations & Regions Award for London for three years, 2009–2012. When it first won the award Adrain Van Klaveren, the Controller of BBC 5 Live, stated that it:

> stood out for listeners as a unique station in a saturated and largely homogenous radio market. It is a station that simply couldn't be found anywhere else, and that strongly identifies with – and super-serves – London's creative and artistic community. Its

[32] When the Radio Authority announced the Access radio pilot scheme, I wrote to the London Musicians Collective encouraging them to apply. The application went ahead and I became part of its initial Steering Group.

> output defies format and conveys a distinct attitude that 'art should never care.' The minimal budget of grants and donations from people passionate about the station, coupled with very creative use of diverse radio techniques, sets challenges for both listeners and the radio industry alike. (Resonance FM, 2009, website)

By March, 2009, 221 community licenses had been offered and 131 stations were on the air in the UK (Ofcom, 2009).

2.3 Scope for UK Artists

While community radio across the UK can be regarded as the potential site for radio art practices outside of public radio there are limitations; each individual station broadcasts to its respective community of interest and the programming policies most stations adopt have more in common with mainstream radio than any aspect of the avant garde. The arts and community radio were reviewed in a report by the community sector written by Cochrane and Jeffrey for the Arts Council and the CMA in 2008.[33] The report found that:

> Approximately 70 per cent of the community radio sector's programming is music-based, although – with the exception of Resonance FM – most programming relies on commercially available recordings, albeit drawn from a diverse range of sources. (Cochrane and Jeffrey, p.8)

It also found that communities were not fixed, however, and revolved around geography, demographic, cultural, ethnic and economic audience groups, and that there were considerable differences in the way the word 'community' was understood and defined in the sector (ibid, p.17). How localism and community is articulated varies, and this is a worldwide phenomenon; Janey Gordon, at the Radio Conference in Bedford in 2013, highlighted how underdeveloped countries' stations are often set up and run as policy arms for NGOs under the guise of local community.

---

[33] In 2006,the Community Media Association, in association with Arts Council England (ACE), and the Department for Culture, Media and Sport (DCMS), commissioned CapeUK to undertake a research project on 'The Arts and Community Radio', based on research carried out in 2006 and 2007. The project aimed to: Investigate the place of the arts in community radio. Explore how the developing relationship between community radio and the arts can benefit individuals and communities. Identify the benefits of arts output and activities to community radio stations and to artists and arts organisations. Highlight good practice in this area and make recommendations for the future. The research was carried out by Pat Cochrane and Graham Jeffrey.

Ed Baxter of Resonance FM, stated that the project is about London: 'it's about describing or articulating London. It's not about the great global community of musicians and artists… It's what [writer] Kodwo Eshun once told me is an example of "defiant particularism"' (Cochrane and Jeffrey, p.18). Weiss noted a similar thing when discussing radical arts programmes from Amsterdam pirate radio: 'A sort of perverse specialisation – perhaps a manifestation of what Deleuze speaks of as a "logic of the particular" – reigns in these contemporary pirate Amsterdam stations, which determine the margins of aesthetic culture' (Weiss, 1995, p.2). However, Resonance does not function in isolation and certainly much of its early content and ethos was influenced by radical radio programming across the globe, and as described earlier by Phil England. This has been reflected in its programming. A new listening community was partially created locally by way of bringing together disparate circles of vibrant artists from all fields of arts practice that already existed in London. However, by virtue of it being simultaneously streamed online, it was also part of an international network with an interest in experimental music sound and radio art, which it had tapped into from its first incarnation in 1998. To this day, it has aired international radio artists' work and developed a global audience that is partly composed of such groups as supporters of public radio projects such as Kunstradio (which is itself now 25 years old).

> [A]s a mass medium to which artists now have access radio truly provides one of the clearest models for modes of aesthetic development in the immediate future. At Resonance FM, we have created an audience of over 200,000 from scratch, produced 35,000 hours of ground-breaking work and engaged hundreds of volunteers who contribute dozens of hours to the project every week. (Baxter, Resonance FM website, 2009)

These listener figures are not actually precise as there are no formal measurements made of community station audiences in the UK. RAJAR are not required to measure community radio as a way of protecting commercial radio interests; however, internet and social media are useful tools to gauge support for the station. In September 2013 Resonance had14,866 Twitter followers, rising to 18k by September, 2014 interesting when compared with national DAB station BBC 6 Music, which had 150,441 followers in 2013 and 228k in 2014; BBC Radio Three, which had 28,310 Twitter followers in 2013 and 47k in 2014; and Soundart Radio in Devon, which had 1427 Twitter followers in the same period and had 1963 followers in September, 2014.)

2.4 Funding

There are currently two dedicated FM arts community stations in the UK: Resonance FM and Soundart Radio 102.5 FM, broadcasts across the Dartington, Totnes area of South Devon, it started in 2006 as an experimental student radio station at Dartington College of Arts. Resonance FM has achieved an international profile and regular funding as a national portfolio organization, walking a fine line between its community status and its avant-garde roots. Its success is due largely to the exceptional work of volunteer artists and musicians who have developed innovative programming without budgets and its location in the centre of London. The funding gap between the stations couldn't be more obvious as Soundart Radio has existed on a hand-to-mouth basis via small grants to provide training for disadvantaged groups. This experience reflects the findings of the Arts Council England (ACE) report *Rebalancing Our Cultural Capital* (2013), produced by independent senior arts professionals, Christopher Gordon, David Powell and Peter Stark. They found that in 2012/13, ACE distributed £320m to the arts, with £20 per head allocated in London against £3.60 in the rest of England. It can be argued that such a lack of funding to the regions creates a Catch-22 situation for arts stations outside of the capital, as such underdevelopment means fewer artists and funding to tap into as artists and projects gravitate towards the capital.

Typical of many of the UK community stations that embrace the arts but are not arts stations *per se* is Radio Reverb, based in Brighton. J.J.Maurage, its station manager in 2008, saw the arts as an important part of what the station does, although it was unable to capture as much arts funding as a radio station in central London.

> The station is also committed to using radio as an arts medium in itself, encouraging volunteer programme-makers to explore the creative potential of the medium to make new sound-worlds. Their scheduling format includes 'open spaces' for short experimental audio programmes, three to four minutes long, an ideal format for volunteers developing content for the first time. (Cochrane and Jeffrey, p.20)

This is something I can confirm, having broadcast *Feedback Fiesta* (2008) on the station as part of my research practice, and partnered with them to play new commissioned work (2014). Maurage pointed out the difficulties of using radio as an 'art form' and the lack of opportunities to experiment at the BBC. This is a loss for the many reasons discussed here, not

least in terms of offering artists a way to develop work which is funded, and in terms of, as Maurage puts it, developing a space to explore radio as an artistic medium.

> Community radio offers creative and artistic freedom to their contributors unmediated by the editorial control exercised in commercial or public service broadcasting. (Cochrane and Jeffrey, 2008, p.20)

Grundmann wrote, back in 1995, with reference to Kunstradio,' [t]here is a new type of marginalisation going on … I mean, the commercial pressures are at any rate so strong that there is a need to save some place for a process of reflection' (Kunstradio website). I would argue that this is even more pertinent today. If anything, this process has continued and intensified as there are sparse opportunities in the public broadcasting sector in the UK for artists to exploit. Community station Cambridge 209 had a similar programming perspective to Reverb but in March, 2010, after seven years on air, it closed due to ongoing funding issues. The station was a crossover between arts and community programming, interested in creative content involving many local musicians from the electronic new music scene. This may also be the fate for many other community stations with far lower profiles, funding and audience reach than Resonance FM, as the Cochrane and Jeffrey report pointed out

> Providing the proposers can take care of much of the production and logistics themselves, with some support from the station, it is possible to develop quite sophisticated content for broadcast. In this regard Resonance FM has the considerable advantage of being located in a network of artists, activists and producers who have independent access to tools, skills and resources for audio production. This is not the situation of many other community radio stations. (p.27)

The community media fund for the whole sector per year to date has been half a million pounds per year between 217 stations currently licensed and on air (September, 2014). It is a small sum which has not increased since 2005; with current cuts to funding in the arts, and across the UK in every public sector, things look bleak for new radio arts stations and projects, particularly the small number funded by local councils, such as All FM in Manchester, which also had its funding cut in 2011. An area that concerns all UK community stations is finding and keeping sources of regular funding. Radio Reverb lost some of its funded staff very early on but has been able to function through volunteers taking on the lost management roles and running the station as they did from its inception. This has kept the station more democratic,

as noted by one of its volunteers, Clive Craske, who produces Sound Laboratory, an experimental music show. On a positive note, the Cochrane and Jeffrey report found that community radio in the UK was a vehicle for promoting the arts, and described all work in the sector as '"audience development" because it develops opportunities for people to take part in cultural production.' Community radio sat well with Arts Council England's 'Ambitions for the Arts'(2003–6) policy, which encouraged participation in arts activities. The report also noted that community radio was becoming:

> [p]art of the informal cultural economy, upon which the more formal and generally better 'mapped' (and considerably better resourced) media and creative industries find themselves increasingly reliant for authority, credibility and long-term survival. (Cochrane and Jeffrey, p.53)

In April, 2011, Arts Council England increased Resonance FM's funding substantially as it became a 'national portfolio organisation' from 2012.[34] The station's arts funding may tower over other most community stations, but its yearly funding is still only comparable with that of many arts festivals.

The Cochrane and Jeffrey report has had positive implications, as is clearly seen in Resonance FM's case, for more arts funding for possible experimentation in the sector in the future. Funding has extended to online stations short term Basic FM and Hive Radio in Newcastle, in addition to one-off projects such as Celestial Radio (2008), DAB project Boat Radio (2012), Writtle Calling (2012), Octopus Collective (2012), Open Air (Artangel/BBC Radio Four) (2013), and most recently radio arts workshops and commissions (2013–15) which I instigated and ran. However, further arts cuts may not be as favorable (Robinson, 2014) to these new shoots of growth, as indicated by Basic FM's demise after three years. [35]

The new tier of community stations has certainly allowed for far more artistic participation when run as open-access stations, and a new breed of community radio art events and work

---

[34] Arts Council England states 'Resonance fm will receive £88,562 in 2008/2009, £90,953 in 2009/2010, £92,942 in 2010/2011 and £86,529 in 2011/2012. As a national portfolio organisation, Resonance fm has been offered £160,000 in 2012/2013, £163,680 in 2013/2014 and £167,936 in 2014/2015..' [No longer available online.]Current Funding Proposed 2015-18 by ACE to Resonance £160,227 per year. See Arts Council England, 2015. 'Resonance FM ACE funding rise from £92,942 in the current year to £167,936 in 2014/15.' See London SE1

[35] Latest National Portfolio funding by ACE in 2014, highlighted the vast imbalance of funds between the regions and the capital, as more regional funding was lost for larger arts organisations. See Youngs.

has been developing in the UK because of this. Access via community stations in the UK can be seen as mirroring community radio in Canada and the US in the 1970s and 1980s, which fuelled the rebirth of radio art and made space for artists such as Dan Lander, Hildegard Westerkamp and Christof Migone. This kick started a previously dormant mode of artistic radio experimentation in Canada, that in turn was influenced by the radical and political Free Radio stations in Germany and Italy. All laid the foundations in the UK for new online projects and stations. For most audio artists, commissioning is a hand-to-mouth experience, with limited funding in the community radio sector, by comparison with the vast amount of artists who have been involved since 2002. Funding for artists for community radio projects is ad hoc. Art Council England, via Arts for Everyone, offers a way in for artists to get funded to make work for the community sector in the UK, as money coming directly from the community sector is rare.

2.5 Transparency and Editorial Concerns

However, it would be naive to imagine editorial control does not exist on community radio stations, as discussed earlier, and programming is often subject to the whim of a few individual managers, which is perhaps why several artists have gone it alone with short durational stations and projects as mentioned earlier: Kaffe Matthews Radio Cycle (2003) and Tom McCarthy *INS* (2004), Celestial Radio (2007), Boat Radio (2012), Writtle Calling (2012), Radio Boredcast (2012) and the Dark Outside (2012–14), all funded by the Arts Council as bespoke artist projects, marking a new trend in artists running and curating their own stations in the UK.

I am proud of what was achieved at Resonance during my time there; it is also a useful case study. Now fully established and funded, its website still gives no clear outward info for the wider community on how the station is run and by whom. The Cochrane and Jeffrey report noted of Resonance that '[r]ather than put scarce time and resources into developing partnerships at an organisational level, it has cultivated relationships informally' (Cochrane and Jeffrey, p.27). The informal nature of such 'relationships' at the station has led to some discontent and resentment of its management from participants. Emails sent from former content manager Richard Thomas to a potential volunteer ended up in the *Sun* newspaper (Cartwright, 2007). In 2011, *The Quietus* music and arts magazine wrote of 'peculiar antics' [which] had deprived Max Tundra (2010, website) of his Rotogravure radio show' (*The Quietus*, 2011, website) which resulted in the station's Twitter feed being wiped and a formal

apology later given on its website in response to its treatment of Max Tundra. Darren Hemmings, a former Resonance FM supporter and a member of its Advisory Board, wrote an open letter online:

> I love Resonance. Like Max Tundra I love that it is one beacon of independence in a desperately dull radio landscape. However the treatment of various programme makers has been a real black spot on the station's name and left a lot of people feeling disgruntled at the way in which they were treated. I can't speak for others but I loved my involvement with the station both as a programme maker from 2002-2009, and as a member of Advisory Board, but now feel like that passion has been replaced by simple resentment. To me, that's a real shame. (Hemmings, 2010,website).

My own experience as a member of its steering committee, which was dissolved by email at short notice, and as a producer in its formative years between 1998–2006,[36] mirror Hemming's later experience: negative treatment of several of its long-term supporters and former programme makers does not appear to have significantly improved with its growing reputation and dedicated funding.

Since 2012, The Office of Communications (Ofcom) no longer openly publishes online yearly reports from community stations and an ongoing light touch in this largely underfunded sector has caused a notable lack of accountability for its core resource, its dedicated volunteers; Ally Fogg raised the issues in the *Guardian* in 2009.[37] Long-term supporter of Resonance FM, Gustav Ferrier also left due to 'programming issues', as noted in the station report to Ofcom at the time.[38] Writer Ben Watson's *Out to Lunch* show was pulled in February, 2013 and

---

[36]After the steering committee was dissolved frictions grew when I tried to reinstate programme makers' meetings and allow producers at the station to have regular open meetings to discuss issues, ideas and shows. I was pushed out for wanting open transparency and input at the station and for pushing a more horizontal management structure. Frustrating, having lobbied Parliament to help push for the station and sector. I was hugely supportive, raising funds, engaging volunteers from my own and wider artistic circles to support it. Predictably, following these frictions, the show I produced, *You Are Hear,* was not given a return date and given short notice to rest even though it was growing in in audience, with positive reviews and a month of guests booked in advance. I moved my show to Totally Radio and carried on podcasting; a year later *You Are Hear* was Critics' Choice in the I*ndependent* (2008). However, now fully detached from its management, there has been some thaw in recent years as in 2014/15 Resonance FM was happy to work with me to air the Dreamlands commissions, I hope this will continue in light of me discussing my experiences'

[37] See Fogg.

'[O]ne of the key long-term volunteer supporters of the station, […] programme was rested in the schedule at short notice, sadly left the station for good in disgust at what he perceived to be the insensitive, thoughtless, incoherent and poorly organised management of the schedule and the station's content. This all suggested that

reinstated several months later, after he broadcast negative comments about *The Wire* magazine, the station's media partner. In discussing the matter he wrote online:

> the casual arbitrariness of our alternative institutions is shocking. In Germany, Resonance's equivalent – FSK [Freies Sender-Kombinat] – has regular minuted decision-making meetings. Here, it's politics via telephone. I lost favour at *The Wire* because of phone calls from big names whose excellence I doubted in print. Now Ed [Baxter] has banned me from the airwaves because of angry phone calls from *The Wire* office. The whole thing makes me guilty, actually – that I've sailed on getting stuff into the public domain on nods and winks from crummy crony networks. (Watson, 2013)

Such examples highlight the alarming and precarious nature of being a long-term volunteer, and the lack of accountability and rights. It also mirrors issues of interns working as unpaid labour in media roles. I carried on as a producer and presenter until 2006, but found my input unwanted when Resonance moved from a more open and collaborative programming model via the steering group to three paid male station managers. One can argue that Anthony Everitt's (2003) model of community radio stations in the UK being run by one station manager has given power to one or two individuals rather than a larger open collective and this has been exacerbated by funding issues. As a former director of the Community Media Association and at Canterbury Student Radio, I have first-hand knowledge of how detached the director's role can be in such community organisations.[39] I perceive that if not made more accountable community stations are sadly prone to being run by small 'cliques', a point also made by writer Esther Leslie in her *Radio Benjamin* talk at Tate Modern 2014. At Canterbury Student Radio a rolling volunteer staff and yearly management election avoids such long-term issues, as does an ever-changing student population. However, an ongoing lack of funding across the wider sector means it is amazing that most community stations work at all, and they should be supported and helped to move forward. Resonance is an important cultural space.

2.6 Wider Sector Issues

---

further thinking and better working practices were required as to how to make this very complex organisation function really coherently to everybody's satisfaction.' See Ofcom, 2009.

[39]The London Musicians Collective directorship, who gave a green light to abolishing the steering committee, was also disbanded after the LMC lost ACE Funding.

These issues aside, Resonance still broadcasts excellent arts, women's and minority programming. The former *Hour of Power* show presented by writer Nina Power discussed unpaid female labour, (Libcom, 2012) an issue that I contend is not just confined to the home but is present across the community airwaves, the very place where one expects more women and minority voices to be heard. In the UK, alternative, community and internet radio should be an empowering place for women artists' voices to be heard; however, it can be argued that such platforms are unpaid, increasingly ghettoised and marginalised. It is notable that in the UK, only one in five national radio presenters are female (Skillset, 2013);[40] such a comparative gender study has yet to be carried out among the management and contributors to community radio in the UK. No positions at Resonance were ever advertised, and the station was ten years old before a full-time female manager was hired.

The UK community radio sector, it can be argued, has been co-opted by the ethos of the Conservative-led Big Society. 'The "big society" is David Cameron's Big Idea. His aides say it is about empowering communities, redistributing power and fostering a culture of volunteerism … First, it's about providing a different agenda to the day by day litany of cuts, cuts and more cuts. Second, it is … about saving money. If people are doing things for free then you don't have to pay public servants to do them for you.' (Smith, 2010). Other important cultural organisations are now also becoming dependent on volunteer labour. Some regional museums in the UK are sacking workers and deskilling, only to replace their staff with local trusts run by volunteers, a particularly problematic situation as many train for years to work in the arts sector. Likewise, more people than ever are skilled in radio production in part due to community radio; however, opportunities to be employed across the sector are very limited. The reality of a Conservative drive to volunteerism has started unravel with the Big Society Network, a charity set up by the Conservative Party, disbanded, amid allegations the charity misused funding and made inappropriate payments to its directors (Wright, 2014).

Local BBC radio stations have faced well-documented cuts across the country, and have been on a back foot in the production of creative radio. BBC Kent no longer has a producer to oversee the arts, and the opportunities to work in the sector are ever dwindling. The BBC could be doing far more to keep its cultural agenda and regional stations alive. It can be argued they should be reaching out to pull in creative producers from the community sector and give them a living wage.

---

[40] Interestingly, the same ratio as women priests in the UK.

The internet has revolutionised artist access and expanded the audience for community and public radio. Artist-led radio projects have been able to reach out to wider and international audiences, without having to negotiate the hurdles of government licensing. Provided such artists are on the right side of the digital divide, these changes have offered almost complete freedom to experiment.

2.7 The Internet

My own practice for this research has benefited from an exploration of radio production internationally by intentionally using other networks and stations on FM and on the internet. As experimental radio has been squeezed from the state broadcaster's agenda, artists have found success within community radio and complete freedom via the internet. Since the mid 1990s increased bandwidth and ever-improving technology has meant radio related projects have spread like wild-fire. A pivotal point for streaming live radio art experiments came in 1996, when Vienna-based public broadcaster ORF started Kunstradio, which has become an important online radio art broadcaster, streaming not only the scheduled weekly programme but also projects with unlimited duration, as well as streaming innovative networked radio art works. Going online, it seems, freed them from the commercial constraints on public and commercial broadcasting.

> Not only have the Broadcasting monopolies (commercial and public) begun to crumble under the pressure of market ideology, but the traditional notion of 'broadcasting' itself is being challenged by the digital network technologies. (Kunstradio)

Now twenty-five years old, the public radio funding situation is still affecting them as they fight cuts at ORF in 2014 to keep one of their main creative studios open. The growing use of new internet technologies have also led to many questioning if it will be reined in by capitalism at some future point, just as the early radio pioneers were quickly absorbed into and carved up by capitalist radio in the US or government-led broadcasting in the UK. Just as the web's radiophonic qualities are being accepted by many theorists, one wonders if it will be able to flourish in the future if the digital landscape is flooded by multinational ownership. As the experience of radio changes for the listener so too do its definitions.

Things look positive at the moment, after the growth of podcasting and streaming, embraced not only by the radio industry but an array of other industries such as leisure, journalism and

tourism, as well as artists and home producers. It seems, on the surface, to have leveled the playing field between broadcasters and listeners. For most the dream of Brecht's two-way radio is still limited and this has not been eased by the fact anyone can home-produce and podcast to a possible world-wide audience. Not all listeners have dedicated radio interactivity; online polls is the nearest it gets. Whilst businesses and search engines buy up advertising space to promote their media realms, the largest downloaded podcasts have quickly moved from the pioneers' hands to those of traditional media disseminators. The web is more costly in the sense that, unlike terrestrial radio, each listener puts up the costs for a station as they are charged streaming and Performing Rights Society (PRS) fees per head, and this may be a factor behind why some radio projects are now dropping off the internet. Streams can, unlike radio waves, be easily traced, making it hard for broadcasters to break the rules if, in the future, rules were to be imposed on the net as they have been in China.

A new ethos to hearing radio on demand also has its drawbacks with regard to creating radio as a live event, posing new challenges to the radio artist as the nature of the listening experience changes when it becomes a screen-based activity. Aside from the loss of audio fidelity arising from mp3 compression, listening via the web situates the transmission within a panoply of other media competing for one's attention. While radio (as traditionally understood) has always been subject to distracted listening on possibly low-grade equipment, the combination of the omnipresent distraction of social media, the spatial dislocation of digital networks (as opposed to the localised mapping of FM) and – crucially – the 'schizochronic' shift in temporality engendered by content-on-demand has diminished the potential to perceive listening as part of a dispersed community, an effect that is mitigated against but not ameliorated by the integration of social media.

Affordable digital equipment for audio editing and access to the internet has never been easier and the range of possibilities for the artist to work within the radio medium certainly has never been broader. For Frances Dyson, Professor of Technocultural Studies at the University of California, this pioneering free space is already sewn up by big business who strive to dominate: 'In a foretaste of the commercialization of the Internet, the increasing control of radio coincided with claims by prominent theorists of communications media regarding its utopian potential'(Dyson, 2009, p. 49).

As the internet becomes predominantly a commercial space, it can be argued that it mirrors historically the birth of radio in free-market countries like the USA. This situation has become

a growing academic and public concern.

> The creation of real estate in the ether, through electromagnetic spectrum allocation and the proliferation of networks, is the most dramatic transvaluation that the world has recently undergone – though not without precedent. From the early days of radio, ethereal 'irrational exuberance' and democratic feeling would formulaically give way to increased privatization of the airwaves, mapping it for the purposes of commerce and security. (Milutis, 2003)

Even assuming that the internet could continually provide an open space for activists and artists to create new networks, the way information and other resources are structured and made searchable on the internet tends, in some ways, to push radio art further and further into a corner, making it less something that you might happen upon via analogue radio and more something that you have to search for purposefully.

While a proliferation of arts-based internet based stations across the globe have started up, developing parallel approaches to showcasing new radio art works alongside new music and other art forms, one wonders how long these will last, given the fate of radio arts station SRc, closed by public radio cuts in Sweden (2001–2008). The station commissioned works from several hundred international artists, all of which have been deleted from the web, along with the site's other content; all that remains are a few international pages.[41]

In France the situation is more vigorous as ARTE Radio, running since 2002, is a French-based cultural station, producing French-speaking experimental radio features on demand, funded by the ARTE European cultural channel, which funds three salaried positions and a budget of €200,000, and has100,000 monthly listeners. The crafted feature documentaries it produces are distinctive as they put sound in the foreground. Its unique production style has won the station many awards, including the Phonurgia Nova Award in 2003, the Prix Italia in 2012, and the Prix Europa in 2008, 2010 and 2011. ARTE Radio follows in the footsteps of creative public radio, firmly embedded in French culture since Pierre Schaeffer's Studio d'Essai and the Atelier de Creation Radiophonique, which started in 1965 and is now operating in a pared-back form once a week on Radio France, online and as a podcast. One can see this as a direct response to ARTE Radio programmes which, unlike public radio, have operated under a

---

[41] See SRc.

Creative Commons license since the station began in 2002 and been made freely available. The works of many international radio artists and stations are embraced by another French project, *Syntone*, a dynamic language online magazine dedicated to radio art which started in 2008.

Many online arts stations have been set up in galleries and arts spaces, often as temporary projects, and radio art is just part of their content. Italian Radio Papesse began streaming in 2006 within the Palazzo del le Papesse Contemporary Art Center, Siena, Italy, which I visited during this research; it has now relocated to Florence as a nonprofit cultural association. It works as a platform for contemporary art and productions at 'the crossroads between music, sound art, visual art' (Radio Papesse, 2014). In contrast, Radio Web MACBA runs dedicated podcasts from the Museu d'Art Contemporani de Barcelona gallery, which focus on radio as an exhibition site across forms including radio art. Its content reflects that of the online Clocktower Radio founded in 2003 via PS1 Contemporary Art Center in New York, which states on its website that it is one of the first all-art online museum radio stations. Well-funded projects such as Clocktower and ARTE Radio are notable for more dynamic content and more crafted feature packages than smaller, less well-funded stations, such as Papesse and former Basic FM, whose music content was far higher. Basic FM started as an online radio station in 2011, and was a project of Newcastle independent cinema Pixel Palace, which had commissioned artists such as Vicki Bennett to host her temporary Radio Boredcast station as part of the AV Festival (2012). It 'presented an audio gallery that exhibited the work of those making interesting noise: sound collage, found sound, spoken word, discourse, dialogue and discussion, *musique concrète* or original, remixed and *detourned* musics' (Basic FM, 2014).This sums up much of the content of Radio Papesse and other smaller online stations.

Basic FM was run by one part-time member of staff and funded by the Arts Council, to run for thirty months until 30th September, 2014; it did not carry on after that period due to lack of funding. Its demise affects arts diversity in the UK and highlights that without funding such stations cannot exist. This seems a loss after it had steadily built up its reputation. Importantly, it was the third full-time arts station in the UK, alongside community arts stations Sound Art Radio and Resonance FM, which are both online and on FM. The use of an online stream for FM community arts stations can be seen as a form of local hyper-media, serving a distinct local arts community but with an international reach. All projects discussed have a strong visual identity online and also use social media effectively to maintain an international presence; none are dedicated exclusively to radio art content, which constitutes a small part of a larger

music-driven programming schedule. Radio art is mostly scheduled on Resonance as discrete programmes, an ongoing show being Radia, set up by a former Resonance manager, Knut Auffermann, with Sarah Washington, and running since 2005. The half-hour-long programme is now shared between twenty stations from thirteen countries. This 'informal' radio art programme exchange has a non-participating partner in Kunstradio, part of public station ORF in Austria. Radia's own website, though, has limited information on the full scope of the project or indeed whether it has any funding. Its history is given in more detail on Wikipedia,[42] perhaps reflecting the Creative Commons and DIY grassroots approach to the project.[43]

Breitsameter asserts that

> [t]he star shaped broadcasting principle may develop its greatest strengths in combination with networks and their potential for operative participation and interaction. (Breitsameter, 2007, p.69)

My own group, Radio Arts, which I will discuss in Chapter Five, has successfully embraced this concept using ten partner stations to broadcast the Dreamlands radio works.

Radia is also an example of a network that shares radio art programmes via file sharing across regions, whilst Spanish-based Radioart.net (2011) is a network for artists to share radio arts projects and broadcast information through an email list. Kunstradio stands out as being fully dedicated to radio art; again, it is mostly a weekly programme on ORF. Its website allows programmes and longer durational projects to be downloaded or streamed as required. Many artists and small groups now use the net to stream projects themselves. An example would be Radius, an experimental online radio broadcast platform run by Jeff Kolar in Chicago, where a new project is curated each month. Focusing on artists who use radio in their work the aim is to 'support work that engages the tonal and public spaces of the electromagnetic spectrum' (Radius). Works are broadcasted on FM and streamed online.

---

[42]See Radia. Wikipedia.

[43] 'The Radia Network emerged from a series of meetings, clandestine events, late night club discussions and a lot of email exchanges between cultural radio producers across Europe. The topics vary and the reasons for forming a network are many, Radia has become a concrete manifestation of the desire to use radio as an art form.' See Radia. Website

Artist Hill Kobayashi has also developed work across the net, using it as a live transmission site. Kobayashi's *Tele Echo Tube* (2008) set up a networked soundscape streaming and recording system where environmental sounds in remote forests are continuously streamed in real time by a networked microphone, allowing users to listen and interact with live sounds over the internet without physically going there. Likewise, Locus Sonus, a research group at the Art Schools of Aix en Provence (ESAA) and Bourges (ENSA) in France, is concerned with 'the innovative and transdisciplinary nature of audio art forms, in the framework of networked sonic spaces' (Locus Sonus, 2013). The systems developed by Locus Sonus make use of 'interactions, interferences and correlations between local and distant spaces, between virtual and physical spaces.' (ibid). *Locustream* is a growing network of permanently open microphones around the globe, producing multiple audio streams which are relayed by the internet via a specifically programmed server. These are 'maintained by a large number of collaborators providing live sound material for subsidiary projects' (ibid) and have led to the construction of several automated online interfaces, projects such as *Locustream Tardis*, which allows the participant to take 'a live journey through a worldwide network of open microphones' (ibid, Audio Tardis). These networked real time broadcasts demonstrate how radio art is being embraced as an expanded practice online alongside analogue frequencies.

Other approaches have incorporated the web to create something new out of traditional genres. Two producers who are also academic researchers have produced concept-driven works, drawing on the tropes of radio to experiment with its form through the web. Lance Dann's *Flickerman* (2008) was a ground-breaking, cross-platform drama where the dividing line between the real and imagined was blurred. Essentially experimental radio drama, it was enacted through radio broadcasts, audio downloads, online films, blog entries and multiple internet channels. It was aired on Resonance FM, London; WFMU, New York; ABC Radio National, Australia; and Radio Reverb, Brighton. The 'radio drama' used email, Blogger, Facebook, a Flickr pool group, Google Maps and a iPhone app, and was critically acclaimed in the *Guardian* (Williams, 2009). It is a good example of how radio producers are reaching out to use new media in conjunction with analogue radio; the BBC wouldn't commission it as its use of social media was deemed risky.

Producer Tiziano Bonini (2011) worked across the net as part of his *Amnesia* project which was aired weekly on Italian public radio, RAI Radio, from September, 2008 to July, 2009. For 235

episode she was able to fool listeners that the presenter of the show was real and had lost his memory so played music to help him remember. Again, social media was used in this case to successfully mislead the listener, for example, by posting fake Wikipedia information to blur fiction with reality for this hybrid durational spoof drama – something which would doubtless be deemed highly unethical by the BBC.

Social media sites such as Facebook and Twitter are now used by numerous radio art groups, radio stations and dedicated international radio art projects, the latest being the International Radio Art Research Group (IRARG), 'an initiative set up by Colin Black to foster a better understanding of radio art'. He also runs the Facebook Radio Art Group, which had 3594 Facebook likes as of June 2014. Radio artists have embraced new technology which moves between media: many new projects, as outlined above, have been enabled and realised, and in some cased crowd-funded via the internet. The internet has also been key to archiving contemporary radio art and, as mentioned earlier, the New American Radio programmes and writings 1997–1998 are now archived online and also in the Weserburg Museum, Germany, in its Radio Art archive which is not online. Clare Barliant, considers the possible issues this raises.

> Will a work of sound art that features these standard radio tics sustain its power as these sounds fade into ancient history? Listening to radio art online implies that interest in the process of radio recording is waning, and artists are turning to new technologies. (Barliant, 2005)

Against Barliant's assertion I would say it is now easier to record and share analogue programmes using digital means, and a huge amount of early radio can now be found online. Recent US statistics revealed by Edison Research on listening in cars showed that only 14% are listening online, 58% still prefer AM/FM (Izzo, 2014). This implies that what Barliant calls the 'tics' of analogue radio are likely to remain prominent within the public consciousness. This reiterates my observations at the start of Chapter One, that radio is a resilient medium which, while it has shifted in significance and meaning, has retained its prominence within the 'post digital' landscape.

The internet has been crucial to new forms of expanded radio practice and has helped sustain and develop an international community of practitioners; such is the case with transmission artists via the Wave Farm, whose ethos and work resonates with Kobayashi and Locus Sonus

and Radius. Wave Farm, based in upstate New York, has embraced and generated transmission arts and has been highly proactive in the use of the web to stream radio art work, conferences and events. For the last section of this chapter, I will examine the relationships between radio art and transmission arts as I move towards my next chapter, which seeks to explore definitions of radio art practice.

2.8 Transmission Arts

Transmission arts comprises a multitude of practices and can be considered an offshoot of communication arts; the concept emerged in New York through a collective called free103point9. Initially part of the microradio movement, the group was formed in 1997 by journalist Tom Roe, musician Greg Anderson, and artist Violet Hopkins; they initially focused on providing radio access to local communities and, like Kogawa's Mini FM, a community of artists emerged, excited by transmission as an overarching form of creative expression

> For these artists, microradio was not simply a distribution device, but rather an exciting gateway to experimentation with the entire (electromagnetic) spectrum. (Joseph-Hunter, 2009.p.34)

A nonprofit organisation since 2002, they have a 'specific mission of establishing and cultivating the transmission art genre. Supportive of 'radio art' and 'creative radio', transmission arts have been defined by Galen Joseph-Hunter who is the director of free103point9, now known as Wave Farm, as

> a multiplicity of practices and media working with the idea of transmission or the physical properties of the electromagnetic spectrum (radio). Transmission works often manifest themselves in participatory live art or time-based art, and include, but are not limited to, sound, video, light, installation, and performance (2009).

The organisation 'supports artists exploring transmission frequencies for creative expression' (free103point9, 2010). In 2008 the group gained a license to run a community FM radio station WGXC, serving Greene and Columbia Counties in upstate New York. They have also set up a Transmission Arts Archive and Joseph-Hunter edited *Transmission Arts: Artists and Airwaves* (2011) with Penny Duff and Maria Papadomanolaki. The book features many radio artists, such as Anna Friz who has self-identified as both a radio and transmission artist. This can be seen as completing an earlier phase of the project, which proposed an online resource

and network to help artists self-identify their work within the context of transmission arts practices and to merge interests with the many whose primary interests are radio art practice.

Gregory Whitehead – whose practice is examined in depth in Chapter Three – is a supporter of the group and has artfully integrated his passion for radio art into transmission arts. Whitehead expressed his support for the group at the Transmission Arts Colloquium, which I attended alongside manager Elizabeth Zimmerman and Jeff Kolar, the director of Radius: the online station bedded firmly in transmission arts, which Kolar describes online as an exhibition space for sound artists who use the electromagnetic spectrum in their work.

The Wave Farm in upstate New York is the hub for the group's activities and home to its rolling artist residencies, many of which have been taken up by radio artists. The group's move to embrace live community radio is fitting since radio has historically been a live-event medium, a factor drawn upon by Neuhaus's work and discussed in many articles on the history of radio, such as Valliant's description of the use of radio as a shared community event for rural farmers in Wisconsin in the 1920s (Valliant, 2002). Having been operating online since the late 1990s they have, since 2008, broadcast in parallel as WGXC 90.7 FM, like a proliferating number of community radios, taking advantage of new legislation on low-power broadcasting enacted in the last few years.

Whitehead, in a discussion with writer Manuel Cirauqui, wrote

> I don't understand those many artists who conceive radio art, or the presently more fashionable term of transmission art, as the manipulation of raw phenomenal pulse, since in this case the pulse has very little to do with the medium's heart, which is very much in a poetic and philosophical realm. (Whitehead, 2011a)

Manuel Cirauqui's response was, because the term was so excessively wide that it 'encompasses all media. Maybe that's why it lends itself to mystification.' Definition and demystification is important whether we are discussing radio art, transmission or transception art but crushing if such classifications are too vague or limited or impenetrable. I accept that radio art is a play of relationships, as previously defined by Whitehead (2003), and taking that to its logical conclusion I understand that radio art can be both a relational dramaturgy as well being solely concerned with its materiality, for example by the body's effects on a micro

transmitter, as performed by Tetsuo Kogawa (2008), in his 'radioart'. Poeisis and praxis are a continuum.

The internet has been a platform for renewed radio art activity and debate, having been adopted within an expanded radio art practice since the early projects of Kunstradio and later ones on SR c. Radio art has been accepted as an acoustic media art by academics such as Sabine Breitsameter (2007) and, latterly, Colin Black (2009a), it can also be understood as a new media art and a post-digital art, a notion which I will discuss more fully in the next chapter. Radio art practice is not fixed to analogue radio, although the bulk of its history and the artistic dialogues that comprise it have derived from this, being the predominant means of transmission. Radio art, like radio itself, has grown into the digital world and its changing role within this shifting media ecology might best be considered as part of an expanded intermedia practice.

Radio is, in Wolfgang Hagen's (1997) words, a '[t]ransient, a place of transition;' the internet exacerbates this tendency further since it does not radiate from a central point and there are no visible sparks, rays or waves. For Breitsameter (2007) it is unimportant for the listener how this transmission is achieved, it is how it is experienced that is significant, as the net mimics traditional broadcasting. Transmission arts lean heavily on the histories of radio art, new media art, locative media, intermedia; however, these different species of practice can still be classified as being distinct media art forms. Transmission art can be seen as a holistic expanded practice, an umbrella that accepts all whose work falls into the broad spectrum of transmission but, as Cirauqui stated, may well be excessively wide. Radio arts, like other forms mentioned by virtue of broadcasting through a transmitter, are merely absorbed in such a large definition and, as a result, lose their distinctiveness.

Radio art is a discrete form in its own right since it can be distinguished from other 'species of practice' as in essence a media-specific art form, with a growing body of work, research and text on the subject. The concept of transmission arts, by contrast, covers all media and has no clear point of contact and definition. However, this helps to advance my research question about defining radio art in the light of new media, as radio art retains unique qualities and gains new ones in its latent digital form. In the next chapter I wish to provide further clarity through a number of perspectives which help the artist towards a definition of the form. I will examine if and how the definition of radio and radio art has changed before moving on to consider its new and consistent strands and modes of practice in Chapter Five.

Chapter Three: Defining Radio Art

Radio art, as we have seen in the previous two chapters, is now created for analogue and digital media. I wish, if possible, to seek a clear definition of the form that can embrace all current practice across forms. This will aid me in defining my own practice in Chapter Five and allow a better understanding of my case studies' work in Chapter Four as well as building on the case I have made in the preceding chapter. I will focus the beginning of this chapter around a discussion of Richard Thorn's article from *Sound Journal*,[44] itself based on the paper he presented at Hearing Is Believing 2, a radio and sound conference held at Sunderland University in 1996. I will analyse Thorn's article as a way of developing an understanding of what constitutes radio art and then draw from these and my previous accounts. For my purposes, a central component of Richard Thorn's paper was a series of questions that he asked of radio art[45]. These questions can, in retrospect, be seen to have arisen at the beginning of a new wave of academic interest and debate in experimental radio practice in the UK. Kahn agreed, and stated in our interview (interview, 2006) that it was organised to kickstart more radio art activity in the UK. Thorn provoked the audience with rhetorical questions at the conference:

> Why should it be necessary to raise the issue of 'experimental radio', for any other reason than that experiment is singly absent from listeners' experience? (Thorn,1996)

According to Thorn, a plausible explanation for this apparent tendency might be located in the fact that the professional and formulaic approach to radio broadcasting has been so dominant and 'ingrained [that] any straying from "the straight-and-narrow" has to attract a label which will "excuse its eccentricities2'(ibid). We saw in Chapter One how the institutionalization of a specific approach to programme-making was something that restricted creative activity at, for example, the BBC. These radio experimentation 'eccentricities' referred to by Thorn, which he infers are frowned upon by 'professional' formula radio and its commercial sensibilities, might potentially have a better chance of survival in a media world now characterised by internet broadcasting, streaming and podcasting. This potential has particular relevance given the plausibility of the claim that even the few 'eccentricities' that were once tolerated now no

---

44 See Thorn, 1996.
45 At the time he delivered the paper, Thorn was working in the Faculty of Art, Media & Design at the University of the West of England, Bristol, UK.

longer have a home in traditional UK broadcasting. Thorn posed five key questions regarding the nature of radio art which I wish to address here:

1. What are the implications for concept and practice of having a separate category of 'audio art' that, presumably, is meant to distinguish it from anything produced for transmission by a 'regular' station, as opposed to one operating under a special event licence?

2. Can radio convey 'audio art' adequately?

3. Would doing so make the artefact 'experimental radio'?

4. Would producing an artwork expressly for radio imply a categorical difference from other sound art?

5. Is experimental radio to be subsumed under audio art?

I wish to revisit Thorn's questions in the hope of formally answering them and providing further insight into the current condition of radio art. I will work towards developing, if possible, clearer definitions for experimental radio which will help establish it as a separate discipline from sound art and experimental music, taking account of radio art in its multiplicity of manifestations and providing broad, if not definitive, current categories of practice by developing some archetypes around my case studies, whom I will be exploring in detail in the next chapter. Challenging the 'common sense' orthodoxy that privileges the visual sense over the auditory, Thorn applied his academic background in anthropology to investigate the wider cultural context within which this sensory hierarchy appears naturalised. The wider subservience of language available with which to discuss sonic phenomena to visual tropes and metaphors[46] has diminished the sonic arts' ability to establish an autonomous discursive terrain distinct from the wider visual culture.

> At one level, the possibility of raising such questions suggests that we should seek to loosen the straitjacket of general cultural premises which privilege sight over sound, and have largely denied us conceptual frameworks or a language comparable to those of the visual arts. (Thorn, 1996)

---

[46] Eshun, 1998, mentions this in his preface.

A lack of a coherent conceptual framework or shared language has made it very difficult for radio art to demarcate its own independent discursive space and achieve a satisfying dialogue. Much current writing on radio art, including canonical texts by Brandon LaBelle (2007) and Kersten Glandien (2000), have derived their conceptual apparatus from the fields of sound art and experimental music.

Although Thorn posed these five key questions pertaining to the nature of radio art, he did not attempt to offer any further insight or understanding, concentrating rather on the wider dominance of visual culture. One can speculate his questions marked key points in the demarcation of a discursive terrain for radio art, to be pursued through further theoretical and practical interrogation. This has provoked my reappraisal in the light of subsequent development in radio art discourse and practice. Thorn's first question asks 'What are the implications for concept and practice of having a separate category of "audio art" that, presumably, is meant to distinguish it from anything produced for transmission by a "regular" station, as opposed to one operating under a special event license?'

Canadian artist and writer Dan Lander's key writings on radio art in the 1990s reflected the growing interest and ongoing dialogue about this very issue, and noted several key factors that had contributed to 'underdevelopment', including artists' differential access to the radio medium and the absence of a valid radio art discourse of its own that was not centered around music. Claiming that music's dominance in the field of audio was holding back the art form conceptually, he argued:

> [t]he imposition of a borrowed musical discourse applied to all sound phenomenon, stripping away any social and/or cultural referentiality, thus creating a situation in which aurality in general is perceived as music, as if the origin, context and phenomenology of any given sound or noise can be measured only by its contribution to a renovation of western art music. (Lander, 1994, p.13)

Highlighting the particular problematic of its definition, Lander called for continued research on radio art practice that

> [c]oncentrates on sound at its point of signification, not a literal rendering which will collapse into cliché, but sensitivity to the ways in which meaning in sound circulates, dissipates and reemerges. The development of an autonomous body of theory and practice regarding aural referentiality – in particular as it relates to radio and

> electronic media – will contribute to a better understanding of the role that radio art plays in the articulation of social and cultural ideas. (ibid, p.13)

The implications of defining radio art are simple in terms of locating the art form in spheres of practice, however a clear definition as to what is radio art consists of remains contested. German academic Kersten Glandien has written and talked extensively about radio art and sound art in academic circles in the UK and internationally since the 1980s. Exploring the subject of radio art's birth as an art form, she argued that

> [w]hen art is on the move, definitions become blurred. This is true for radio art too; in fact, the changes in and around radio in the course of the twentieth century have made this condition the rule rather than the exception. (Glandien, 2000, p.167)

Colin Black carries forward this dilemma of classification of radio art seeing it as an ongoing challenge because it 'resists clear classification: is it a media-based art-form, is it music or does it pluralistically span both?' (Black, 2010, p.198)

This lack of a clear definition has not necessarily diminished radio art from the perspective of actual creative practice. It can be argued that the 'blurry' definition has, in fact, produced a positive outcome for many practitioners drawn to work with radio since much has been achieved artistically from the slippage between media. However, as Glandien and Lander acknowledged, this lack of distinctive practice has ultimately led to a deficit of critical reflection and an under-appreciation of the creative heritage, as Glandien also noted the vagueness of the term

> [h]elped facilitate communication and exchange between producers, artists and organisers whose interest in sound and work profiles otherwise significantly differed. At the same time this terminological indistinctness was evidence of a considerable lack of critical reflection, historical awareness and self-understanding. (Glandien, 2000, p.168)

Black and Glandien also refer to German academic Sabine Breitsameter[47] who has created numerous radio plays and radio documentaries, mainly for German public radio Arbeitsgemeinschaft der öffentlich-rechtlichen Rundfunkanstalten der Bundesrepublik

---

[47] Sabine Breitsameter, German academic an expert on sonic media art, experimental radio, electro-acoustic art and design as well as sound and media culture.

Deutschland (ARD). Breitsameter makes the distinction in an interview online with Eric Leonardson that radio art is an 'acoustic media art form' that has a technical side and political core.

> It's an acoustic art form which enhances its aesthetic substance and artistic intention by using the processes of media reproduction … radio art is also always a political term because radio is media that always goes through a political process … it should reflect, habits of sensual perception and structures of political power in media. Because electronic media is always a medium of political power'. (Breitsameter, 1995)

In a live radio interview in Berlin in 1999[48]cited by Glandien (2000), Breitsameter reiterated this:

> RadioArt is an electro acoustic genre, which fluctuates in the indistinct realm between *Hörspiel,* new music, sound installation, soundscape, performance art and experimental pop, and which creatively and artistically handles the entire spectrum of the world of sound, the equal juxtaposition of noise, music and speech. (Breitsameter, 1998)

Black adopts the umbrella of media art to write about the subject but alludes to an affinity to sound art with reference to Götz Naleppa, a former sound art producer of Klangkunst at Deutschland Radio Kulture. Naleppa's definition of radio art states that 'taken literally: Radio-Arts must be a sub-term to Soundart, Acoustic Arts etc' (Naleppa cited in Black, 2005, p. 2). Naleppa argues this is because of it wider use in sound installation and sound composition (sound art for radio) which he states have the same elements of drama, that being 'sound, text (voice) and music.' (ibid). However in sound-composition, unlike radio drama where narrative and the voice is central, all elements are equal materials for the composer. Although the influences of the wider sound arts cannot be ignored, radio art might be well positioned under the media arts umbrella that these authors identify; it is certainly suited in terms of its hybrid nature. This assertion is particularly pertinent given the emergence of internet radio, through which radio art practice seems to situate itself in the merging space between media arts and sound arts. The implications of radio art developing as a specific category might be

[48] See Glandien, 2000.

beneficial to tidy-minded theorists but as a messier, practical form, its very multifaceted existence and hybrid nature make it harder to pigeonhole. Jackie Apple considered radio art in 1987 to be at a *toddler stage* (Apple,1987), something still undefined and without a related critical discourse at a time of social and technological change. She understood this to be an *advantage* (ibid).

One can argue the lack of clarity in its definition has been beneficial allowing practitioners to reflect the pioneering aspect of the medium, incorporating new technology such as the adoption of the internet into radio art practice. This is a perspective shared by Douglas Kahn who suggested that specific terms for sound and radio arts practice were used in the 1980s to keep things open; to essentially 'avoid the musicalisation of sound'(Kahn, interview, 2006) and its restrictions. The late cultural historian Nicholas Zurbrugg[49] defined radio art as '[w]orks constructed primarily for radio, as opposed to audio art or experimental music' (Zurbrugg, 1989) and this complements Kahn's statement with regards to the staking out of the ground away from music in the 1980s; yet it seems Zurbrugg is more than just staking the terrain but clarifying the term and giving understanding to such work. The organic process of breaking radio art into subgenres has also started although it is not finite or definitive as it transforms in accordance with developments in theory, practice and technology. For the purpose of this research I am focusing on some of contemporary radio arts' distinctive traits from a practice-based standpoint, rather than examine its shared traits with other media.

Thorn's first question regarding the 'implications' for having a separate category of 'audio art' is manifold, and I will be putting forward several of Thorn's key questions and further discussing the issues they raise within the interviews conducted in my case studies, reflected upon in the next chapter. I now want to move on to his second question 'Can radio convey 'audio art' adequately?' and combine that with Thorn's third query, '[w]ould doing so make the artifact 'experimental radio'? As Martin Spinelli put it, 'it's not particularly radical to argue if there is a difference between sound art and radio art' (Spinelli, 2005, p.7).

Sound art can be perceived as a very adaptable medium, work that is not site or playback specific can be distributed in myriad ways, as podcast, CD or radio broadcast. I would contend that it is not sufficient for audio art, disseminated via radio to then be considered as radio art,

---

[49] Nicholas Zurbrugg, former Professor of English and Cultural Studies, and director of the Centre of Contemporary Arts at De Montfort University, Leicester.

although it may be noted that the presence of some such work may constitute such a radical rupture in what is expected of radio programming that it may fulfill some of the functions and demands of radio art as a medium-specific practice. The Kunstradio art manifesto that I will be considering in regard to question four puts it simply: 'Radio art is not sound art – nor is it music. Radio art is radio' (Kunstradio,1998).[50]

The potential to archive radio and play it back at leisure (something that has been available since the advent of home taping but which has now been institutionalised through the official distribution of 'on demand' content) has changed radio from the unique 'event' into one which may be replayed at the convenience of the listener. Does this change represent a qualitative challenge to the specificity of 'radio' as a singular spatio-temporal event? The question of whether internet-streaming and podcasting can be considered 'radio' has been contested for the last ten years. Jo Tacchi, a social anthropologist specialising in ethnographic research on old and new media technologies, cited analogue radio as having,

> no essence since it has already and continues to take many forms. Radio is what it is at a given time and in a given context of use and meaningfulness. (Tacchi, 2000, p.292)

Chris Priestman proposes that the digital technologies which have emerged in the last ten years are inconvenient for radio studies as the notion of what is radio becomes 'increasingly multi-factorial and elusive' (Priestman,2004, pp.77–88). This can be seen to be backed up by Alan Beck's online monograph *The Death of Radio* (2002), which suggests that the old map of radio understanding may need to be re written to encompass the new digital territories. He concludes that the internet when used as a transmission platform is not 'un-radio-like'(ibid) The internet's 'narrowcast characteristics that appear to bring us much closer to the dreams of those pioneers who heard in radio the possibility of increasing the sum of human understanding.' (ibid). Priestman ascertains that for him radio entails a conversation with the listener, and that this mode of address is more essentially and characteristically 'radio' than, for example radio as music distribution which is broadcast through automated stations. He cites this type of radio digitization as 'loosening its fabric.' However, both are 'evidence of the mutability and agility of radio' (Priestman, 2004, pp.77–88).

---

[50] See Kunstradio Manifesto.

For some the internet might be seen to finally be enabling Brecht's 1932 vision – discussed in Chapter One – that 'radio could be the most wonderful public communication system imaginable – a gigantic system of channels. Could be, that is, if it were capable not only of transmitting but of receiving: of making listeners hear but also speak; not isolating them but connecting them' (Brecht, 1932). Richard Berry, radio lecturer at Sunderland University, argues that podcasting has distinct qualities that it can play to, and which separate it as a medium from radio. However, he also notes that 'some more esoteric content shares common ground with experimental radio services such as Resonance FM London or those projects, stations and programmes outlined by Lander and Augaitis' (Berry, 2006, p.153). '[P]odcasts such as "The Sound of Silence" and "Sound of the Day" could be classed as experimental radio or even sound art' (ibid, p.156). Sound and radio artists were amongst the first to engage with audio streaming technology –as was the case with those artists who took part in Kunstradio's online radio events. As discussed in Chapter One's section on 'Artist Radio', these early artistic experiments can be seen as precursors to present day mainstream interactive radio discussed in the first chapter. The problematic classification of sound art and its implications in turn for radio arts archivisation has also been addressed by Anne Thurmann-Jajes, Head of Research at the Centre for Artist Publications at the Weserburg Museum for Modern Art. She has written on the difficulties in the classification of the Radio Art Research Archive, an initiative providing the first facility in which radio art is available for research purposes:

> sound art is not primarily geared to broadcasting on the radio, but rather its distribution is by means of sound recording media. (Thurmann-Jajes, p.398)

Alternative and pirate radio is accepted as a key medium for distributing audio work by artists. Academic Bruce Barber also considered his preferred option for distribution of audio art was alternative broadcasting via piracy or micro transmissions:

> why run the risk of having your programme rejected or altered if one can work successfully outside the conventional marketing/broadcast systems? (Barber, p.133)

Radio artist Jackie Apple, also reflected this feeling of empowerment, talking of radio as both

> public and private space. It is an environment to be entered into and acted upon by the artist, a site for various cultural voices to meet, converse and merge in. (Apple,1987)

All these writers accept that 'sound art' was a part of the mixing pot of artist practice being broadcast on artist radio. However, Apple's prediction can be argued as rather naive when she states that it could 'democratis[ing] art consumption' particularly in the light of media theorist Hans Magnus Enzensburger's contention that those who believed they will be liberated by media technology are duped. He argues '[a]nyone who imagines that freedom for the media can be established if only everyone is busy transmitting and receiving is the dupe of a liberalism that, decked out in cotemporary colours, merely peddles the faded concepts of a pre drained harmony of social interests' (Enzensburger,1982, pp.58-59). Concerns reflected by Lander when he wrote of the radio artist being in 'a quasi-industrial relationship with the medium' (Lander, 1994, pp.13-14). The vexed relationship between the artist-practitioner and the professional/industrial context of their practice will be further elaborated through the next question, with reference to the work of Tetsuo Kogawa's 'Manifesto on Radio Art.' Through this I will consider the delibidinising effect of professional broadcasting conventions in its mode of presentation of his experimental practice with reference to a specific broadcast of his work on BBC Radio Three in 2010. With regards to the question of whether radio can convey 'audio art', this is clearly established by Black et al. However, the debate of such work becoming 'experimental radio' is far more unclear, I would argue it depends on its reception by a given audience.

Thorn's fourth question '[w]ould producing an artwork expressly for radio imply a categorical difference from other sound art? 'ultimately focuses on the crux of what constitutes 'radio-art'? Defined most simply, radio art might be identified as that creativity predominantly dependent upon radio technology for its conception, for its realization, and for its distribution. In its most pure form, radio art might be thought of as exclusively radiophonic materials orchestrated and disseminated by radiophonic technology. It is accepted by many radio theorists such as Weiss that to be radiophonic a work has not only to develop such relationships but take the form further: 'radio rarely realises its truly *radiophonic* potentials. For radiophony is not only a matter of audiophonic intervention, but also sound diffusion and listener circuits or feedback' (Weiss. 1995, p.6). This intervention is key to the listening experience, simultaneously enabling a different response and reception for each listener through such a shared auditory experience. Weiss writes of the paradox of radio being its public transmission heard in 'the most private of circumstances' (Weiss, ibid).

Two contemporary and distinct radio art manifestos and a classification have been published in regards to defining radio art, Tetsuo Kogawa's 2008 'radio art manifesto' and Kunstradio's which I will outline subsequently. Kogawa defines what he terms '*radioart'* as opposed to radio art, which he understood – from its early incarnation in the 1990s – as falling into a subgenre of conventional broadcasting, as discussed in section 1.11 in Chapter One.

> I am talking about what the concept of radio art or radioart is or should be. As long as we use this term, it should express something newer than the existing genre. In order to rethink on this point, let's use 'radioart' rather than 'radio art' from now on. (Kogawa, 2008, pp.128–35)

Refined from his practice, Kogawa's '*radioart*' has evolved from the Mini FM described in Chapter One to ever closer personal transmissions which are currently conveyed through live performance with transmitters on his hands and body. His definition of radio art is one of process 'rather than an object art. You cannot fix the live process as it was. In fact, it's very hard to control even one-meter-radius of electromagnetic field. We cannot perfectly control our own hands. Therefore we have to "release" myself toward things themselves: airwaves themselves' (ibid).

Kogawa's definition of what he terms 'radioart' is interesting as I perceive it as a form of transmission- and music-based performance art. I participated in his transmitter building workshop, which was part of the transmission-themed *Cut and Splice Festival*[51] run by BBC Radio 3 and Sound and Music in 2010.The event had a strong musical ethos, programming musicians who use radio in live performance, which struck me as missing the point of radio art and its ability to break the rules and to critique the medium, as this was a music-based performance aimed at entertaining passive seated audience. The concert was broadcast after the event on BBC Radio 3 and online. The conventional programme, with its limited formal presentation, did not sufficiently engage the depth of the work; without any context or chance to be present at the performance, the lay radio listeners were not able to experience the work as the purist form of *radioart* of which Tetsuo writes. A sort of sterilization occurred where the

---

[51] *Cut &Splice: Transmission* three-day exploration of the avant-garde's use of radio as a dramatic stage and a performance instrument.Thursday 4 – Saturday 6 November 2010 at Wilton's Music Hall, 1 Graces Alley, London, E1 8JB. Produced by: Sound and Music and BBC Radio 3's Hear and Now, broadcasts on Sat 6th, Sat 13th & Sat 20th Nov 2010 also on digital, online and iPlayer. Sound and Music.]

political impact of Kogawa as human transmitter was lost and usurped by conventional radio modes.

However, the performance was a good example of BBC public radio in the UK providing a platform for radio arts and sound arts practitioners around a central theme, a format which does upon closer analysis seem to suggest the establishment absorbing the avant-garde and in the process deflating its impact. Indeed, what emerged was an example of the process that Whitehead described, cited earlier in this thesis: 'taking experimental audio and then passively broadcasting it does not qualify for me as radio art' (Whitehead, 2003, p.1). This encapsulates the central paradox of Radio 3's broadcast of the *transmission* event: it was passive – that is, the medium's power dynamic as discussed earlier by Barber, was not challenged. Breitsamater's insistence that radio art is always political is equally clearly pertinent; with an artist like Kogawa, the power dynamic and the resistance to conventional modes are fundamental to his work. It is important that '[r]adio experiment should take as its material not primarily the density of the audio montage, but the social networks orchestrated between producers, participants and audience' (Spinelli, 2005, p.7). As Whitehead crucially defined it, radio art should be about a play between relationships inherit in the medium.

> Radio art has to be some kind of event or performance or presentation --- a 'play' in the broadest sense – that deals with the fundamental materials of radio, and the material of radio is not just amorphous sound. Radio is mostly a set of relationships, an intricate triangulation of listener, 'player' and system. (Whitehead, 2003, p.1)

The next definition of radio art I will discuss is the most recently published. It was developed by Anne Thurmann-Jajes of the Westerberg Museum and published in *Re-inventing Radio* as 'Radio As Art: Classification and Archivization of Radio Art' (Thurmann-Jajes, pp.387–405). Working in part from the holdings she is responsible for curating at the museum, she outlines 'four values that distinguish and help define radio art or classify radiophonic works. They may also be described as subgenres of radio art' (Thurmann-Jajes, p.395). The first value states that 'Original radio art comprises works by visual artists that were specially conceived for broadcasting, which she sees are 'often live and unpredictable, [and] represent radio art in the most original sense' (ibid).This first value – or subgenre – is immediately contentious, however, as only radio works conceived by practitioners from a visual arts background may be categorised as radio art. Of course, radio art practice has emerged from work by practitioners from a diversity of backgrounds, as can be discerned from my examples in Chapter One:

philosophy (Walter Benjamin), theatre (Brecht, Samuel Beckett, Ezra Pound), film (Walter Ruttman), poetry (Kyn, Taniya, Maples Arce, Ake Hodell) and writers (James Joyce, William Burroughs). Considering the biographical details of radio artists, their primary background is not visual arts but overridingly musical. Like John Cage, Stockhausen and Max Neuhaus before them, many contemporary radio arts practitioners such as Colin Black, Jim Whelton, Vicky Bennett, Felix Kubin, Trevor Wishart, Darren Copeland, Negativeland, Ergo Phizmiz, Chris Cutler, Knut Aufermann and Dan Wilson forged their interest in radio art initially as musicians; the list of musicians making radio art is arguably as long as that of visual artists. This proves to be an inconsistent sub-genre category and contradicts Thurmann-Jajes' earlier statement that 'radio art dwells in an artistically interdisciplinary sphere in the context of visual art, experimental literature, and new music' (Thurmann-Jajes, p.395).

Thurmann-Jajes' second subgenre refers to *Network Projects* that are often international and crossmedia projects, taking place within events such as festivals, exhibitions or performances 'via phone, internet, radio and/or satellite transmission' (ibid, p.396).This is further broken down into three levels of network type project: pure broadcasting projects involving several broadcasting stations; those where dispersed artists are networked in joint production; and network projects in which artists and stations are equal partners in a live project.

Thurmann-Jajes' third sub genre relates to 'Objects, net artworks, environments, interventions, or installations conceived on the basis of radio or transmission technologies constitute one area of radio art as such that exists outside the realm of broadcasting and which is often referred to as <<expanded radio>>' ' (ibid, p.397).

Expanded radio is an interesting term, one which can at first be understood as the use of the internet to 'add value' to a radio station or programme. However, I see it can also understood as moving radio out of traditional platforms and moving into other realms and across disciplines and medias, within and beyond digital and analogue (by comparison to the vocabulary of 'expanded film' and 'expanded practice'). Her definition is unclear and is not fully clarified without examples. One can surmise that this relates to radio projects which involve transmission technology without traditionally broadcasting the work *per se* or refers to work found on the internet or as part of an installation.

Thurmann-Jajes' fourth and final sub-genre states that radio art, like sound art, is 'situated on the borderline between art, music and literature', a point with which I can concur. However

her assertion that all sound art is 'potentially suitable for broadcasting on air' (ibid, p.398) is certainly not the case if the work is site-specific; for example much of the work of Janet Cardiff or works produced as surround using multiple transmitters, or indeed sound sculptures and sound/light, sound/image sound art works. Works where '[r]adio has played a key role in its dissemination' (ibid, p.398) has also been described as part of this category and, again, is problematic as it is so open in its definition that it could refer to any radio programme. The overall lack of examples makes Thurmann-Jajes' list open to inconsistencies and problems. Thurmann-Jajes contends that

> Radio art is problematic due to its complexity, as there is no radio art as such. Rather, a creative, conceptual breath of artistic analysis of radio technology, radio as a mass medium, and the perception or effect of radio must be discussed. The question of what exactly is –or should be – classified as radio art and what not cannot always be answered definitively. (ibid, p.394)

This archive project highlights the difficulties in defining radio art on a conceptual, technical and political level. What Thurmann-Jajes seems to omit is any sense of the *art* side of the equation. One can imagine all kinds of radio work fitting into her categories, and not necessarily those that would reasonably considered 'artistic'. It is apparent there is not one definitive definition of radio art at this time, and many more will be surely written. Thurmann-Jajes has widened the definition to a certain extent, drawing in the internet and gallery-based practices, but she has narrowed the definition of 'Original Radio Art' to an unacceptable degree. Even within the terms of her classification system, some vital things fall through the gaps, others roll over one category and into the next. Her first value is far too narrow in definition. If the term visual was removed it would encompass all radio art work made for the medium. This could potentially be a classification that I would be happy to use alongside Kunstradio's 1998 Manifesto which I will consider now, and may also help us answer Thorn's fourth question, regarding the categorical status of work produced for radio. The manifesto, entitled 'Toward A Definition of Radio Art', published on ORF Kunstradio's website[52]was written by Robert Adrian, an artist and the initiator of the Kunstradio's online site, in collaboration with ORF Kunstradio itself.

---

[52] ORF Kunstradio, *Toward a definition of Radio Art*, Website page, no date. [online]<http://www.kunstradio.at/TEXTS/manifesto.html>[Accessed 5/7/2006]

1. Radio art is the use of radio as a medium for art

2. Radio happens in the place it is heard and not in the production studio.

3. Sound quality is secondary to conceptual originality.

4. Radio is almost always heard combined with other sounds – domestic, traffic, tv, phone calls, playing children, etc.

5. Radio art is not sound art – nor is it music. Radio art is radio.

6. Sound art and music are not radio art just because they are broadcast on the radio.

7. Radio space is all the places where radio is heard.

8. Radio art is composed of sound objects experienced in radio space.

9. The radio of every listener determines the sound quality of a radio work.

10. Each listener hears their own final version of a work for radio combined with the ambient sound of their own space.

11. The radio artist knows that there is no way to control the experience of a radio work.

12. Radio art is not a combination of radio and art. Radio art is radio by artists.

The manifesto is mostly broad and inclusive and comes close to providing a comprehensive understanding of what radio can be and reflects my own understanding of what constitutes radio art. I would argue that Dan Lander in his *Selective Survey of Radio Art in Canada* has also written the most engaging and definitive definition of radio art which is closest to my understanding of the term.

> [the] artists' desire to reinvent the medium through deconstruction and or reconstruction, the use of dangerous contents and a refusal to produce works that easily fit into the categories of sanctioned broadcast. (Lander, 1994)

With this in mind any manifesto or definition is there to be challenged and is open to interpretation. As Ellen Waterman has written, radio art is understood as being political in that it

> represents a disruption of, and provides a creative alternative to, commercial, mainstream radio. Radio art heroically represents what the medium of radio has tragically failed to become. But theorists of radio art have often failed to interrogate the political implications of radio art itself. (Waterman, 2007, p.131)

One can argue there has been a lack of vigorous interrogation in many theoretical enquires on radio art. I hope to address this issue on a micro level via an analysis of the political implications of the works described in the following chapters of this research, concerning my case studies and my own radio art practice, which focuses on what analogue radio will become.

Clearly, the production of an artwork expressly for radio does imply a categorical difference from other sound art, and it is through Thorn's fifth (and final) question: 'Is experimental radio to be subsumed under audio art?' that I will consider how radio art has been and should be classified. As I have established during my previous explorations of possible answers to Richard Thorn's various questions, radio art, or as he called it experimental radio, is a form of audio art. The notion of 'being subsumed' infers something negative, Nicholas Zurbrugg (1989) approached this issue in a different way. Rather than understand radio art as a sub-genre, there is a sense that radio art – and the notion of the radiophonic – might actually be a wider category from which the whole 'vast interdisciplinary sonic realm' can be understood. Zurbrugg proposed that we should remember the role of broadcast in radio art and, further, think of radio art as something which represents a number of different approaches that can be arranged historically. For Zurbrugg, radio art might be both pure and hybrid as sound artists and contemporary composers like working with and between technologies and artistic genres.

This interdisciplinary nature of sound art means 'radio is just one potential source of material and distribution' he states what is 'broadcast by radio as "radio art"; which might appear on record or tape as "sound poetry", "audio art" or environmental "soundscape"; or which might contribute to certain modes of partially live, partially pre-recorded "performance art" … Given these differing creative and critical categories, it seems possible to conceive of radio art both as a pure art, or as part of a growing range of multi-media, hybrid art-forms.' (ibid,

1989). Zurbrugg cites three primary categories of 'sound'' creativity the first being 'pre-radiophonic' which he considers to be 'sound-art created in real time combines sound, music, speech, and image, colour and gesture.' The second category addresses a '"purely radiophonic" genre, created in studio time, sound art orchestrates sound, music and speech in an art exclusively for the ears.' His third category encompasses 'hybrid, "post-radiophonic" genre, sound art combines sound, music, speech, and image, colour and gesture in both real time and studio time in variously technological broadcasts, installations and performances' (ibid).

The classification of radio art under the audio arts umbrella could be interpreted as beneficial for the genre as it helps expand this closed circle to outreach to a wider audience; yet this expansion might simultaneously dilute its radical potency as a unique artistic practice. Thurmann-Jajes has made reference to the 'reciprocal' relationship between the forms which have been key to the growth of both radio art and sound art. Much audio art has been created in radio studios thus sound art pushed forward radio art practice. However it was not, as Thurmann-Jajes asserts, one of its 'preconditions' of existence; rather it furthered radio arts development and enabled the expansion of the field of sound art.

> Sound art and its nineteen-twenties beginnings formed one of the preconditions for radio art, having played a key role in the emergence and development of artists' treatment of radio. Sound art and radio have a reciprocal relationship. For one, broadcasted sound art constitutes an expanded sphere of radio art, and secondly, radio art, as a generic label for auditory and acoustic artistic works. (Thurmann-Jajes, p.398)

The development of affordable digital studios has meant that sound artists are no longer restricted by expensive public radio studios, a development which has been vital to the progression of sound and radio art. It could be argued that the internet is redefining radio and sound art by allowing artist-producers to work without external control, to work beyond borders, promoting diverse new media practices brought together by radio and sound art exhibitions, projects, festivals and events. According to Kersten Glandien, at the *Reinventing the Dial* symposium,

> Radio Art is what it always has been: audio art played on the radio, even if they use the traditional radio combination of text music and sound as soon as their context

> changes all works stand for themselves in the greater realm of audio art. (Glandien, 2009)

Artist Max Neuhaus certainly concurs that the term 'sound art' has been bandied about to such an extent that it has come to refer to any artwork incorporating sound, rendering the distinction meaningless through overuse and generalization. He argues rather that new terms and distinctions are necessary. This blurring of definition may also pose a similar problem for radio art, if the term becomes all-encompassing, such an 'anything goes' aesthetic can dilute the art form. An example of this might be seen in a type of broadcast that has become characteristic of Resonance FM, in which live improvisation performances have acquired the title of 'radio art' solely by virtue of their method of transmission.[53] The station defines itself as a radio art station, but such activity only concerns a fraction of its weekly output. Neuhaus has outlined the perils of such an open definition within the field of sound art.

> In short, 'Sound Art' seems to be a category, which can include anything, which has or makes sound and even, in some cases, things, which don't. Sometimes these 'Sound Art' exhibitions do not make the mistake of including absolutely everything under the sun, but then most often what is selected is simply music or a diverse collection of music with a new name. This is cowardly. … Much of what has been called 'Sound Art' has not much to do with either sound or art. (Neuhaus, 2000)

> With our now unbounded means to shape sound, there are, of course, an infinite number of possibilities to cultivate the vast potential of this medium in ways which do go beyond the limits of music and, in fact, to develop new art forms. When this becomes a reality, though, we will have to invent new words for them. 'Sound Art' has been consumed. (Neuhaus, 2000)

Taking onboard all the definitions outlined in this chapter, I would conclude that, from my perspective, radio art is not best understood when subsumed under the umbrella of sound art. Rather it is an art form in its own right that can be understood as a branch of acoustic media art, one which is concerned with the interplay of the relationships between the radio broadcast and its reception. Radio art has proven quite able to evade being absorbed as simply a distinct

---

[53] *Cling Radio* produced by Sarah Washington and Knut Aufermann. Although Resonance FM 2002-4, did some live experiments with the medium, they mostly featured live improvisation by guests in the studio.

branch of sound art. Indeed, quite the opposite is true as the broadcasting principle has not died but has reconfigured as Breitsameter contends earlier its greatest strength being used in combination with other online networks (Breitsameter, 2007, p.69). Breitsameter shares my own view that radio broadcasting will not disappear. Many predicted the 'death of radio', and they have been proved wrong by the resurgence of radio as an aesthetic practice, as a new way of engaging with broadcast-listener relationships and, most importantly, as a medium that has demonstrated the ability to attach itself to developments in new media. It is my sense that radio art will continue to transform and hybridise through these new relationships, ever defying formal categorisation. However, an issue that was raised by Barber in terms of audience reception and content is pertinent since radio art is on the whole limited to an elite community of interest

> Even when they have the instruments and institutions of mass communication at their disposal, artists still address a limited, usually elite audience. They have done little to confront some of the intrinsic problems of the media, especially those associated with the power dynamic. (Barber, 1990, p.131)

Little has changed in this aspect since 1990 and I would argue that the case of radio art in general having an elite audience is still correct. However, with regards to content, radio art has made some considerable advances and the most significant radio art work now engages within these expanded media dynamics. It has been important to scope out these definitions to see if they are still relevant. As I have discussed there are several compelling definitions of radio art, and each reflects the agency or artist who created it. Kogawa defines his 'radioart' as the site of personal performance; whereas a dominance in the field by visual artists comes from Thurmann-Jajes, based at the Westenburg Gallery; whilst crossmedia broadcaster Kunstradio have a more open and receptive definition, one which works across such issues. I would argue Robert Adrian's Kunstradio definition, although written in 1998, is still highly relevant and gives the most scope as it does not propose to be definitive yet still leaves the door open to new contemporary practice and new media forms in the light of new technology. However, crucially it makes clear that radio art should be conceptually-led and that this should be more important than sound quality, something I wish to return to in the light of my own practice and the case studies in the coming chapters. In the next chapter I will look in detail at my four case studies whose work was chosen as being exemplary of the five recurrent facets of radio arts practice I have identified: Appropriation, Transmission, Activism, Soundscape and

Performance. These categories are derived from the genealogy of experimental radiophonic practice set out in Chapter One, are centred on recorded interviews and will shed light on what I argue amount to consistent strands of practice over an extended period, that nevertheless adapt and take new forms in a shifting media ecology. Focusing on examples and individual case studies in Chapter Four will allow further understanding of consistent and new strands and modes of practice. I will also examine how radio art can now be understood in the light of radio's analogue heritage and its digital future as a form of post digital practice.

Chapter Four: Case Studies

In this chapter I want to engage with a range of current artists whose practice, if viewed as a whole, spans the last fifty years. Each can also be understood to represent shifts in the type of radio art works being produced at key moments in their development. This chapter will shed light on radio art's consistent strands and identify new modes of practice that have emerged over that period. I have subdivided the radio artists under investigation for the main investigation of their work into five particular subcategories of radio art practice:

Performance – Gregory Whitehead
Activist – LIGNA
Soundscape – Hildegard Westerkamp
Appropriation – Vicki Bennett
Transmission – Anna Friz

These subcategories represent five recurrent facets of experimental radio practice appropriate to my case studies, and should be considered a discursive device rather than an attempt towards implying formalities of 'genre.' As such the boundaries between these different facets of practice is to be considered porous. These categories also derived from the broad overview of the history of experimental practice I developed in Chapter One. *Experimental Performance/Drama* as a genre started with Hans Flesch's 1924 *Zauberei auf dem Sender: Versucheuner Rundfunkgroteske* ['Wizardry on the Air: Attempt at a Radio Grotesque'] the first *Hörspiel*, continuing with Orson Welles' *War of The Worlds* (1938) and is very present in Gregory Whitehead's contemporary work. *Activist* radio art appropriates the radio apparatus to negate or subvert the dominant ideologies reproduced through the medium; a good example of this are LIGNA, whose work grew out of the Free Radio movement with Germany's Freies Sender-Kombinat (FSK) and Italy's Radio Alice. The origins of *Soundscape* radio art can be drawn back to Walter Ruttmann's *Weekend* in 1930, the practice further developed by artists and producers in Community and public radio across Europe, most notably in Canada through the work of R Murray Schafer and Hildegard Westerkamp. *Appropriation* in radio art has its roots in the development of tape recording and its intrinsic possibilities for the manipulation and montage of concrete sounds, a technique pioneered by Pierre Schaefer, and the 'cut-up' text-sound experiments of Brion Gysin and William Burroughs, which was further developed as O-ton in Germany in the 1960s and has strongly influenced the work of Vicky Bennett and other plunderphonic radio artists. The *Transmission*

current within radio art practice evolved from intermedia, communications and network art, emerging with Max Neuhaus's *Public Supply* in 1966 and can be directly seen as an influence on the radio art work of a new generation of transmission artists such as radio artist, Anna Friz.

I have interviewed five radio artists who represent the five 'archetypes' of radio art practice as outlined above. However, I must stress that although these can been seen as distinctive primary traits there is crossover between each of the realms. I will also explore how each of my case studies appropriates and subverts media technologies, considering how they engage critically with institutionalised broadcasting practice through their incursions into the convergent media territory.

There are crossovers of interests between the case studies which will be investigated in due course. I will also take on board the effects of media convergence on radio practice and examine its implications though my own radio practice that has been inspired by my research has resulted in my *Switch Off* portfolio: a new series of works for radio. In the course of recorded interviews relating to their own practice I also asked the artists to consider several of Thorn's questions which provided a valuable structuring device in the previous chapter and will also reconsider questions raised earlier with regard to transmission in Chapter Two. I aim to reflect upon each artist's specific modes of practice to give understanding as to how differing spheres of radio art practice and strategies can achieve conceptual integrity. I also asked them to consider surround spacialisation for radio as this was initially of interest to me in the early stages of my research and through my practice to which I will dedicate the next, final, chapter.

Each of the artist interviews in this chapter that I conducted can be found on the pen drive I have supplied in the folder named 'case study interviews'.

4.1 Hildegard Westerkamp

Composer, educator and radio artist Hildegard Westerkamp was born in Osnabrück, Germany in 1946, emigrating to Canada in 1968 and going on to study music. Joining the World Soundscape Project, which evolved from a research group in the late 1960s under the direction of Canadian composer R. Murray Schafer at Simon Fraser University (SFU) in Vancouver, she worked alongside composers Barry Truax, Howard Bloomfield, Peter Huse and Bruce Davis. Westerkamp used the project to raise her concerns about noise and the

general state of the acoustic environment. Soundwalks were used by Westerkamp and the group as a way of discovering new sound environments.

> A soundwalk is any excursion whose main purpose is listening to the environment […] The intention of soundwalking is listening. Soundwalks can take place in the mall, at the doctor's office, down a neighbourhood street or at the bus stop. The focus on listening can make this a meditative activity, sometimes shared in silence with others. A soundwalk can be […] done alone or with a friend. (Westerkamp, 2007)

She completed a Master's thesis entitled 'Listening and Soundmaking: A Study of Music-as-Environment' and taught courses in Acoustics in the School of Communication at SFU until 1990. A founding member of the World Forum for Acoustic Ecology (WFAE) and the Canadian Association for Sound Ecology (CASE), her compositional works have been performed and broadcast worldwide, drawing on the acoustic environments of natural and urban soundscapes as well as human voices. She produced and presented *Sound Walking* on Vancouver Co-operative Radio (VCR) between 1978 and 79, a radio programme in which she recorded and experimented with broadcasting genre through soundscape, reclaiming the acoustic environment as a place for deep listening and developing soundscape into a form of radio art. Her interest in radio and sound was very influenced by her youth in Germany listening to German *Hörspiel* which she discussed with me in our interview:

> I listened to the radio all the time in the evenings; I would listen to *Hörspiel* particularly when I was quite young. I used to listen to these strange contemporary radios dramas that I didn't understand; there was something about the sound about them – these strange sonic atmospheres that fascinated me and it was all quite unconscious and I remembered that much later, when I was in Canada and working both with the World Soundscape Project and Vancouver Co-op radio. (Westerkamp, interview, 2005).

Her experience as part of the World Soundscape Project (WSP), and the group's ethos with regards to recording the environment fed into her approach as a producer at Vancouver community radio and was key to the format of her influential *Sound Walking* programmes,

> The combination of having worked with Murray Shaffer and the WSP and having learned recording on a completely different level there and then, having the radio station where you can actually broadcast all those environmental sounds you have

> been recording really got me into thinking about artistic ways of dealing with radio, and at the same time I was learning to deal with an electronic studio at Simon Fraser University as part of the WSP; the sonic research studio. We had fancy equipment there and a completely low tech situation at co-op radio, so it all developed at the same time. Somehow I got the idea of doing this one programme: Sound Walking, and ended up getting a Canada Council grant for it because the idea was rather novel at the time. (interview, 2005)

As Westerkamp discussed with me, the term radio art was not used at first in Canada; rather it developed over time, evolving its concepts and terms through the work that was being produced by artists through community radio. Westerkamp described a tension between founding groups at VCR between those who wanted to make conventional news radio and those who wanted to experiment, a situation which will remain familiar to participants in community stations worldwide.

> There was also a group who started the radio station who were very much into exploring the medium of radio as a way of artistic expression; a way of doing different things on radio, and in a way we developed it together. So there was a lot of discussion about the sound of radio and how we deal with all this fantastic new air time we had available at the time. This was 1975 and we were really thinking about radio design in a way; how do you design time on radio. But we were quite in opposition to the public affairs people on the station, so there were these two groups trying to deal with each other we were a bit at odds with each other at times. Co-op radio has always been a huge training ground for everybody; it still is – we absolutely did everything. (Westerkamp, interview, 2005)

Sound Walking is further discussed in her chapter 'The Soundscape On Radio' in Augaitis and Landers *Radio Rethink* (1994). Westerkamp recounts:

> It was my first attempt to create a program that listened to the communities of Greater Vancouver without attempting to report about them. It brought community soundscapes into listeners' homes and simultaneously extended listeners' ears into the soundscape of the community. (Westerkamp, 1994, pp.89–90)

The programme allowed her to experiment with the recording of diverse sound environments and how she communicated with the listener, engaging the listener and contextualizing the environmental recordings via quietly spoken, intimate commentary:

> Sort of like a sports announcer, I was the link between the audience and the radio station. But it was much more slow-motion than being a sports announcer, it was more contemplative, meditative, depending on which environment I was in … I wanted to communicate between place and listener … simply to broadcast environmental sound will not work for radio. (Westerkamp, interview, 1993, cited in McCartney, 1999, p. 155)

Using commentary to draw the listener further into the environment, her voice has a very seductive tone which underplays her focused, activist stance. Although she has noticed how her voice changed in different environments in a mall, factory, mountain top 'every environment would create a different vocal expression' (Westerkamp, interview, 2005). 'I got feedback years later as people remembered my voice … the pace was very slow; one listener wanted to call it sleep walking' (ibid).Writing about the programme in 1994 it is interesting that, outside the narrow band of artists' radio, the points she makes are still prescient, it was at the time rare to hear soundscapes on the radio:

> This type of radio making presents the familiar as though artificial, through a loudspeaker, second hand, framed in space and time, and therefore highlighted. Daily life is thus presented from a new acoustic angle. Such radio can assist us in listening to our everyday lives, to who we are as individuals and as a society. In some soundwalks I speak 'live' from the location of the recording directly to the listener. My voice forms the link to the listener who is not physically present. I speak about the sounds or soundscapes that are audible but also about aspects extraneous to the recording such as the weather, time of day or night, the feel of the place, the architecture, how the environment looks. (Westerkamp, 1994, p. 90)

The influence of these local community programmes has been amplified by her own expanded practice through performance, talks, installations and CD releases, engaging an international audience with her work, encouraging them to listen and engage differently with the medium. What is specifically notable is the impact her work has had on artists' radio production: most artists' radio stations embrace soundscape within their programming as it offers a radical

departure from formatted mainstream radio shows within which the dominant dynamic can be characterised by the experience of being talked to at high velocity. As producer Fenner points out,

> Radio people don't listen – they talk. There are too many deadlines, and there are never enough people to do the work we have to do. Time is a tyrant, and the world of a radio producer is noisy and chaotic. Consequently, the world we reflect back to the listener often reflects the chaos that we feel (Fenner, 2003).

Soundscape slows things down and is about considered listening, and as such the *Sound Walking* series presented a radical departure from dominant broadcasting trends in 1970s Canada. *Kits Beach Soundwalk* (1989) was a compositional extension of Westerkamp's original radio show, produced ten years earlier, and can be argued to present the start of her expanded radio practice, marking a point at which a new wave of radio artists crossed over into the gallery as discussed in Chapter Two. *Kits Beach Soundwalk* was installed in the Vancouver Art Gallery in 1989 and was released on CD as *Transformations* by Empreintes Digitales in 1996.

Kitsilano Beach, known as Kits Beach, was originally known in the native Indian language as Khahtsahlano. It is located in Vancouver and was the source of Westerkamp's most enigmatic work, which listens to the quiet shallow waters there and focuses in on the tiny barnacles; a sound walk which takes the listener into the natural world, which is highly radiophonic in tone and sound as we are transported via narration which takes us out of the city and into these tiny creatures' hyper sea space; a highly 'poetic' work that is evocative and provocative

> In the summer it is crowded with a display of 'meat salad' and ghetto blasters, indeed light years away from the silence experienced here not so long ago by the native Indians. The original recording on which this piece is based was made on a calm winter morning, when the quiet lapping of the water and the tiny sounds of barnacles feeding were audible before an acoustic backdrop of the throbbing city. In this soundwalk composition we leave the city behind eventually and explore instead the tiny acoustic realm of barnacles, the world of high frequencies, inner space and dreams. (Westerkamp, 1989a)

Westerkamp's voice links the listener to the sound environment, transmitting information about the place that would otherwise not be apparent to the listener: 'I speak about the sounds or soundscapes that are audible, but also about aspects extraneous to the recording, i.e.

commenting on the weather, time of day or night, the 'looks' of the place, the "architecture", about my experience of the place'. (Westerkamp, 1992)

She is explicit about her role and presence in the recording of each environment. Her narrative presence in the work creates a specific perspective for the listener, making explicit the recording apparatus and foregrounding the idea that her recordings represents 'one truth only about the environment, but in doing that, it hopes to create an awareness or at least a curiosity in the individual listener about what his or her own unique acoustic perspective might be' (ibid).

Westerkamp's experience of producing *Sound Walking* has featured in many of her talks, and performances at many international radio arts conferences, such as *Talking Back to Radio* in Poland in 2006, where I interviewed her. *Sound Walking* took Vancouver listeners to various locations in their immediate area, contextualizing them through on-air commentary and often playful if prescient juxtaposition of location and environmental issues. *Silent Night* [n.d.] presents the sounds of crowded shopping malls ringing with cash tills, exploring the use of Christmas song as cliché and marketing sound. This can be compared with the work of LIGNA, who I will be discussing later in this chapter since they use silent gesture instead of sound, where movements are instructed by radio in an effort to highlight the capitalist use of shared space. Another interesting programme by Westerkamp is *Under the Flightpath* (broadcast 1981), a sound document about life near the airport. Commissioned by the Hornby Collection, CBC Radio, Canada, it 'repeats the words of residents saying they don't hear the planes any more, with the roaring of jets overhead' (McCartney, 1999, p.209). This is, again, very relevant to contemporary issues of place, in this case highlighting a noise pollution issue that people have chosen to negotiate by literally de-tuning their ears to the noise, which in turn affects the recordings of the interviews and puts the listener firmly in the frame to hear the irony of participants' words. Westerkamp developed the practice of sound walking, first individually and later in groups, to share her approach to listening to the acoustic environment. The practice dates back to her work with the World Soundscape Project in the 1960s and '70s, but has also been embraced by international radio art (*Deep Wireless* and *Talking Back to Radio*) and sound and art events worldwide. Westerkamp is often a keynote speaker in recognition of her groundbreaking work in the field of sound walks, radio art, and radio and sound composition and production. Latterly, her radio output has been overtaken by her performance work and compositional CDs, yet her influence on radio artists remains

palpable, as evidenced in the increasing adoption of sound walks within the varied circuits of academia, sound, radio art and conferences. The open framework of the sound walk has lent this practice a particular adaptability to the interests of female practitioners. Her sound-walking work has been an influence on many women sound-walking practitioners, such as Corringham, Cardiff and Kubisch; women seem to dominate the field and '[t]his is unusual in electroacoustic sound making practices, which tend to be dominated by well-known male figures' (McCartney, 2012).

The gendered nature of audio and public space is an interesting area for discussion. Caroline Kraabel inadvertently played with this when she produced *Taking a Life for a Walk* which, as discussed earlier, using her role as a musician, mother and active broadcaster, explored live broadcast performance in open public space, embracing street and child interferences, rupturing the norms of broadcasting as well as inviting the listener to participate via the telephone. This contrasts with Westerkamp's sound walks which are prerecorded, performative and persuasive, two very different street views by artists for the radio which offer us varied and personal insights of public space by women.

Türen der Wahrnehmung [Doors of Perception] (1989) is a radio environment commissioned by ORF and Ars Electronica, Linz, Austria. It was a 30-minute-long broadcast into public urban places in Linz during the Ars Electronica Festival using audio from the artists' own field recordings and the European sound collection of the World Soundscape Project at Simon Fraser University in Vancouver.

> Radio can open many doors to new (and old) sound worlds. The creaking door of a radio drama takes us into a haunted place, a closet door perhaps into Lewis' 'Narnia', another door leads us into the wilderness, yet another to the train station, into the streets, near a creek, to another continent, or simply into the world of acoustic imagination. Indeed radio can listen into all corners of life. (Westerkamp, 1989b)

Composition is a consistent element in Westerkamp's work, from her *Sound Walking* programme to the more complex works. *Beneath the Forest Floor*, (1992) was a CBC Canadian radio commission concerned with the threatened forest environment. It was composed in the 1990s using natural sounds. Westerkamp's process involved finding recorded sounds which stood out and which could be used as sound objects by being slowed or sped up, filtered, then equalised; in essence pitch shifting. As Westerkamp states, something is revealed in slowing

down (interview, 2005): sounds can become instruments used as a structural motif, 'repetitive punctuation to introduce aspects of the forest to the listener' (ibid). One particular raven was slowed down and used as an instrument in this way, as were other birds, squirrels, water, wind, storm sounds and creaking trees, creating a compositional work in the spirit of *musique concrète*, colliding pitches. She recombined these abstracted sounds with the untreated recordings to invoke an 'inner forest' for the listener via a manipulated radiophonic soundscape created through an intuitive methodology which owes much to her interest in *musique concrète* and *Hörspiel*. She is interested in how the work takes on a completely different life as it is received by different listeners on different platforms, 'as you never know how radio is received. A completely controlled piece is completely altered through playback' (Westerkamp, interview, 2005). The CD has become a way of getting around this unpredictability and often 'the CD then becomes the broadcast medium' (ibid). This offers us another insight into this producer's mind, one which offers a far looser and more open term in the use of the notion of 'broadcast' for a completely different format. *Breaking News* (2001) was a three-minute piece commissioned by CBC Radio for its September 11 special programming, produced as a reaction against the focus on violent acts in news reports. It is a work that has no narration, and is seemingly about new life and the birth of Westerkamp's grandson, using his heartbeat and early sounds; however, it is Westerkamp's written context that gives the work its meaning. Her website outlines the work which attempts to bring to the fore the sounds of new life in this case the sound of a baby in the womb, a baby's vocal sounds, breastfeeding. 'These are sounds that we rarely hear in the media and yet they represent a most important driving force in our lives'(Westerkamp, 2001). Again, this work is about irony; in this case with reference to how the news of death is broadcast rather than that of life. In this case, new life is presented as a radio event, it is 'a dramatised soundscape' (ibid), and this really sums up her editing methods and body of work.

> Around the sounds of new life. It also wants to stir and unsettle the listener with its sounds, change the pace of regular radio broadcasting. It also wants to surprise. In other words it tries to do the same as the regular media. But it refuses to transmit feelings of helplessness and powerlessness. Instead it wants to energise, revitalise. It celebrates new life, love, human warmth and energy in the media framework of 'breaking news'(ibid).

Breaking News provides parallels to my own observations on the lack of the infant's voice in radio, which I have chosen to address though my own practice via the production of *Babble Station*, in which I work with young children's 'pre-speech' utterances as discussed in the next chapter.

New editing technology has its issues particularly when one considers the representation of natural soundscape. We discussed Westerkamp's thoughts on multichannel work

> I haven't worked in 5.1 but have worked in 8-channel, mostly through Barry Truax. […] I must admit I find the work in the 8-channel medium completely tedious but I like the results. I find it difficult; that kind of 360 degree composition is completely fascinating but the technology and programmes for it is completely cumbersome […] I am not someone who really enjoys working in technology that much and the computer medium… I just do it as I must and that's my medium, so if I am having to deal with the technology then it takes a lot of thinking and working so much, so it distracts from the sound content and the compositional content then I have a bit of a hard time with it. I do like the results […] I am feeling slightly at odds with it because I feel in the realm of soundscape composition now, what is now called a soundscape composition is often a piece that has the eight channel surround sound quality because it itself becomes an environment. I feel that the work we have done in the soundscape project that has to do with acoustic ecology and the thinking about the sound environment as a place of ecological concern gets lost in this process now. (Westerkamp, interview, 2005)

She agrees 'there is a huge contradiction in all this' (ibid) as she is composing for ideal environments rather than sharing real ones, which is in direct contrast with some networked transmission sound artists like Hill Kobayashi (2013). Kobayashi was discussed in Chapter Two in relation to transmission broadcast art and I will discuss him again in relation to my own work, *Sound Train*, in the next chapter, in terms of projects which seek to relaying natural sounds 'as they are'. Although now predominantly a composer concerned with acoustic ecology Westerkamp is most happy for her work to be disseminated via many outputs including radio which remains a central platform for her work. She has played a key part in many people's understanding of radio art in the presentation of soundscape on the medium, which has made her a vital case study for this research. She informed me that she does not often consciously compose her works for radio but knows when they will work there. She still

sees the huge potential for radio to exist outside of conventional formats – 'Let's do a whole week of ocean sounds' – and one can see her influence in the idea of slow radio taken up by Vicki Bennett whose station Radio Boredcast took this as its theme:

> We continue to be in the presence of radio… it is meaningful because it leaves us the space to imagine and go on to do other things (Westerkamp, interview, 2005).

Westerkamp's pioneering work helped to push forward new understandings of soundscape, and many international soundscape radio shows, such as *Framework*, have been developed in recent years, playing works of all durations. Westerkamp, as noted, is clearly influenced by *Hörspiel* and it is interesting to contemplate how her own work has crossed over into this genre and expanded through it into installation in her works with German and Austrian radio.

Her groundbreaking work in Canadian community radio links her to my next case study, Anna Friz, who is part of the next generation of Canadian sound and radio artists who emerged from collective community radio there.

4.2 Anna Friz

Anna Friz's practice continues the pioneering work of Dan Lander and Hildegard Westerkamp in redefining the parameters of radio art during the 1970s and 1980s, and represents a resurgence of radio art activity in Canada since the middle of the 1990s, from which Deep Wireless Festival in Toronto has developed, and helped to encourage, since its formation in 2002. [54] I came into contact with Friz and her live work when I saw her perform in Toronto at the Deep Wireless Festival, 2006; I was there to give a paper about radio art and experimental practice. She gave a dramatic and engaging live radio performance in character as a radio medium. Like Gregory Whitehead, it is her radio voice and live performance work that I found arresting and stimulating.

Friz's background in Canadian community and arts radio, like Westerkamp's, was of great interest. The Deep Wireless Festival allowed me to experience Canadian radio art and culture and find a wider cultural interest and diversity of radio art practice mostly absent in the UK. It was interesting to attend this celebration of radio art and transmission arts in 2006 and to be

---

[54] The *Deep Wireless* Radio Art Festival held in May every year in Toronto. A month-long celebration of Radio Art produced by New Adventures in Sound Art that includes performances, special radio broadcasts on CBC Radio, Radio Art Interventions broadcast throughout May, residencies at Charles Street Video, special radio art dissemination projects that get radio art on the radio, workshops and a conference. See Naisa, n.d.]

able to take part again in 2012 when, reflecting shifting parameters within the practice of radio art, it was renamed from *Radio Without Boundaries* to the *Trans X Transmission Art Symposium*, showing an alliance with more expanded forms of radio. The long and productive history of radio art in Canada, as described in Chapter Two, and in particular the important work of Dan Lander, has been a significant motivational factor on my own practice, and it is hard to imagine projects in the UK such as Resonance FM taking the shape they have in the absence of this influence. Radio and sound artist Anna Friz has worked almost in parallel, time-wise, with my own radio practice and research; however, she has been less impeded by the hurdle of simply getting on air that I encountered in the UK back in 1996, prior to the provision of community access radio. In Canada, community radio has been firmly established since the 1970s. Canada was 'recognized internationally by UNESCO [United Nations Educational, Scientific and Cultural Organization] as having one of the best models of community radio (along with Colombia, Australia and South Africa[55])' (Kahn, S.,2007)

Canada was an inspiration, motivation and case study for those like me in the CMA pushing for community radio in the UK, and prior to Ofcom's belated launch of the community radio tier in 2002, my broadcasting experience in FM radio broadcasting, like many of my peers, came from getting involved with Restricted Service Licences RSL's, festival radio and pirate stations, starting in 1998 with Resonance and other temporary RSLs such as the Big Chill FM festival radio, as well as producing jingles and electronic music broadcasts on pirate station Interference FM. Much of my formative time with the medium was spent rallying and lobbying for community radio in the UK, which finally came to fruition in 2002, as discussed in Chapter Two.

Friz describes her practice as 'self-reflexive radio', (Friz, n.d. website) as broadcast, installation or performance; radio is often the source, subject and medium of her works. When I met her subsequently at the Radio Revolten symposium in Halle, Germany she was clearly reaching out to an international network and audience, and she has subsequently been commissioned on national public radio and independent airwaves in more than fifteen countries. She completed a PhD at York University, Toronto in 2011 and it was with interest

---

[55] Radio Art practice occurring in North Africa through a series of workshops organised by online project Saout Radio, led by Younes Baba-Ali and Anna Raimando, aims to promote the research and practice of sound art in Maghreb, Africa and the Middle East. Saout Radio is a project for the creation of transmission spaces and exchange on international artistic platforms. It supports different and hybrid forms of sound productions, from soundscaping to radio art from artistic documentaries to experimental music. See Saout Radio.

that I read her thesis and noted our different perspectives on producing research practice outputs. Friz's research practice was led by the demands of producing works in response to international festival commissions, and her final output was shaped by specific funded briefs. This differs greatly from my own approach, which is to produce a series of work around an overarching theme through which to consider the possible futures of FM as a theoretical construct, to be examined through the body of work that comprises this doctoral thesis. While Friz's approach offered her funding to experiment, clear deadlines and greater international visibility, her research outputs were framed by external organisational needs, rather than her own. My strategy allowed me artistic freedom to have a running focus throughout the divergent works and allowed me to explore the theme over time from eight distinct perspectives and then offer them for commission if relevant. Brecht's concept of' transception' (Friz, 2009, pp.46–9) is central to the theoretical grounding of Friz's practice, which she considers a more fitting term than 'transmission art' in its intrinsic formulation of two-way forms of communication. She suggests

> transception as a viable third option. By privileging empathy and active listening as the missing link in Berthold Brecht's notion of transception, I propose an expanded phenomenology and ontology of wirelessness that offers alternate ways to theorize transmission, communication, and media culture: a becoming-radio. (Friz, 2011, p.6)

Within Anna Friz's nomadic practice, the terms transmission artist / sound artist /radio artist do not represent positions to be rigidly adhered to, but rather serve as tactical frameworks that offer context to different facets of her practice. Identifying herself as a transmission artist at the Wave Farm, while describing herself as a radio and sound artist in interview with me (2011), she suggested that such labels can work for funding purposes but are far too reductive and restrictive to the outcomes of her work. Transmission arts may be viewed as an umbrella term that accepts all work that falls into the broad spectrum of transmission, thus reflecting a media convergence which moves far beyond analogue technology to embrace new practice and forms of communication which draw attention to the flow between digital nodes in all realms. While recognising that 's' represents a significant attempt to address the convergence of new media art, locative media and radio art within contemporary practice, Friz's pragmatic relationship with the term corresponds with my own scepticism as to its usefulness in illuminating the particularity of contemporary radio art practice; these concerns are further discussed with case study Gregory Whitehead later in this chapter.

Although Friz, in common with most of my case studies and my own work, had been concerned with FM, radio art practice is not tied to FM, although much of its recent history and its artistic dialogues have been concerned with this. However, radio art, like radio itself, has grown into the digital world and is part of an expanded intermedia practice. It is, in Wolfgang Hagen's words, a 'transient, a place of transition' (1997). However, although the internet does not radiate from a central point as discussed in Chapter Three (Breitsameter, 2007) it has become a platform for radio art activity. Friz's divergent range of work across the multiplicity of radio art spheres singled her out as an ideal case study for this research. Friz's research is primarily focused on radio and has developed out of her live performances. Developing her radio art work within many contexts – live, recorded, installation, and performance – she reflects a growing trend amongst artists across the field to move away from an 'essentialist' media specificity to a more porous practice that evades disciplinary boundaries. As with my work and that of my other case studies, she has embraced divergent forms and moved towards an 'expanded radio art' (Grundmann, 2004). Elaborating on a theme she has explored since her early work, Friz stated in online dialogue with Whitehead (in the comments to a web article):

> Contrary to a lot of writing on radio, the radio voice, for me, is never disembodied, though human bodies are invisible or recede. Radio is about sharing the subjectivity of the 'here' with many places, and many bodies, be they human or non-human. 'Who's there?' becomes a multi-layered question – with the 'who' and the 'there' constantly in doubt, in the best way possible. (Whitehead, 2009)

Pirate Jenny (2000), an earlier work by Friz, can be seen as part of an ongoing thread in her early radio works that explore the fantastical, imaginary landscapes inside the radio. In it she explored the theme of 'little people who live inside the radio', reminding me of a children's cartoon I used to read in which little people worked inside a body. In this case Jenny is inside the radio, playing all the parts of a cast of small people living inside the radio. The work is playful about downsizing as Pirate Jenny is

> plotting mutiny and seeking contact with others of her kind when the ears turn off her radio at night. She sends out an SOS to the ether, and monitors the airwaves for a longed-for response. (ibid)

The work was staged as a pirate performance intervention on shifting frequencies and locations and was staged as a live theatre piece with radio sound; it was also aired as a 'takeover' of the airwaves late at night on campus and community radio as well as being broadcast as a composition on European public radio. *Joy Channel* (2007) is a science-fictional radio art work concerning the state of radio in North America 150 years in the future through the broadcasts of a fictive empathy channel. It was produced and developed by Friz with Emmanuel Madan from a live theatrical performance in Berlin in 2007 for Radio Tesla's *Radiovisionen: 250 years of radio*. *The Joy Channel* owes a lot to Philip K Dick in its sci-fi concept based in 2146 in New North America. *The Joy Channel* is a form of entertainment caused by 'transmitting emotions over radio frequencies [...] soon monopolized by corporate broadcasters. Hi-Zenith Inc' (Friz, 2009).

The work was subsequently developed as a 5.1 surround piece for a series of works curated by Elisabeth Zimmermann under the banner 'Intimate Spaces in 5.1' for broadcast on Kunstradio in 5.1 in May, 2008. It was played in a cinema as part of the audio art exhibition 'Aural Cinemas' at *Eikonos,* NFS, Bildkritik in Basel, Switzerland and subsequently released as a CD. I have explored this particular work through recorded interviews; I wanted to understand Friz's motivations to work in 5.1 and discuss its outcomes as well as gauge her thoughts on the future of radio art. Of all my case studies she is the only one to have produced radio art work in 5.1. Interestingly, at the time of interview in 2011 she had not heard the work in 5.1 via the radio or in any context outside the studio, and the process needed to do this via Kunstradio seems to be as unclear to the very producer of the work as to the intended audience. This has added to my own concerns regarding using this format.

Friz's latest works have been drawn from a project started in 2012 at the Äänen Lumo: Festival of New Sounds, around radio timekeeping, called *For the Time Being (2010)*. She would not work with 5.1 again until 2013, reporting on her website that she was working on a new 5.1 work on radio timekeeping projects, which are yet to be finished or broadcast at time of writing. Her latest work *Radio Telegraph* (2013) is interesting as it embraces voice as code. My earlier work, *Numbers* (2012), used voices to broadcast encrypted code from the Occupy movement, and sound artist Jane Pitt made Morse-code sea shanties as part of her *Radio Zound* (2013) project on the Medway. Friz's *Radio Telegraph (2013)* was broadcast as part of a two-month residency at the Skaftfell Center for Visual Art in October, 2013.The work consists of a recorded beacon which signals the descent of the sun into the northern night, using spoken

Morse code, electronics, and shortwave signals. It was simulcast by a private low-watt transmitter in Seyðisfjörður (on 107.1 FM) and by Radius Chicago (88.9 FM) at sundown in Seyðisfjörður over five days. The town of Seyðisfjörður is the site of the first telegraph cable connection made between Iceland and Europe in 1906. The artist invited the audience 'to contemplate the acoustic and electro-magnetic landscape of Seyðisfjörður at dusk' (Whitehead, 2013a). The work grew from her desire to cultivate daily habits so as 'to deepen a creative engagement with place' (ibid). The premise of the work is a sound beacon that informs the listener 'that long nights are coming, but we will not be alone. It's the basic promise and premise of a signal, however faulty, asking and declaring: who's there? I am here' (ibid).

My own fictional work *Lone Broadcast* (2012) is a trace station which is about an unheard distress broadcast from a lone women at sea, discussed in the next chapter. However, in contrast to *Radio Telegraph*, I did not want to reassure the listener; the work did not offer universal truth nor meditation or comfort but loss and despair and worked in contrast to *Radio Mind*, another part of my *Switch Off* suite which offered a beacon of hope via spiritual means through the radio. In an interview with Gregory Whitehead (Whitehead, 2013a) Friz discusses the use of her voice and her play on ambiguity throughout her work. Her radio voice is often slow, drawn out, cool, calm, unemotional, highly 'radio'; she has a professional sound to her tone on air and she sounds relaxed and at home within the space; a 'natural' radio performer, a voice which fits a 'neutral' female voice engaging without baggage. Her live delivery often seems word perfect and she seems to lead the listener gently into her works. Like Westerkamp, both women have a shared Canadian tone, voices that are not forceful but persuasive, but unlike Westerkamp, a sense of place is not described or made clear but entirely left to the audience's imagination.

> I tend to make a familiar voice ambiguous by blurring the circumstances of its origin and placement. Here by doing verbal Morse code I hope to blur the roles of operator and machine, while I've tried to introduce a more organic sensibility into the landscape of signals and oscillators in which I've set the Morse code beacon. How far is far away, in space and time? The lovely thing about radio is that a voice can be so present and so unknown at the same time. (Whitehead, interview with Anna Friz, 2013a)

Moving to her installation work, *Respire* was first installed at Radio Revolten in Halle, Germany (2006). The work played the sounds of 'breath, static, and transduced radio transmission interference patter'. By the time of its subsequent installation at LXLisbon (2008) it had grown into a work for sixty-five radios and four transmitters. *Respire* (2008) utilises the compositional aspects of breathing, intake and expulsion, sounds which are mainly absent from professional radio. The radio transmitters and proximity of the radios caused interference in the broadcast installation, above the listeners' heads, as Friz describes how the sounds:

> seep up through the welter of signals as the receivers play and emit their own oscillating frequencies. This milieu of harmonic interference and uneasy night time respirations reveals the invisible contours of the radio landscape that surrounds us. (Friz, 2009)

This was radio as self-generating instrument, something Friz has written about in the *Journal of Performance and Art*, stating how her practice:

> has incorporated radio as instrument on multiple levels where radio is the source, subject, and medium of the work. My more recent performance and installation pieces with multiple low-watt FM transmitters and an array of between 12 and 75 receivers (*La vida secreta de la radio*, 2005; *You are far from us*, 2006–2008; *Somewhere a voice is calling*, 2007, *Respire*, 2008) have resulted from a gradual process of introducing less rather than more stability into my interactions with radio waves. (2009)

I agree with Friz from my own experience that micro transmitters are highly unpredictable way of legally broadcasting in a gallery setting. Working with micro transmitters has proven at times difficult to control, particularly where there are three or more in use. Loss of control – for instance through an mp3 playout going out of sync, as used in my *Radio Recall, Babble Station* and *Numbers* installations, has at times made for some very pleasing and interesting Duchampian, chance compositional broadcasts of the works which have created unique and unrepeatable live performances. On other occasions, the complete knockout of the transmitters has been most uncomfortable listening, particularly in the early stages of *Radio Recall* and *Babble Station*, which were produced on-site without the vigorous testing to avoid sudden playback issues which would knock out the transmitters, causing unwanted white noise

and sending visitors fleeing from the gallery. These mishaps fit perhaps too literally with Kunstradio's manifesto declaration that '[t]he radio artist knows that there is no way to control the experience of a radio work (Adrian, 1998).This has made me decide to use a more honed set-up in the future, using a computer soundcard with a channel for each transmitter if needed. However, it highlights the medium's instability and impermanence, that all radio can be taken off air at any time as was the fate, discussed in Chapter One, of Polish artists Bruszewski and Kahlen's artist radio station *Radio Ruins of Art* (Radio Ruine der Künste, Berlin, 1988 to 1993) that transmitted an infinite conversation between a woman and a man about infinity composed of randomly selected quotations from the writings of known philosophers. At the *Talking Back to Radio* symposium, 2005, Bruszewski emphasised that he had worked from the premise that this conversation about infinity would go on forever.

> I considered installing a solar power supply system, so that the radio wouldn't fall silent even when the Civilization-Power plant would cease existing as a result of some sort of cataclysm. (Bruszewski)

Following Bruszewski's death, the impermanent nature of the internet has again been highlighted by the loss of this important artist's website in 2013, demonstrating the value of maintaining physical archives. Archiving conventional radio is still something the British Library is poor at doing, as was discussed at the CMA meeting there on Art Radio and Archiving (2013). Thus it is important therefore that all works discussed in this study are archived there as a future project. My next case study, LIGNA, work across radio medias and like all my case studies they are concerned with radio as live event. What marks them out, however, is that for LIGNA sound is secondary to live interaction and participation with an audience large or small during broadcast. They embrace radio as a site of action.

4.3 LIGNA

LIGNA is a collective of three artists, founded in 1997 by media theorists and radio artists Ole Frahm, Michael Hüners and Torsten Michaelsen. The trio work for the Freies Sender-Kombinat [Free Broadcaster Combine] (FSK), a long-running non-profit local radio project in Hamburg. They see radio as a place to demonstrate in a scattered and non-confrontational way, and while aspects of their activity can be seen as a precursor to 'flash mobs' the scope of their work extends more fundamentally into questions of the boundaries of public and private space and how broadcasting networks can intervene within the politics of everyday life. The

group have used the radio medium to explore this in a number of ways, setting up experimental situations which exploit the possibilities of radio that have always been inherent to the medium but have been forgotten or side-lined. Producers of several 'radio ballets', the first of which took place in 2002, and a number of mobile phone projects, a common thread through their work is an engagement with spontaneous public gatherings and movements in specific locations, dealing with notions of controlled space and movement; the group have used heavily regulated public meeting spaces such as train stations or shopping malls to stage their interventions.

Live radio broadcasts have been deployed as a way of bringing people together to reclaim public space using co-ordinated and dispersed action and gesture in order to question the boundaries of permitted behaviour within these tightly regulated spaces. LIGNA's background is in Free Radio in Germany, as described in Chapter Two, and their work is closely associated with leftwing station FSK in Hamburg, which has a strong affinity to the 'transversal' activist radio of Italian free radio, Radio Alice, and collective 'art-activist' experiments such as the Luther Blissett project. They use cheap radio technology to allow two-way participation and use radio as a performance event as they see radio as a dispersed social site. Torsten and Ole explained to me in an interview in 2005 how they wanted to move away from the more dogmatic forms of leftwing radio on FSK, towards a practice that used the infrastructure and social reach of radio to delineate and put into practice a radical politics of space and dispersed collectivity. As such they clearly define themselves specifically as radio artists and not sound artists, something they wished to make clear in the interview that I conducted whilst taking part in a week-long workshop with them in Wroclaw, Poland. Frahm defines radio art as one that 'deals with the situation radio produces' (LIGNA interview, 2005).

LIGNA outlined to me how they organised their first radio ballet in Hamburg's main railway station in 2002, which saw two hundred FSK listeners congregated in the station equipped with small radios and headphones, carrying out radio-led actions as a dispersed mass. As a privatised space under constant video surveillance and security guard control, the site was policed to detect people who contravene the strict regulations of the space and to remove offenders. The ballet intervention was a response to a legal move which had limited access to the station, effectively banning unwanted homeless and drug users in the space. Specifically addressing this act of 'social cleansing', the broadcast led performers through a codified choreography that used simple gestures referencing the types of activity that would contravene

the site's regulations, such as holding out hands as if begging for money and sitting down on the platform. The event rendered the security apparatus uncertain of how to constrain a situation which was at once a mass intervention, and yet dispersed through the space and uncertain as to its intentions. And as Ole stated 'the performance helped the excluded gestures to assume the nature of a nightmarish reappearance – everywhere at the same time' (ibid).

The first radio ballets were documented by Wanda Wieczorek in an article in 2002, which described the action as being a scattering rather than a public gathering.

> Unlike a demonstration, its effect is not the result of closing ranks, but rather of a good distribution in the space. Although the radio demo shares with its elder sister the necessity of collective/concerted action, the law and order policy procedures are not prepared for this kind of articulation. The scattering does not even come into conflict with the development rights of the consumers and business people, to which court decisions for a prohibition usually refer. Thus the police on duty remark somewhat helplessly on the volume of the radios and give a few poorly founded orders to move on. Even the wording of the noise protection regulations does not allow for plausibly founded interventions: 'Radio and television appliances … may only be used in such a way that other parties are not significantly disturbed.' Most of the passers-by appeared to be more amused than disturbed. (Wieczorek, 2002)

Frahm has stated the aim of the 'radio ballet is not to produce consciousness but to rethinking the ideological apparatus that produces subjectivity '(Frahm, 2011, p.88). LIGNA tested the strategy of scattering for the first time in Hamburg main train station, broadcasting from a studio in the Kunsthalle the set of movement instructions such as 'wave good-bye to the departing train of the revolution' that were carried out by participants equipped with radios and headphones. For Wieczorek (2002), this transference of meaning via using forbidden gestures only partially worked, as the majority of passersby were absorbed by with the silent gestures but were unable to 'interpret the symbolism of the movements'(ibid).

I attended a five-day workshop with LIGNA at Wroclaw University, Poland in December 2005. It was organised by Radio Copernicus, a pan-Polish/German radio arts project broadcasting over six months and part of a symposium called *Talking Back to Radio* which included radio-related installations, interventions, internet performances and concerts. This

was a perfect opportunity to become a participant-observer of LIGNA's work by taking part in their workshop and in two live radio actions. LIGNA were commissioned to perform a new work; entitled 'The Future of Radio Art' (2005), a 55-minute radio play which functioned simultaneously as a discourse about radio art and as a performative intervention in public space. The radio play (in German, English and Polish) examined 'radio' in its social, temporal and topographical aspects, addressing how an understanding of radio is dependent upon an apprehension of the dispersed multiplicity of situations in which listening occurs. The piece was broadcast in public on Wroclaw's main square on 6th December, 2005 and I took part in relaying the work, with others, on portable radios across the snow-coated streets of the city. The programme was diffusely audible in the surrounding area and thereby altered the sonic situation on the streets. Around thirty of us carried large portable radios broadcasting the play in real time. *The Future of Radio Art* was about sharing a dispersed voice as heard in the broadcast that could not be reduced to anything else and cannot be grasped in the logic of capitalism.

> In radio we have a means of media which was developed inside of capitalism that is really transgressing the borders of capitalist logic. I think radio art should always deal with this transgression. (LIGNA, interview, 2005)

Taking the idea from a short text from 1929 by Gunter Stern called *Spook and Radio*, LIGNA aimed to make explicit the phantom elements of radio, and discussed the uncanny qualities inherent to its spatiality. It is at once a mass medium, yet it is generally experienced intimately and as such it breaches the dichotomy of public and private space. It is experienced simultaneously in a multiplicity of individual spaces and contexts. We discussed their work and ideas, in particular the role of radio art as intervention, creating uncontrollable situations and unpredictable productions as Frahm noted in the following terms

> We are working on the question on how to construct situations with radio … We are trying to find models for practices with radio which regard the distribution of radio. (ibid,2005)

Later, in my recorded interview, they talked about wanting to create a discourse about radio art as a performative space and how it could be used as an intervention in situations. Ole Frahm argues that the radio art of the future should intervene in situations – 'it's dirty' he

argues – and it shouldn't stress communication as 'radio is nothing to do with communication, it's to do with distribution.'

> Radio art is always dirty which is a kind of a quotation of Radio Alice, they were looking for a dirty language for radio I think they thought of thought of radio as a dirty medium. (ibid,2005)

The aforementioned uncanny and 'dirty' side of radio, as described by LIGNA, is something I have embraced within my own DIY production ethic, albeit from a very different angle. In the production of all of my later trace stations, I have moved away from producing highly polished works in the studio towards a methodology that draws material from live actions and repurposes it with reflexive reference to its original context. An interactive feedback radio action entitled *Feedback Fiesta* (2008) was a live broadcast which came directly out of my time with LIGNA and my understanding of Max Neuhaus' works. For two hours live on Radio Reverb, Brighton I asked listeners to call in and make feedback with me via their radios, going directly against established good practice (where callers to radio phone-in stations are routinely told to switch off their own radios before speaking). This was my first live action which played against the expect conventions of live broadcasting and led me towards the *Switch Off* project outlined in the last chapter of this thesis, devoted to my own practice.

You can listen the broadcast on the pen drive. It is located in the 'SWITCHOFF' folder in the file, It's called 'Additional Practice' titled '1. Feedback Fiesta (2008)'.

LIGNA described their actions in shopping malls and train stations as necessary to highlight the experience of the privatisation of public space via the conceptual separation of public and non-public, where the only relationship possible in these places is that of seller and buyer another usages are prohibited. The space itself is commodified.

> Just as with the production sphere, these spaces are not regarded as having been appropriated by the jealous egotism of those who want to make more money with them. It's the other way round; the interest of shop-owners is universalized as the interest of everybody: if they sell more goods, everybody will get wealthier. (Interview, 2005)

Ole Frahm (2011) has considered how shopping malls produce a certain quiescent subjectivity and how performance intervenes in bodily regimes that govern private property, inviting the

public to consume. Looking at architect Victor Gruen's early drafts for what is considered to be the first mall, Frahm examines how conformist behaviour is spatialised within this mode of architecture, examining how space is instrumentalised to inculcate particular modes of circulation and movement and, further, how this mode of compliance is itself subjectivised.

> [T]he dispersed listeners are as invisible as the FM Radio Waves it is when they act together via radio instruction that they become visible as a group …The communion of consumption is transformed in the invisible conspiracy of performers who never come together as a community but act dispersed and synchronous at the same time. (Frahm, 2011, pp. 87–88)

As framed by Frahm, these provisional, temporary and dispersed collectivities could be considered with reference to Italian philosopher Giorgio Agamben's (1993) related notions of 'whatever singularity' and the 'coming community'. As a possible mode of collective articulation that is provisional and which evades the traditional notions of 'community', the 'coming community' provides a framework through which to conceptualise a tactical collective opposition to the ascribed roles of worker and consumer particular to the terrain of 'post-Fordism' through the enactment of provisional social bonds. Through consumer capitalism and its radical reshaping of identity, such a form, argues Agamben, produces the potential for new forms of collectivity that do not rely upon the conditions of belonging and do not rest upon categories of identity. If, as Alex Williams (2010) suggests, a sustainable and effective opposition to contemporary consumer capitalism is enacted, the construction of new forms of solidarity can emerge from the dominance of finance capital and be capable of subverting the pervasive injunction to flexibility, then LIGNA's radio ballets could be considered as a nascent example of just such a tactical media practice in its enactment of a collective subject that is able to by turns flow, shift and disperse or harden into fixed opposition as is tactically expedient.

LIGNA's practice specifically addresses the materiality of analogue radio through using its primary characteristic – the power to disperse sound at a given time across space – unleashing this technological uncanny and making it tangible within the social sphere through performance. LIGNA's approach to technology can be considered both materialist and pragmatic, tactically combining everyday digital and analogue media from a point of critical engagement with the potential latent within to critique their normative usage and by proxy the

impoverishment of everyday life by the consumer capitalist currents of which they are but the end product.

They offered me a useful critical perspective from which to evaluate my own plans to use surround sound: their stance was that they were not adverse to new technology, but the ready availability of simple and cheap equipment is of primary importance: i.e. cheap portable radios which they can afford to give away within the limitations of art-funding budgets. They never make radio art for home situations but for mobile interventions and as such they prefer to work in real-time situations and to use radio as a live event, marking the merits and demerits of surround sound technologies as somewhere outside their sphere. However, email and the social media played a huge part in mobilising the hundreds of people involved in the radio ballet, as did the proliferation of mobile phones.

Participation is key to their work. *Music Box* is LIGNA's weekly radio show on FSK, where the roles are reversed and listeners call in and play records down the phone line. *Dial The Signals* (2003), was a live radio installation using 144 mobile phones installed in the Gallery of Contemporary Art at the Hamburger Kunsthallein. Listeners could call during a 12-hour performance triggering composed ringtones by Hamburg sound artist Jens Roehm. Four thousand callers took part and the ringtones combined into a collectively improvised musical work. The piece could be considered a descendent of Max Neuhaus' pioneering 'proto-transmission art' use of the US telephone network as a musical instrument in *Radio Network* (1977), and a reflection of John Cage's open compositional strategy such as in the work in Bremen discussed earlier.

Mostly, LIGNA's work has a strong political dimension, voicing though interaction concerns which have been formed by capitalist culture and the colonisation of space to promote consumerism and push out other uses. Having staged over 50 radio art actions (radio ballets, plays, interactions) they documented their work in a book LIGNA: *AN ALLE! Radio Theater Stadt* (Frahm et al, 2011). Patrick Primavesi notes in his foreword that their actions are works in progress 'repeatedly re-tested and changed'. This can been seen in a new radio ballet project entitled *Air Time* which was commissioned for the Transeuropa Festival (2013).[56] The

[56]The *Transeuropa Festival* for art, culture and politics. Organized by European Alternatives, 4th-27th October 2013. The festival took place in Amsterdam, Barcelona, Berlin, Belgrade, Bologna, Bratislava, Cluj-Napoca, London, Dublin, Paris, Prague, Sofia, Warsaw with the aim to 'IMAGINE, DEMAND and ENACT an alternative Europe'. See Transeuropa Festival.

work was produced by nine artists under the direction of LIGNA; it asked listeners/actors to perform a set of tasks while listening to a reflection on what is 'the collective'. It was transmitted in ten European countries simultaneously in public spaces and happened in thirteen cities and aired on London's Resonance FM as a:

> gesture to open up a new, shared space between participants despite physical distance, a reflection on the meaning and functioning of a community. It is open to all and participative. It is as easy as downloading a sound file and showing up at the meeting points 30 minutes before the performance start. (2013,Transeuropa Festival Website) [57]

My own participation in the event was done via computer, downloading the audio and tuning into the streamed broadcast, following its traces in social media, observing the event with some critical distance as it unfolded. Photos of the events posted on its Facebook pages show that the Rome event was stopped by police and that in London there were approximately ten people taking part in Parliament Square. The purpose of *Air Time* was discussed in advance via the *Artribune* website, stating it reflected 'the significance of the current protest movements, and the possible forms of collective action at the global level through interaction with other participants and the public space ' (Crestvolant, 2012). However, the *Air Time* action highlights that it takes more than social media to bring vast numbers together and unlike the success of the Occupy movement, the project did not catch the wider collective imagination. While, perhaps, this was not its intention, the work can be argued to have lost some of the radical edge of direct protest of LIGNA's earlier radio ballets, which have used social media more successfully in the past as earlier accounts and footage of the radio ballets demonstrate. This may be due to the ambition and scale of the project.[58] There were Facebook pages for each location where photos were uploaded. Although they failed to unite many people on the

---

[57] Resonance FM had advertised the wrong meeting point; this may or may not have been done to avoid the legal repercussions of being seen to promote an 'illegal gathering', as permissions need to be granted for such events in central London

[58] The fact it happened across ten countries was a feat in itself and it is an interesting development. The organisers' website stated the audio for the radio ballet had been downloaded by 1000 people but only 227 people stated they would be attending the events across the 10 countries. See Air Time.
]

ground across Europe, they did achieve a multi-site participatory radio action across countries.[59]

LIGNA are about direct action and creating a shared community that can come together for action. 'LIGNA defines its performances as a 'distraction'; LIGNA does not aim to inspire its listeners' imaginations by the auditory representation of pictures, but they are able to achieve a temporary ability to act through scattered but collective listening' (Conrads, 2011). My next case study is another first-generation radio artist, whose concerns for community, humanity and radio are embraced through crafted dramatic device.

4.4 Gregory Whitehead

Gregory Whitehead is a writer, audio artist, and radio drama producer with over a hundred radio features, voice works, and 'earplays' to his credit. His background in improvised music, experimental theatre and mail and tape art has led him to produce playful and provocative radiophonic works that push the boundaries of radio drama. He is part of the first generation of self-defined radio artists, having co-edited the seminal anthology *Wireless Imagination: Sound, Radio and the Avant-Garde: A Selective History of Audio and Radio Art* (1994), which was crucial in defining the parameters of radio art in the mid 1990s. As a first-generation radio artist he has been able to take advantage of public radio as a broadcast platform and through this he has created a significant and influential body of work. His production credits include: *Dead Letters* (1985), *Pressures of The Unspeakable* (Prix Italia, 1992), and New American Radio commissions: *Lovely Ways to Burn* (1990), *Shake, Rattle and Roll* (1993) (BBC Award, Prix Futura, 1993) and *The Thing About Bugs* (1994), winning a Sony Gold award for his production of Normi Noel's *No Background Music* for BBC Radio Four (2005).

> I still believe in the power of radio to create community, even for an hour or two, and to feed the imagination with nutrients not offered elsewhere, and I believe that offering such a feast remains a worthy mission for public broadcasting in particular. Diversity is always desirable, and that includes poetic and aesthetic diversity. When

[59] I noted the following interactions in the following cities based on numbers in photographs taken at each of the events during the performance. Dam Square in Amsterdam seemed the most organised of the events with 48 participants. Alexanderplatz in Berlin, 20 people taking part. Stazione Tiburtina (galleria commerciale) in Rome stopped – 15 people. Nicolaus Copernicus Monument Square in Warsaw – 11 people. Piata Unirii in Cluj-Napoca in Romania, 18 participants gathered. Ivan Vazov National Theatre Square in Sofia, Forat De la Vergonya in Barcelona; Place Du Trocadero in Paris and Vaclavske Namesiti in Prague did not document the event.

> we drop these qualities to the bottom of the pecking order, we crush our capacity to imagine a viable future for our mysteries. (Whitehead, 2011a)

It really begins with this uncanny nature of the voice severed from the body which is so fundamental to the mythos of radio – which has some guts to it the power of the voice which is so convincingly carnal yet it is in the air it becomes a kind of ubiquitous trace. A running thread throughout Whitehead's practice is the intrinsic uncanniness of radio, as he elaborated in interview with me at the Wave Farm, of which he is a trustee, in October, 2012

> Spookiness of the disembodied voice is what attracted me to radio and I think is fundamental to my radio philosophy, my radio practice over the years [...] yet it's a very carnal very embodied kind of trace that is why for example dictators favour radio; they can communicate their physicality in such a convincing way. In the early years of the medium that attractiveness to power was very clear with often tragic historical results. (Whitehead, interview, 2012)

No Backgound Music (2005) is a single-voice drama played by Sigourney Weaver using a soft voice technique often employed by Whitehead in his dramas and ear plays to create an 'inhabitation' for the listener. This use of a gentle voice to manipulate the audience bears comparison to Hildegard Westerkamp's use of soft voice techniques to seduce the listener into an active apprehension of the sound environment. It is also notably used in the narration of Whitehead's *The Loneliest Road* (2003) and *The Day King Hammer Fell From The Sky* (2008). Whitehead says:

> I love to infiltrate these seemingly very familiar other types of forms and voices and take them to completely other places. People often say 'Gregory, is that a sort of hoax', and I say 'absolutely not': it is more of an inhabitation of a familiar space as a premise to bring listeners on a different kind of journey that they might not be willing to take unless the form were very familiar, and I find the listeners are willing to take ideational or theosophical risks if you give them a break on the form. It's when you invite people into a highly experimental form which is quite forbidding, to stay out and ask them to come on a journey with you yet the form is so difficult it's impossible to navigate. I like to use familiar forms and blow them up in a way from the inside out, and in a very gentle way. I like to have a more gentle relationship with the audience rather than an assault of the avant garde. A lot of my voices are very close

> and intimate and give the listener the kind of relaxed space [in which] they can journey. (Interview, 2012a)

This soft voice is adopted by the 'scream doctor' from the Institute for Screamscape Studies in Whitehead's seminal 1991 work *Pressures of the Unspeakable*, produced franc's Listening Room in Australia; an important work of participatory radio art, in which listeners were asked to leave their screams on an answerphone to be analysed by the 'doctor'. Reminiscent of Robert Desnos surrealist radio programme *La Clef des Songes, The Key of Dreams* (1938–9) (mentioned in Chapter One) where listeners submitted their dreams for interpretation and dramatisation, this takes a further step into the absurd, by encouraging primal acting out live on air, and the listener is complicit in the performance, either wittingly or unwittingly. The adoption of a familiar radio format and the use of a 'soft voice' register to signify benign authority seduces the listener and the active participants who contribute their screams in complicity with the absurd and disturbing unfolding spectacle, the *sotto voce* register of the analyst contrasting with and thereby accentuating the horror of the screams.

First hearing this programme (and subsequently sampling it in 1997 to make jingles for Resonance in preparation for its first broadcasts) were personally significant early steps on my journey into radio art practice. Drama employing documentary form is an often-used technique heard throughout many of Whitehead's plays and works, which lend them a certain 'believability'. His hybrid fictional documentary *Project Jericho* (2004), produced in collaboration with producer Mark Burman for BBC Radio Four, 'neatly wraps the real and the fictitious history of sonic warfare into a hyperstitional package' (Goodman, 2010, p16) using in this case several soft voices presenting fake technological meta-language interspersed with biblical text. The manipulation of professional language in Whitehead's scripts generates performances which seduce and often fool the listener. His use of spoof techniques have been a constant theme in much of his work, using the faux meta-language of the professional specialist. This drama doc serves to highlight an inbuilt US military ideology founded on biblical allegory. Taking sonic warfare to its mythical start, through a biblical retelling of the horns of Jericho, we are taken back to the future to new weapons in the pursuit of old doctrine. This is uncomfortable listening, a complex critique of American war values.

The Bone Trade (1999), part of the BBC Radio Four Talk to Sleep series of four fifteen-minute plays was produced with Goldhawk Productions, who described them as 'late night 'imaginary' interviews'. This is a 'journey into the murky market and morality of Walter

Sculley, a successful dealer in "corporeal memorabilia"; as the fictional Sculley explains, "[t]hink about how excited people get about owning an autograph. Then imagine the excitement if you could own the hand that wrote the autograph'" (Whitehead, 2003).The work also became a short film directed by John Dryden; its script was published in *Cabinet* magazine and became a mixed media installation at MASS Moca Gallery (2003) – although, interestingly, the radio play was not mentioned on the installation information on the gallery site.

Public radio has allowed Whitehead to challenge drama conventions and produced some important radio art work and drama. Although his most recent BBC Radio Four dramas have moved towards more conventional narrative based adaptations *No Backgound Music (2005)* adapted a stage play by Normi Noel, based on poems, letters and conversations with a former Vietnam field nurse, Penny Rock. *Four Trees Down from Ponte Sisto* (2012) drew from Sharon Charde's poetry and accounts of the death of her son. These moving dramas reflect the needs of the BBC's narrative-led commissioning system and at the same time challenge its conventions by producing distinctive work. However, Lance Dann's assertion that the BBC is adverse to taking risks, as discussed in Chapter One still holds up, as Whitehead is more the exception than the rule. ABC's Soundproof (2014) dedicated a programme to his experimental work, which seem inconceivable at the BBC at present. It is notable Whitehead's recent experimental works have been made outside of the BBC, independent commissions such as *Bravo Echo* (2013) for the Cast Gallery Australia and broadcast on nine stations. *In the End* (2013) made for Silence Radio in Brussels and *Crazy Horse One Eight* (2014) commissioned by Radio Arts, which I run and will discuss in detail in the next chapter, was broadcast on seven arts stations and exhibited at the Beaney Gallery, Canterbury. Such independent commissions indicate a growing interest in radio art not being reflected by the BBC.

Whitehead's earliest works, such as *If A Voice Like Then What* (1984–5), bear comparison to John Oswald's contemporaneous plunderphonic works (Oswald's pop-cultural audio montages were first distributed via the Mail Art tape network and were heavily influenced by William Burroughs' cut-up technique). Martin Spinelli suggests that this work in particular 'forces one to focus on the mediated nature of the radio voice' (Spinelli, 2006, p.205):

> It begins with an actor using techniques familiar to radio commercial voice-over who reads a script written in the familiar create-problem-propose-remedy rhetoric of radio advertising. The actor asks if the listener suffers from 'voice problems' and if 'to talk

> is a struggle'. But at that moment the expectation for a testimonial is thwarted by a highly processed montage of Whitehead's own voice as a presumable 'sufferer'. Phrases are stuttered, looped, interrupted, juxtaposed, distorted and finely spliced. Here a digital aesthetic has been used to rupture the cultivated expectation of a particularly common radio linguistic form. (ibid)

In this sense Whitehead's early work, in its sonic signature, bears immediate comparison to the plunderphonic' audio montages of John Oswald and in particular Vicki Bennett's surreal mangling of provincial BBC radio idioms, but rather than the product of sampling or digital editing, the digital aesthetic described by Spinelli was actually realised through analogue tape-splicing and manipulation, the voice of the 'identification' provided by Whitehead corrupted into an uncanny space vacillating between distinguishable speech and glossolalia, disrupting the presumption of communication within the listener-broadcaster relationship. The piece was broadcast on Radio Schizophonia, WBAI in NYC, a programme initiated in 1982 by Susan Stone who:

> discovered the possibilities of art in radio while working the night shift at WBAI-FM in New York City. Having the recording studios virtually to herself in the pre-dawn hours resulted in some rather unconventional recording activity. The result was Radio Schizophonia, launched with co-producer and fellow audio cutup Gregory Whitehead: a late night NYC call-in show intercut with archival Dada poetry from the Cabaret Voltaire and performances of local sound poets. (Stone, 2005)

The work, like his subsequent work around this time, was distributed on tapes such as *Disorder Speech (1985)* as part of the tape and mail art underground culture. Whitehead would later describe these communications as a 'prototype podcast, but with more soul' (Whitehead, 2011).

> At that time, the cassette/alt radio relation was very dynamic. Robin James even spoke of 'cassette radio'. Minerva Editions was really just an efficient way for me to get work out to community/college/alt/weird radio stations around the world. (2012)

It is fitting that the first Radio Art conference also produced a tape which featured Whitehead (discussed in Chapter Two). For most artists outside of the US in the 1980s, radio was still out of bounds for broadcasting and many involved in radio art and sound art came via this

underground activity. It seems even the college stations across the USA were hostile to the notion of broadcasting what Whitehead refers to as 'cryptoacoustic ephemera.'

Robin James' *Cassette Mythos* (1992) is a fantastic insight into such tape culture, providing ample evidence of a fertile crossover between the realms of art, music, radio and sound; Annea Lockwood, Chris Cutler, John Oswald, Q. Reed Ghazala, Neil Strauss and Whitehead are all represented. The *All Chemix Radio Series* produced by the Institute of Invisible Languages (p. 95) describes Willem de Ridder's liberation from the radio studio and professional techniques as having been inspired by cassette-sharing. Whitehead's *Dead Letters* is advertised (p. 164) in Radio Arts, also being highlighted as part of a 'Feast of Hearing' available via the Cassette Mythos series (p.22). This crosspollination of ideas brought together diverse art worlds including dance:

> I was living in NYC during those years, and had many friends in the dance world –*If a Voice Like* and several others were used by choreographers like Susan Salinger and Karen Bamonte, which opened up a whole new layer of thought for me regarding textuality/sexuality/body/voice. *If a Voice Like* was also included on the 'Radio' edition of Tellus cassette magazine. (Whitehead, 2012b)

Dead Letter Tapes (1983) was funded by National Public Radio in the USA, comprising two radio features concerning a fictional 'Dead Letter Office' produced as 'cinema in the head'. Whitehead writes of being fascinated by the 'phenomenology of the analog razor cut as a sort of acoustic emblem for a wounded text' which literally is heard and not-heard as he slices between parts of the narrative structure a literal 'ghost of the fingers hovering' across the work. These were then distributed by tape via Art Ear.

> During those early years between 1980–985, I was intensely interested in analogue editing; to this day, I remain convinced that there are qualities in the analogue cut – a physicality of acoustic energy – not possible to simulate in the digital realm. (Whitehead, 2012c)

Thus it is of interest that Whitehead returned to the tape format in 2011. Releasing *Potato God Scarecrow* as part of the Banned Production Cassette series, he re-embraces this homespun form in a deliberate move to create a physical tape object in a digital world, as the life span of the online archive and the digitisation of radio is something which clearly bothers him

> In those early days, I embraced analogue broadcast radio as my ideal creative home because the airwaves seemed to vibrate with the same qualities I sought to capture in my own plays, and in my own thinking: indeterminacy, fragility of signal, random access, tension between public and private, ambiguous borders, modulating rhythms, complex polyphony, and a pulse rate set by a wild heart. (Whitehead, 2011b)

He has embraced radio art as practice and discourse, having worked with Helen Thorington and Regine Beyer in 1987 on a three-day 'Festival for a New Radio' on WKCR FM in NYC; he also worked with them on 'New American Radio' as discussed in Chapter Two. Radio art, Whitehead states, is still in its 'infancy', and argues that 'there are still a tremendous number of possibilities' for exploration. 'Cross-referencing discourse with actual pieces has yet to be done. It's tremendously exciting because there is a lot of really good work that is not known to anyone unless you are a member of a tiny subculture.' (Whitehead, interview, 2012). In our interview I asked him if Transmission Arts, based in upstate NYC, was perhaps confusing the radio arts territory by absorbing radio arts practice into the hybrid practice of 'transmission arts'. Radio arts may still be in its infancy but it does have a growing research discourse and over twenty years of international publications through which its territory can be determined, and it seems Whitehead is pragmatic concerning the term:

> For Anna Friz and myself and others like Christof Migone, what is now called Transmission Art is what we have been thinking of Radio Art all along – in other words not really specific to the technology of radio, but rather the phenomenon of a radiophonic aesthetic […] originally I saw Transmission Arts as redundant in a way […] a sort of a curator's kind of concept, and I worried it would lead to a massive detour; a kind of a conceptual discussion that was not that useful because, in a way, that had already happened. (Whitehead, interview, 2012a)

Whitehead has tremendous respect for Galen Joseph-Hunter and her work in the field of transmission arts, understanding her motivation to 'establish a practice within the broader context to the art world' but he seems still to be unsure, stating, 'I still have my questions as to what it ultimately means'. Noting Manuel Cirauqui's observations at the Transmission Arts Colloquium in 2012, he observed:

> Manuel Cirauqui made some important contributions to what does it mean when you stop defining a practice with reference to a material and start referring to a practice

> with regards to some sort of ephemeral quality, and I think that is problematic. And whether transmission art will stand up to theoretical scrutiny or philosophical scrutiny has yet to be determined, but it could be very useful holistically. Pedagogically it's already triggered a lot of discussion – if it creates discussion for me I am fine with it if it, but if it becomes a policing kind of thing; if it says 'well, Gregory Whitehead: he doesn't fit because of this or that', I tend to get very cantankerous because the last thing we need in a fragile art form and world history, frankly, is more concepts that exclude or divide or classify too tightly. We need concepts and approaches that are more liberating, really, more emancipatory. (Interview, 2012a)

Whitehead's and Cirauqui's perspectives echo my own concerns. It is clear that much of what is currently called transmission art mirrors the pioneering work carried out by Kunstradio, and it was useful to discuss this with Elizabeth Zimmerman from Kunstradio at the colloquium in 2012. The Deep Wireless Radio Arts festival became Deep Wireless, a Festival of Radio and Transmission Art, back in 2007 and changed the name of the Radio without Boundaries Conference to Trans X Symposium in 2012. By trying to expand its boundaries it seemed to me to have diluted its focus, as most of the speakers and performers in 2012 still used FM radio in some form or another. It was certainly a smaller gathering in Toronto in 2012 than in 2006 as the event celebrated expanded radio art practice across all media; which essentially is what the banner 'Radio Without Boundaries' inferred to me. 'Trans X' on the other hand seems rather vague. We discussed his thoughts on the potential for surround sound for radio; as a practitioner he ultimately considers the possibilities to be of limited value. Whitehead firmly stated in my interview with him that it 'takes away the participatory aspect of the imagination' (Interview, 2012).

> I do believe we already have surround sound – a properly mixed stereo phonic piece already has the depth of perception which allows us to have the experience of surround sound. This creation of these multiple speakers it literalises it for me, I don't need that it's a technological substitute for a phenomological subjective experience which we already have the capacity to have… I don't need it, I spend an enormous amount of time on creating depth of mix I know how to create that already within a stereo mix … first of all radio is a low if medium even if it is being played back through an immaculate stereo system I know I can get the depth of perception already…we have an appalling poverty right now of ideas and imagination and we

> have a hyper-abundance of formats, technologies tools, softwares; it's the easy way out to direct intellectual energy and creative energy to those types of issues … we are steering away from looking into our own existential abyss and cultural abyss, so I tend to want to become more simple in the technology and more complex in the philosophical underpinnings. (ibid)

In 2014, Whitehead produced *Crazy Horse One Eight* in response to an open call for radio art work by my arts group, as noted in the 2010 station report to Ofcom. This new work demonstrated not only his openness and ability to create outstanding new radio art work on a small budget, the work brought together his ongoing interest in the weaponisation of radio space. In this case he produced a chilling and moving series of 'Cantos' from the transcript of the 'Collateral Murder' video which had been leaked by Chelsea (Bradley) Manning via WikiLeaks.

> The so-called 'collateral murder' video that documents the killing of journalists and civilians in Iraq by US military represents what is possibly the most consequential social media posting of all time, with direct implications ranging from the prosecution of Manning and Assange, through to accelerated attempts by the NSA [National Security Agency] and other global 'security' agencies to expand and enhance internet surveillance and control, while also criminalizing whistle-blowing. Though the visual aspect of the video has received a tremendous amount of analysis, I am more concerned with the complicity of radiophonic space in the perpetration of these war crimes; I am also concerned with the casual and dismissive language of the interactions themselves, as evidenced in the transcript of the radio exchanges between helicopters and command. (Whitehead, 2013b)

Radio's relationship with Thanatos was earlier explored by Whitehead in a fictionally set docudrama with Mark Burman, *Project Jericho* (2006), drawing on sonic warfare as discussed earlier; *Crazy Horse One Eight* builds on this previous theme. Using the real transcript it can be seen as a humanitarian approach to the material, one which places murder and loss at the forefront, it acknowledges the injustice and yet seeks redemption for those lost through the sharing of a collective memory in musical form as cantos.

> The cantos follow the critical forensic narrative of the video, concluding with the obliteration of a building in which several people had sought sanctuary. By using my

> own voice, I also make the tacit acknowledgment of my indirect complicity in these events, beyond simply inhabiting the acoustic space, voicing the text is also a form of accepting responsibility. (2013b)

Subjecting his voice to:

> a variety of techniques and rhythms/structures of entropic disintegration, interruption and polyphonic accumulation, all of which I have experimented with at a smaller scale in previous works. (2013b)

The work was Whitehead's personal response to the weaponisation of the radio space, the murder of innocent civilians and the demonisation of Chelsea Manning. In an interview on ABC new radio art show *Sound Proof*, Whitehead talked about the work from a personal perspective.

> I was appalled and shocked and stricken to my heart by the complicity of radio in this whole phenomena, all of the communication that's guiding these weapons is happening in radiophonic space, so I decided immediately on seeing that I had to make something from this. I had to take it into my own voice and reconnect my love of radiophonic space with the fact that here is radiophonic space being used to commit war crimes. (Whitehead Radio Interview ABC, 2014)

He often works with an idea of entropy, and in this work he wanted to connect more with the listener, considering this distressing material through his voice and 'vocal play' offering an 'extended mediation' between his voice and the public. The work was aired in full on Radio Reverb, Sound Art Radio, and Resonance FM in the UK, Radio Papesse in Italy and WGXC Wave Farm in the USA, and I am sure it will be aired in many other stations in the future. As Whitehead so elegantly outlined in his proposal for this inspiring new radio work, his aim for the work took into consideration, current trends in radio art which focus on technologic modes of transmission over content:

> I am aware that the prevalent trend in radio art inclines towards the elaboration of intermedia networks and various modalities of interactivity. Though such approaches are legitimate my own inclination is to deepen our understanding of the poetic and aesthetic possibilities of radio voices/bodies themselves, above all the complex, frictive coincidence between radio as a space of play and radio as a space of command,

> and control; in the past, I have often addressed tensions between Radio Eros and Radio Thanatos. *Crazy Horse One Eight* represents a sustained further exploration of this theme, as well as a further refinement of my techniques of voice composition through entropic disintegration across generations of repetitions and variations. (2013b)

My final case study takes us to another practitioner who, like Whitehead, has roots in montage, but whose radio art has taken another direction, as the curator of a durational online station.

4.5 Vicki Bennett

British artist Vicki Bennett uses collage, also the first method of audio production Whitehead adopted in his earliest radio and tape works. Bennett's main form of expression, the sampling, appropriating and cutting up of found and archival material from music, film, television and radio, manipulates and reworks original sources from mainstream and experimental texts, from which she 'creates audio recordings, films and radio shows that communicate a humorous, dark and often surreal view on life' (Bennett, 2012, website). Much respected for her visual and musical projects, Bennett was the first artist to be given unrestricted access to the entire BBC Archive in 2006, while her work has been exhibited across Europe at the Tate Modern, The Barbican, Centro de Cultura Digital, Maxxi and Sonar. Her plunderphonic music project, *People Like Us*, has an extensive back catalogue which is hosted by UbuWeb. Since 2003, Bennett has produced and hosted a regular radio show 'DO or DIY' on WFMU in New York. I interviewed her following a talk she gave about the relationship between her own career and radio art at the *Off The Page* festival, convened by *The Wire* magazine at the Whitstable Playhouse in March, 2012. Her radio shows are collages made from sound works from the twentieth and twenty-first century, layered and looped to make something new from the material, a process and aesthetic which is reflected in her prerecorded albums.

> The philosophy behind the show is simple. That within the realms of avant-garde and experimental sound art the goalposts defining 'accessible' and 'inaccessible' are constantly moving. As the radar rises and dips, fragments and shards of underground creations unearth, and popular culture and artist resonate, shifting shapes accordingly with one another in reflections of changing spotlights. The avant-garde and popular culture rely on each other's energy. People Like Us collage both 'hard to listen'

> works and popular listening matter, showing that in fact, beyond the restrictions of genre, genre is the restriction and it is possible to like many kinds of art and music. (Bennett, website, 2012)

Bennett started her radio output in Brighton in 1990 at Festival Radio doing a programme called *Gobstopper*: 'it was on at midnight, I was one of the overnight DJs, I just did collage I didn't have a clue I was just mixing things together.' (Bennett, interview, 2011). Ten years earlier in America Don Joyce (Chandler and Neumark, p.177) had been experimenting with Negativland on *Over the Edge,* 'a live mix radio collage' of musicians, scratchers and appropriationists who 'carelessly and willfully broke all the rules of normal radio procedures.' Their show was characterised by a chaotic stream of overlapping records, mixing reel to reel tape loops; the presenters themselves never speaking as themselves on mic, would rant as characters, engaging in real time with on-air phone callers. Having taking part as a random caller in 1997 I can confirm it was a surreal experience to step into an almost lunatic performance show on air via the phone. It was 'no host broadcasting' (ibid p.175), mixing spoken dialogue from all media, intercutting it into the show via a distinctive style of collaging which is also heard on their many album releases. '[T]here were attempts at social referencing but I suppose our total aesthetic might be characterised as "wacky"' (ibid). This 'wackiness' is taken up in part by Vicki's collages within her radio shows, but her presence there is as a somewhat more understated presenter. It is clear that American radio artists Negativland, and later the Evolution Control Committee, were an influence on her work but she has made the genre her own as part of a UK DIY culture which was absorbed worldwide. There is a particular Englishness to her expression of DIY, which grew from listening to the radio shows of John Peel; the punk rock ethos that anyone could make a record was her primary interest. This also fits in with the sensibilities of UK musicians Nurse With Wound, whose work often engaged with 'Muzak' and reworked it. This ethos has spread from Bennett's self-released work to her radio shows. In the early 1980s in the USA 'only radio, a pretty –much – ignored mass medium … was actually available to most anyone if he or she cared to volunteer, and particularly interesting to us as artists as a medium in which to express our relationship and reaction to the one-way commercial media barrage had already become our common psychic environment and the inescapable definer of all things important to this culture' (Chandler and Neumark, p. 187). However, in the UK radio was heavily controlled so such opportunities were rarely an option unless you were a pirate broadcaster willing to break the law. Bennett

was an early adopter, making use of late night opportunity on a temporary station broadcasting on 97.7 FM over the month-long Brighton festival in 1990.

> In retrospect I can see it was a very good medium to do. It wasn't as precious and didn't take as long as making an album, radio has been the most constant thing in my career. (Bennett, interview, 2011)

Collage can be seen as the heartland of Bennett's work and that of many others radio artists – such as Whitehead's early radio works. Bennett is an early representative of an increasingly prevalent breed of artist who work freely across a multiplicity of media, referencing the particularity not only of radio, but also of film, music and visual art. She represents the latest in a long line of artists and radio curators, as discussed in Chapter Two, who run bespoke stations which are ever-flourishing. What is key to her radio art practice is that she is approaching the radio as an artistic medium from a broader, intermedia perspective without fully absorbing the surrounding discourse of 'radio art'. During our interview she realises that she has no real fixed sense of what 'radio art' is, even though she has been making it and experimenting with the form and the relationships of the medium. She describes herself as making ' free form collage art on the radio' (interview, 2011). For Bennett's radio is a 'form of distribution' rather than a set of physical properties; her work is consequently less about the medium which she uses as she doesn't wish to restrict herself to one media. 'Radio art to me seems to be something quite specific … a bit more of an umbrella term for a bigger subject than maybe I would be. I am just a plain artist. Radio art should be art on the radio … I guess. Radio art is often seen [as] soundscape [or] spoken word piece it's quite a narrow term; not to say people aren't making art on the radio but they don't call it radio art a lot of the time.' (interview, 2011)

> I guess I don't know what radio art is when it comes down to it, I probably have a very narrow view of what it is and at the same time I probably totally understand it but don't call it radio art. I probably do make radio art but I don't call it that; I make art on the radio. (2011)

You keep coming back to radio across your work?

> I like it as a distribution form you can broadcast and you don't know where it's going it's sort of like the internet but it's got a sense of event about it and it comes out a certain time that you decide that's when everyone shares the listening, it's like making

> things for free on the internet but its time-based and gives it a sense of event … Radio precedes the internet and now it's on the internet…I like the way you are transmitting and you know people are listening [yet] don't know who they are. There is something magical its going through the air and now you got the internet… I don't know how that works either. (2011)

Radio was the place Bennett found out about music as a shared listening event. *'I'm 89',* made in the mid-nineties and commissioned by public radio VPRO in Holland as six spoken-word cut-up pieces that used appropriation of local BBC radio sources and comments on the banality of local radio, playing with the medium using direct parody, and she agrees it was defiantly radio art.' I was making it anyway as general collage art for releases on CD and I was specifically asked to make spoken word cut-ups' (2011).

This radio experience influenced her music as *People Like Us* and became part of her new music strategy. This also reflects an ongoing trend among other montage artists such as Negativland, who move between the radio and music. Thus radio art fed into new music, which can be seen as an ongoing relationship in Bennett's case as she is constantly working between the two and in wider circles. Responding to the theme of 'as slow as possible' for the AV Festival, a month-long online station, *Radio Boredcast* streamed for 743 hours, responding to ideas of duration and repetition, as Bennett rotated the schedule for global time zones. Bennett curated and programmed *Radio Boredcast* from winter 2011 until Spring 2012, and it is now archived online on the WFMU website.

It 'celebrates all things SLOW and fast too. Crank it up to wind down and enjoy this selection of specially made radio shows by 100 different artists and some WFMU DJs too!' (2011). Bennett wanted to react to internet stations working to one time zone and so rotated the schedule for global time zones. However, *Radio Boredcast* does not have 'a lot that is boring or slow; that would be 'too obvious' (2011). Rather, it encompassed ideas of duration, measurement and timings and repetition, such as entomologist Irene Moon's interview about bats, making it like the BBC World Service for all kinds of free-thinking artists, covering subjects such as rust and field recordings.

Programme-makers sought to parody the extremes of duration and pitch: Andrew Sharply of Stock, Hausen and Walkman took on the theme of slowness and tedium, Ergo Phizmiz sang operas from memory, and *Chart Sweep*, a marathon by Hugo Kes, ran through ten years of top

ten hits in ten seconds. *Radio Boredcast* takes on R. Murray Schafer's idea of 'radical radio' (1990), aiming to offer the listener a very different pace and content. Bennett's station played with the idea of not only durational programming but content in much the same way that Schafer had argued for in his impassioned discussion of the topic.

In 2007, Arts Council England's Grants for the Arts commissioned Bennett to make a podcast series called 'Codpaste' on WFMU, under her artist name *People Like Us* (through which she has released most of her recorded work over her two-decades-long career) alongside Ergo Phizmiz. They explored the working process of creating music from scratch and doing so as a podcast allowed them to dispense with traditional radio formats and time constraints, examining how the open nature of the format lends its self to particular exploratory uses foreclosed to 'radio' as traditionally understood.

> This was a very convenient distribution tool for that idea we had because you could subscribe to it as a podcast you can get it delivered to iTunes and make it any length you wanted. (interview, 2011)

To Bennett the use of the medium was purely pragmatic. But to Jon Potts this type of 'radio' as podcast experience offers us a way to preserve time by being 'schizochronic'. R Murray Schaeffer coined the term 'schizophonia' in 1973 in order to describe the contemporary condition brought about by the exponential use of recording technology in its severance of sounds from their point of origin. However, Potts has argued that by doing so this also severs sound from its time and thus it could be viewed as being 'schizochronic'.

> In recording a sound, we preserve its flow in time. The recording represents a past sequence of time, which when played, returns to occupy the present. Any recording is a past waiting to return to the present. The replayed sound is ontologically distinct from the original, since it is a recorded version displaced in both time and space. Its return at a later time is a form of difference: the sound is marked by both the technological intervention and the displacement in time. Incorporating these markings of future difference, the sound once recorded is re-constituted: it is split across time, imbued with the potential of re-emergence in time. (Potts, 1999)

It could be argued that radio on demand via podcast preserves moments, events, sounds to be re-experienced in the future. My experience of recording live experimental music events and putting them out as the *You Are Hear* podcast (2005–10) also allowed the listener to experience

the 'lost moment', to experience a past event in the future as it happened. The internet has revolutionised how much audio of any sort can be archived and accessed

> It's like making things for free on the internet but its time based and gives it a sense of event. (Bennett, interview, 2011)

As Bennett recounts during one Codpaste, '[i]n the old days we would record something then throw it away … now it's here forever', referring to the WFMU online archive where the shows currently rest. However, one has to wonder if this is the case now: will such work be here forever? Many artist sites close when unfunded and work can be lost, as Whitehead fears (2011), particularly if not archived as an object as a tape or CD. Throughout this research I have found that material has already vanished from the internet; this includes the downloads and official festival website for LIGNA's *Air Time* project, which remained online for less than a year; it seems the disintegration of work on the web is in some cases accelerating. Many problems arise from the common consideration of the internet as an archive, and Whitehead also expressed this concern, as mentioned earlier: 'for the past decade or so I have certainly been conscious of sending work into a space that many have forgotten, written off, or even condemned ' (Whitehead, 2011a).

Lidia Camacho has written in Spanish on radio art, and documented key groups in Brazil, Ecuador, Venezuela and Argentina who were working in the 1990s. Many projects she mentioned in 2004 have since lost an online presence and this reflects the difficulties of individual artists in keeping online archives of radio art projects alive, without funding. This problem is not confined to the southern hemisphere and presents a significant problem for the researcher. Swedish experimental web radio Sveriges Radio is a recent case in point as its radio art archive of 300 radio artists work on SR c has disappeared from the web.

The ephemeral nature of the radio is being replicated on the internet where online radio projects have shelf lives which are largely dependent on external funding to keep them active, and this is a worldwide problem that has yet to be resolved. Listening to the radio stream of the Bremen Radio As Art symposia (2014), the problem also raised its head via the work of Claudia Wegener, producer of *Continential Drift*, and the problems she encountered with keeping her African radio projects online. It is a clear concern to me, and it has been interesting talking in 2012 to the British Library who were keen to archive future Radio Arts commissioned works and the You Are Hear archive. Entropy has taken hold of the internet as

we move towards what can be considered a 'post digital' perspective, one that sits rather well with this research. LIGNA, Bennett and Whitehead all have DIY sensibilities and 'post digital' tendencies an ethos shared in my own practice, which I will be discussing in my next chapter. For Christian Ulrik and others 'post-digital' sees no distinction between 'old' and 'new' media nor any

> [...] ideological affirmation of the one or the other. It merges 'old' and 'new' often applying network cultural experimentation to analog technologies which it re-investigates and re-uses. It tends to focus on the experiential rather than the conceptual. It looks for DIY agency outside totalitarian innovation ideology, and for networking off big data capitalism. At the same time, it already has become commercialized. (Christian Ulrik et al, 2014)

Florian Cramer see that it offers:

> a perspective on digital information technology which no longer focuses on technical innovation or improvement.' ...Consequently, 'post-digital' eradicates the distinction between 'old' and 'new' media, in theory as well as in practice. (2014)

Cramer writes of 'DIY vs. corporate media, rather than "new" vs. " old" media, hacker-style and community-centric working methods are no longer specific to "digital" culture.' He argues that there is a 'post-digital hacker attitude of taking systems apart and using them in ways which subvert the original intention of the design.' (ibid). He holds that since the late 1990s the assumption that 'old' mass media such as radio, TV are corporate has been turned on its head, as 'new media' websites are no longer DIY 'now that user-generated content has been co-opted into corporate social media and mobile apps.'

For Cramer, the younger generation now mainly associates the internet with corporate, registration-only services. This ''flipping' means that older technologies are being rediscovered for their DIY use, the familiar process by which a technology's intrinsic aesthetic properties and potential become apparent as its utilitarian function recedes. Within my practice I have recognised a re-emergence of interest in DIY analogue media and technology building which has been facilitated by and enmeshed with digital production and networking practices I have been immersed in. Leading workshops building transmitters and editing soundscapes for public performance has not only shared skills and encouraged the proliferation of DIY media, but I feel that I have got 'under the casing' of radio itself, not merely setting

more ‘content’ adrift in the digital ocean, but intervening in and demystifying the technologies of transmission. I have sought, through this practice, to operate between digital and analogue media, allowing the grit and serendipity of analogue, localised media to disrupt the ‘smooth spaces’ of the digital devices and networks upon which my practice depends at every stage from production to networking, and conversely to mitigate against any latent analogue romanticism. This intermeshing of communicative media is reflected in my final practice project, which recombines that most established of media devices, the book, with the prosthesis of an FM radio transmitter to create an uncanny intermedia object.

Chapter Five: Practice

5.1 Overview

My creative practice has primarily taken the form of gallery installations, workshops, curatorial practice and commissioning, and has been informed by my scholarly investigation of historical examples, interviews with contemporary practitioners and analysis of the diverse theoretical positions elaborated in the preceding chapters. Both the scholarly research and my creative practice have sought answers to a research question that has been vital throughout the doctoral programme and which I raised at the start: how can I, as a practitioner, come to an apprehension of radio art that fully incorporates the tension between radio's analogue heritage and its digital future that is changing the very definition of radio; and from this, how has this shifting terrain widened the scope of practice in the area.

My literary review allowed me to explore the history of radio as an artistic medium and the relationship between the artist and technology, as outlined in Chapter One, in order to develop points of reference from which to develop my practice. Looking at the past to discuss the future I will now consider how my practice contributes towards a redefinition of radio art that takes into consideration how the dominant 'mode' of radio appears to be moving from one characterised by the shared 'live' event to one consumed 'on demand' by a segmented audience. I will discuss how social media is playing a role in the shaping and sharing of the event, which draws on issues discussed in Chapter Two, examining the implications of this transition to my own work. Such productive tensions have led to a renewed critical engagement with new and old radio technology, specifically how reappropriated 'obsolete' technology can be combined with new digital infrastructures and networks to draw out the untapped potentiality within each. I have engaged with radio art activity on many levels and explored notions of expanded radio, radio art and transmission art. My combined approach sees learning, feedback and the development of creative ideas and critical thought as integral to the development of a socially inclusive media arts practice.

My work examines the relationships between the social dynamics of radio, access to technology and the ever greater interpenetration of media and everyday life; issues which are increasingly pertinent to a wider public who may not have a conscious engagement with contemporary media art practice, a point I will consider in this final chapter, which outlines my practice in full. Earlier practice experiments help me refine my final conceptual projects, these being *Feedback Fiesta* (2008) as described in relation to LIGNA in the last chapter and a

group *Radio Art Show* (2005), broadcast on Resonance, which I produced, curated and participated in with a plunderphonic style cut-up work, *Margaritas and Pop Poodles* (2005), where I sampled European radio stations on the same frequency as Resonance. The hour-long group show[60] was aired as part of the first ever Radio Day of European Cultures, a pan-European biannual event organised under the joint initiative of the European Broadcasting Union, the Council of Europe and Prix Europa.

The show can be heard on the pen drive in the SWITCH OFF sub folder entitled 'Additional Practice file2. Radio Arts Show(2005)'.

Both programmes allowed me to consider and test the limits of shoehorning radio art practice into conventional programme slots. The experience of making them helped me to move towards unexpanded format of work, focusing on making work produced specifically to be heard repeatedly as part of a micro broadcast installation for my overarching practice project which I will now discuss.

Switch Off is a suite of eight radio art works, unified by their investigation of the tensions that lie at the core of contemporary understandings of 'radio' via material developed through a series of live radio actions, installations, macro and micro FM, DAB and internet broadcasts that I have been producing since 2008. The work consciously draws upon diverse facets of radio art practice, recalling its past uses in order to speculate upon its future through the consideration of radio-as-event. It takes as its overarching theme the imagined futures of FM analogue radio when abandoned by sanctioned broadcasters, presenting future sonic possibilities of analogue FM radio after the 'digital switch-over' proposed (and indefinitely postponed) by Ofcom. The eight fictive 'trace stations' that comprise the work have each examined a different facet of radio art practice through experimentation. Within the framing device of a future, vacated FM spectrum, this became a speculative space within which to reimagine the utopian potentiality of radio as revealed at its apparent point of obsolescence.

Through these eight 'trace stations' I have developed a body of work that considers radio art - as-event from a number of perspectives, put into practice: through broadcast actions,

---

[60] European Radio Day broadcast on Resonance FM, 16th October, 2005 featured: Javier Aregger, Jim Backhouse, Richard Bowers, Fari Bradley, CarterTutti, Angus Carlyle, Jem Finer & Marcia Farquhar, Iris Garrelfs, William English, Magz Hall, Bjorn Hatleskog, John Lovett, Grant Newman, Mark Pilkington, Tom Wallace, Chris Weaver, Adam Windbush and Dan Wison.

interventions, interactions, installations, micro broadcasts and interviews. These eight speculative trace stations: *Radio Mind, Numbers, Lone Broadcast, Sound station, Babble Station, Commercial Breaks, Radio Jam and Radio Recall* are works in which fragments of familiar, strange, overlooked and unheard sounds coalesce with experimental drama, radio art and sound poetry to form the basis of a loose dramaturgical structure. As such each station can be considered its own self-contained narrative as well as forming part of the overall suite. This interlinked structure has allowed me to explore the boundaries of radio art practice and investigate how the five recurrent facets of experimental radio practice I have identified within the works (these being Performance, Activist, Soundscape, Appropriation and Transmission) intersect.

I have also documented these works since 2011 on a dedicated blog, which has been an unforeseen positive outcome of this research, in that it not only helped to promote the projects but it is also an online archive of the visual side of the practice. This has allowed me to scope out my own form of radio art and in so doing I have sought to give insight and awareness to the underlying politics of the current and future uses of FM on the cusp of proposed analogue switch-off in the UK, to reveal how the radio artist can successfully engage with such tensions by exploring radio relationships through production relationships and concept. I have expanded my practice and understanding of radiophonic to be more than the produced sound itself, but to also resonate in the specific act of making work expressly to be heard on multiple radios outside of domestic space. The multiple draws attention not only to the medium in terms of use and reception, but has allowed me to compose works to be played in tandem or as surround through multiple transmitters in a highly portable way. By bringing the act of radio listening from the private domestic space (the home, the car) into a public arena, and spectacularising the activity (through the installation of multiple radios), I am drawing attention to the medium as a shared listening space and commenting on the constructed intimacy and mediated nature of the experience by amplifying its materiality and unique qualities. Transmitters have become an integral part of my practice in all but one of the works, and live micro transmission was essential to their realisation.

5.2 *Numbers* (2012)

Geert Lovink ponders that 'We can squat soon (to)–be- abandoned FM and AM Frequencies'(2011, p.133) although he clarifies that we haven't reached that point yet as it is still unknown if digital radio broadcasting will actually supersede terrestrial radio. I have taken Lovink's speculation a step further for theoretical exploration as the trace stations consider

and offer up a fictional insight into who will be squatting the FM spectrum in the future. I will now outline each of the trace stations that make up the *Switch Off* project: *Numbers* was the first of the eight fictive trace stations and was devised partly in homage to the shortwave numbers stations which have remained on air since the Cold War. The work presents a scenario in which the numbers stations have moved to FM as a simultaneously conspicuous and covert communication tool of outlawed gangs, groups, agents and political movements. As the internet becomes ever more heavily policed, *Numbers* considers how activists may reappropriate communication technologies considered obsolete, challenging the boundaries of public and private space, the subject and the collective as well as the boundaries between political and aesthetic practice. A series of micro FM transmitters broadcasts through twelve radios encrypted messages taken from the tweets originating within the Occupy movement. Visitors to the gallery space were also invited to write encrypted messages for future broadcast using the code provided. Part of a running theme throughout the *Switch Off* project will be to discuss the future of FM via its documented past, and *Numbers* connects with the long history of political activists embracing and experimenting with radio since its inception, from the Futurists' *La Radia* (1933) to Free Radio stations across Europe such as the Italian Radio Alice (1970s), London's Interference FM (1999) to Occupy's Mayday Radio (2012) in New York.

The Occupy movement tweets struck me as highly radiophonic material for this work and wholly fitting for artistic dissemination as the movement reflected the subjective shifts engendered by new media in that: '[t]he assemblies have a power that is dispersed and decentralized, with proclamations of uncertain, ambiguous authorship' (Whitehead, 2011a). *Numbers* considers that, as the internet becomes ever more subject to surveillance and preemptive policing, activists may be forced to consider radical offline communications tactics, in this case the reappropriation of terrestrial radio, making communication at once covert and highly visible: hidden in plain sight. As writer and activist Nina Power writes 'it seems increasingly important to organise actions against the cuts 'offline''(Power, 2013). *Numbers* was first realised as a surround-sound micro broadcast and installation. At the start of the project it used six micro transmitters and twelve solar-powered FM/DAB radios and was exhibited at the London College of Communication in March, 2012, and later at the Old Lookout Gallery, Broadstairs in July, 2012 in an installation that also featured two of the other trace stations: *Commercial Break* and *Lone Broadcast*. The work was pared down to three transmitters in its installation at the Sidney Cooper Gallery, Canterbury in 2012 and at Illinois State University in 2013. In its installation at the Sidney Cooper Gallery, Canterbury, Kent, it

was as part of a group show called *The Collected*. The work was exhibited in the central corridor that linked the two key parts of the gallery and worked well in the space sonically and visually, as well as placating the curator Hazel Stone, who did not want sound to bleed into the rest of the exhibition. Visitors were happy to interact and write their own encrypted codes for future *Switch Off* projects.

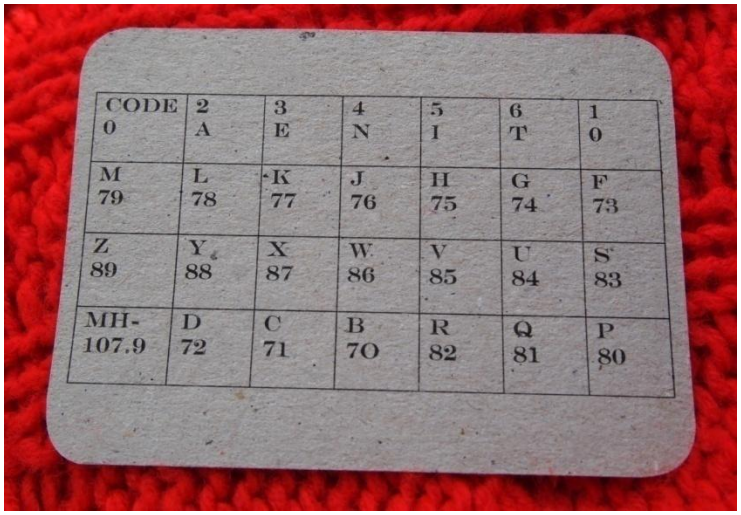
Making this work put the research practice in a conventional gallery setting and made me consider its set-up for ease of repeated use for a long duration. Using three transmitters worked well as it facilitated the endeavours of the gallery assistants who had to prepare the work every day, recharging the radios and transmitters and tuning them in. The set-up of my radio installations is potentially a complex task but clear and simple instructions proved successful. The use of solar-powered radios sadly didn't free the work from the onerous necessity of recharging overnight. The frequency stayed fixed for the full three weeks, unlike in Barcelona where *Lone Broadcast* was installed (which I will discuss later in this chapter), and where the FM band was so packed I had to keep moving the FM installation frequencies because they were subject to constant interference. This work encompassed activist and transmission art in its content and playout.

Numbers was also installed as part of *Canterbury Exchange*, 22nd October–15th December, University Galleries, Illinois State University, USA. This was installed successfully without my hands-on assistance, as the set-up at Sidney Cooper Gallery proved invaluable experience for me in being able to tour the work in other settings remotely. I used social media to collect radios in Illinois and was able to get a radio donation within ten minutes of putting out the call.

Numbers worked to assert that radio art is about a set of radio relationships as noted by Whitehead: 'an intricate triangulation of listener, 'player' and system' (Whitehead, 2003, p.1). *Numbers* drew from radios past, present and current to create a dialogue on its future use. Encryption is the best way of sending private messages across the radio ether and also fittingly it is now also the most successful way to conceal content on the internet as Edward Snowden (Greenwald, 2013) has stated in the *Guardian*. The work invited the public to consider relationships between the digital and analogue media spheres and the wider media ecology through issues such as encoding and radio's military history, privacy of the net as well as allowing them to participate in basic encryption.

You can listen to an extract of the work mixed down to mono, using seven voices, on the pen drive it is found in the 'SWITCHOFF' folder the file is called '1.Numbers (2012)'.

The *Numbers* installation was also mixed down in this form and broadcast at the Addicted 2 Random Festival on Radio Corax, Germany, and was also broadcast as part of The Dark Outside, a twenty-four hour broadcast in the Galloway Forest (2013). The concept for *Numbers* won a sound commission at the Lightworks Festival 2012, although I chose to exhibit another work, *Radio Mind,* instead, as the church location of the festival was an ideal setting for that latter work, which I will discuss next.



CODE 0	2 A	3 E	4 N	5 I	6 T	1 0
M 79	L 78	K 77	J 76	H 75	G 74	F 73
Z 89	Y 88	X 87	W 86	V 85	U 84	S 83
MH- 107.9	D 72	C 71	B 70	R 82	Q 81	P 80

*fig.*2 *Numbers* (2012) encrypted code card for Sidney Cooper Exhibition

*fig.*3 *Numbers* (2012) Sidney Cooper Gallery

5.3 *Radio Mind* (2012)

Radio Mind was a site-specific installation first exhibited at the Old Lookout Gallery, Broadstairs. [61] The work presented a broadcast from a fictional, cult-like religious radio station within the gallery, dressed as a religious chapel and ornamented with evocative radiophonic memorabilia presented as religious icons. Inspired by an obscure group of early twentieth-century Anglican clerics with a shared interest in telepathy, psychic research and psychology as paths of divine/human communication, *Radio Mind* became an outpost from which to 're-open the paths of transmission' through performance, broadcast and participation. *Radio Mind* drew directly from my literary review research and upon the religious metaphors elaborated within two divergent texts, *Spiritual Radio* (1925) by Anglican cleric and Spiritualist Archbishop Frederick du Vernet, who broadcast telepathic healing via the 'law of divine vibration', and Russian Futurist painter and poet David Burliuk's *Manifesto, Radio-Style* (1926) which pronounced the dawn of a 'radio age'. It was also inspired by the fire-and-brimstone preaching of South London Christian pirate radio stations. *Radio Mind* connects the powerful utopian potentiality evoked by reading between these two texts, both of which address radio as an emergent technology and retain uncanny parallels despite their radically divergent perspectives. The work drew explicit parallels to the present day junction between analogue and digital media at the threshold of the proposed 'digital switch-over'.

Du Vernet's writing on the telepathic power of radio was a point of departure from which to examine how religious imaginary has informed popular perceptions of emergent technology. *Radio Mind*'s open script combines fact and fiction, connecting broadcasting, spiritualism, radio art and the sea as radiophonic metaphors, using du Vernet's writings on the telepathic healing power of radio as a conduit through which to examine the persistence of the religious imaginary within the affective presence of radio. Through the *Radio Mind* broadcast and installation, du Vernet's sentiments and Burliuk's contemporaneous writings are revealed to converge with Russo-Futurist poet Khlebnikov's statement that '[t]he Radio of the future the central tree of our consciousness will inaugurate new ways to cope with our endless

---

[61] *Radio Mind* conceived and produced by Magz Hall. Voices of The Highland Chief and David Burliuk – Wm.B.McClure. Archbishop du Vernet –Magz Hall and Mark Pilkington. Testimonial – Jennifer FR Hall. Music – Magz Hall and Xylitol. Full Moon Orchestra – conducted by Magz Hall, Arnofini, Bristol, Tuesday 17th May, 2011. Script Magz Hall, with excerpts from du Vernet, *Spiritual Radio* and Burliuk, *Manifesto, Radio-Style. Universal Camp of Radio-Modernists*.

undertakings and will unite all mankind' (1921). Cross readings with Burliuk revealed this shared convergence with Khlebnikov's ideas. Parallels were revealed with contemporary New Age broadcasters, highlighting the persistence of radiophonic metaphors birthed in the 1920s and thus creating new parallels and an expanded body of knowledge on the subject.

Through new historical research and free-associative practice *Radio Mind* presents a playful form of radiophonic psychoanalysis of the territory that broadens our understanding of the persistence of utopian metaphors of connectivity and transcendence, as well as prompting a consideration of how the dream of collective becoming has been supplanted by one of networked individualism.

Radio Mind was set up as a performance-based radio art work. I wanted it to sound like it was a cross between spoof and amateur pirate radio so chose to use natural voices, non-professional actors and my own voice to distance the work from sounding excessively like a 'canned' professional drama. I wanted it to sound like a radio sermon rather than any sort of conventional radio play. Music was integral to the work and used to set the mood and add texture, I conducted and recorded an improvised live chant with the Full Moon Orchestra, a free form group of musicians at the Arnolfini Gallery, Bristol. Whilst recording the final keyboard sounds I tried to channel a radiophonic mood drawn from the women of the Radiophonic Workshop. This work was highly playful and at times it worked, though at others it lacked authenticity in the performances. I also edited together music from the musician Xylitol made especially for this project. *Radio Mind* was conceived and produced as a highly innovative and unique radio art work which examined the role of religious pirate radio broadcast through practice-based research.

The radio installation evolved from and took as its starting point an overarching research question which focused on the potential uses of the FM spectrum following digital migration. It successfully addressed a key research question for me as an inventive practitioner with regards to how the territory of radio art could be expanded by micro broadcast interventions in a conventional installation space using affordable and readily available technology.

You can listen to the whole hour long work which was played on repeat in exhibition and is now mixed down to stereo on the pen drive it is found in the 'SWITCHOFF' folder the file is called '2.Radio Mind (2012).'

Radio Mind (2011–12) was realised as a site-specific micro FM broadcast installation at the Old Lookout Gallery, Broadstairs, in 2011 and subsequently exhibited at the Burton Gallery, the Lightworks Festival, the Deep Wireless Festival in Toronto, Canada, at LCC and broadcast on Radio Futura 102.1 MHz – Porto, part of Future Places, Digital Media and Local Cultures. *Radio Mind* was broadcast continuously on DAB Boat Radio between the 12th and 19th July, 2012 and on upstate New York's WGXC 90.7-FM and free103.point9 online. Exhibiting the work in three different exhibitions spaces brought different demands and new outcomes. Although it was originally made as a site-specific work for the Old Lookout Gallery it worked well in the church as part of the Lightworks Festival. The acoustics were fantastic and gave the work an ethereal feel. In its installation at the Old Lookout Gallery, the surrounding building, an eighteenth-century harbourside building with rich timber beams, the walls leaning at a precarious angle, was itself a vital presence within the installation; the open door to the sea, the view across the waves through the succession of narrow windows and the sound of the surrounding environment brought each day an extra sound dimension and mood and created a sense of proximity to the elements that complimented the quasi-religious atmosphere of the space.

The site-specific nature of the work close to the sea worked on many levels: Thanet's coastline was once the home of the pop music pirate ships of the 1960s and I wanted people to reconnect with the medium as an open space for experimentation. Religious pirate broadcasts, although common across London, are never heard in south east Kent.

All my practice for this research has balanced itself between a certain fluidity and the consistent connection to key areas of my research running that address ultimately more profound questions about what radio art is and what radio art can be. *Radio Mind* encapsulated a micro broadcast radio event as well as being a radio art installation work. The work also successfully addresses a key research question on how the territory of radio art can be expanded by micro broadcast interventions within a conventional installation space using affordable technology. Alternative broadcasting via piracy or micro transmissions was Barber's (1990) preferred option for distribution of audio art, as noted in my discussion of definitions in Chapter Three. Having made this body of work, I would argue that it is also my preferred site for radio art as it allows control of site and its reception. Conventional broadcasts are heard in the listeners' distracted or unchosen spaces, as discussed earlier. My installation

works put the audience in the listening space, thus asking them to reconsider their relationship with the medium and based on feedback left at all the installation sites this had a significant

impact. Through this practice I have come to understand that it is important to embrace the multi-sensory potential of artistic practice through radio installations; as London curator Mark Jackson puts it so well.

> Some galleries still feel a bit like hospitals or museums for the senses. (2013)

Certainly the Old Lookout Gallery and the Lightworks church offered me the potential of unusual gallery spaces which helped bring alive the atmospheric sounds I had created through the acoustic space which bled into and added to the reception of the work. It also leads me to think about those questions raised in Chapter Three, about whether radio art should be an art of sound alone. As Whitehead observes, 'radio is not just amorphous sound' (Whitehead, 2003, p.1). Rather, it is the 'triangulations' between player, listener and system. My works highlight that a multi-sensory approach is possible that engages with and reflects such comments made by Whitehead and my case studies. LIGNA refer to radio as a dirty, which implies its imperfect mode of reception, I also understand it as an open medium, as radio is rarely a solitary sound source but connects to the sounds around where it is heard. Sound and weather conditions enhanced the works to great effect. Through this practice I have come to the conclusion that senses need to be stimulated and the gallery can dull impact. In Toronto, the gallery space felt rather inert: it was spartan in appearance and very dry acoustically. A set of black velvet curtains absorbed the sound from the radios, while they added to the visual portrayal of a 'radio wake', rendering the space akin to a funeral chapel, bringing a poignant set of resonances to the work which were not originally envisioned, but which are pertinent to the shifting status of FM terrestrial radio in the present.

Not able to take my British radio valves abroad, I was able to source a wonderful collection of Canadian/American valves for this installation and for future use. I drew inspiration for this work, as discussed earlier, directly from my literature review. My research for this project had led me to not only think about but, importantly, to make radio art outside of sanctioned radio and gallery space. As Kunstradio points in its online definition discussed earlier 'Radio happens in the place it is heard and not in the production studio' (Adrian, 1998). It was thus interesting to have the opportunity to curate the *Radio Arts Showcase* (2014) at the Beaney Gallery in Canterbury.

The Front Room Gallery of this popular museum and library, is frequented by a wide range of ages and social groups, and retains much of the character of the wider museum in which it is situated, in which local history and historical artefacts, often presented seemingly in reference to a historical 'wunderkammer', rub shoulders with classical painting, contemporary sculpture and whimsical folk art. The exhibition presented three new radio works alongside another of my trace stations, *Radio Recall* which I will consider next. All works were exhibited and aired on rotation within this shared space via 50 FM radios, whose design spanned the history of the radio era. The sounds being broadcast were connected by a visual interactive work by Genetic Moo projected on the walls by beamer which responded visually to the sound of the works via a shifting array of algorithmically-generated digital lifeforms. This bleeding between forms was very successful in the space, which leads me to think it is important that the radio artist play on and with location wherever possible and be open to allowing media to blend, rather than be isolated.

fig.4 Radio Mind (2011) Close up of Radio Bird at The Old Lookout Gallery

fig.5 Radio Mind (2011) Radio Mind Altar the Old Lookout Gallery

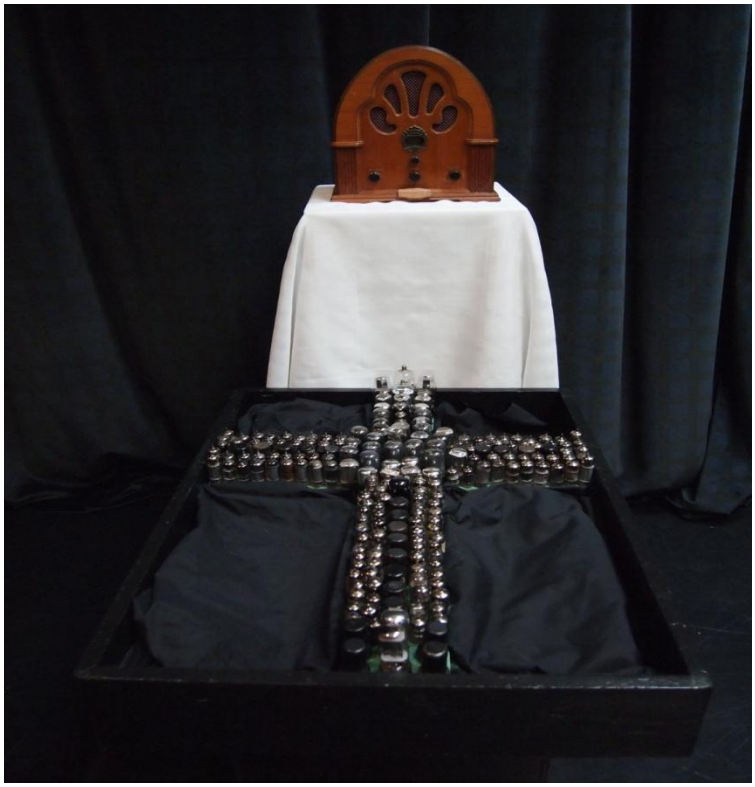


*Fig.*6 *Radio Mind* (2012) Deep Wireless Festival, Toronto

*fig.*7 *Radio Mind* (2012) Deep Wireless wideshot

*fig.*8 *Radio Mind* (2012) Lightworks Festival

*fig.*9 *Radio Mind* (2012) Lightworks festival Altar

5.4 *Radio Recall* (2013)

Radio Recall, started as a community interaction and participatory micro broadcast work, so in that sense it was about community, participation and transmission. It was first heard as part of a residency at the Old Lookout Gallery, Broadstairs, in 2013.I collected and rotated past and current memories of radio from members of the general public, broadcasting them on the fly through an ad-hoc and expanding collection of radio receivers. Three volunteers and myself interviewed thirty local people and visitors to Broadstairs in order to gather their memories of radio. These I edited and broadcast within the space on FM through a selection of vintage radios. As an ongoing work, visitors were invited to add to the collection of radios should they have an unwanted FM radio to donate. I encouraged visitors to share their own radio memories in order to contribute to the work as an expanding archive of radiophonic memory. Local BBC Radio Kent was interested in the workshops and installation and Pat Marsh interviewed me about the project on 29th August, this in turn brought in people who donated radios, as did an article in the local paper, the *Thanet Gazette* (2013).

It has been suggested that Ofcom may leave the FM band to community radio in the UK following the analogue switch off. *Radio Recall* presents a community station in which citizens can reminisce and share their memories of past radio technologies. The contemporary radio memories collected and presented in this installation encourage the listener to speculate upon how future communities may come to convey their own memories of our present. The work was well received by the public who were happy to share memoires and listen to others. As an interactive work I felt that it succeeded. *Radio Recall* was then installed at the Beaney Gallery in 2014 as part of the Radio Arts Showcase I curated, as discussed earlier.

Radio Mind puts into radio art form aspects of the anthropological work of Jo Tacchi. Her thesis for University College, London 'Radio Sound As Material Culture in the Home' (1997) was a qualitative study which took an ethnographic and anthropological approach to the study of radio use at home via a type of 'media anthropology'. Her thesis examined how radio was able to harmonise conflict in personal life as 'a manager of difference' (1997, p.225) by offering reassurance via shared memory. Tacchi was interested in the role of nostalgia and how

> Memories and nostalgia are shown to operate in creative and integrated ways in domestic contexts through the medium of sound. (ibid, p.218)

Radio Recall showed that by using multiple vintage radios outside of domestic context a similar result could be achieved. Tacchi cited Battaglia's (1995) challenge as to the negative definition of nostalgia presented by some academics, reducing its role to romantic sentimentality and causing the an 'assumption that nostalgia has a categorically negative social value for indigenous actors' (p.77) instead she finds Battaglia's nostalgia 'may in fact be a vehicle for knowledge, rather than only a yearning for something lost' (p.219). Reflecting that radio can maintain mood and emotional states, she concludes that is 'as tangible, material manifestation of affective, sensory experience, aided by the use of radio sound' (p.215) and how, ultimately, the past 'can be brought into the present, as a feeling that alters the present, and can further be projected into the future' (p.222). This mode of activated nostalgia is reflected in my aesthetic approach to the *Switch Off* project, in which I sought to construct a speculative future of FM radio through a referential and historically conscious consideration of past experimentation. *Radio Recall* explicitly activates the nostalgic affects of radio through engaging the local community in Kent, getting a reflective cross section of the public to talk about listening to the radio, for many for the first time, and to share their memories. It's interesting to note the memories my interviewees held in common; all being 'social actors' in some respects.

Sean Street (2014) has just published a book on the subject of radio memory and it is intriguing to consider if in the post-digital era, radio still retains this overarching hegemonic power? This was not found to be the case during these interviews with the younger generation. The participants gave expected and perhaps learnt responses through shared media history, this was not quantitative research but a random selection of participants who came into the space. Responses were overwhelmingly generational, the oldest respondents giving the most in-depth accounts. Three contributors talked of the huge accumulator batteries: the lead acid batteries which powered the valve heaters and had to be taken to a radio shop to be recharged. Recollections ranged from the quotidian to the surreal; many described the sets they listened on and there was a notable nostalgia for the wireless-specific programmes or presenters; comedians stood out in their memories but for most the content was long gone. Some respondents recalled significant historical events as mediated through radio; while for others small, particular details retained significance: one fifty-year-old woman remembered a radio play from which a poisoned olive had stayed in her mind since childhood, provoking an irrational fear of pimento-stuffed olives; another lady in her eighties remembered hearing the announcement of the outbreak of the Second World War. Terrestrial radio is a mediator of a common culture; memory and the retention of detail. The work was initially mixed in order

to diffuse the voices across a spread of radios within the gallery space at the Old Lookout Gallery, via multiple transmitters tuned to different frequencies and while this worked when tested in a studio setting, earthing problems and transmitter reach thwarted this plan within the Beaney gallery space. Therefore, a single stereo source for all the voices was used due to the technical constraints of the location. Despite this technical limitation, *Radio Recall* worked really well, creating an engaging and immersive presence within such a large public space. The physical presence of the analogue radios seemed to capture the public imagination, provoking generational memories from visitors who had used them in the past, and which they were happy to share with the gallery staff. A happy emotional state was created by the audience's ability to connect with the radios and the memories being broadcast through them created points of identification from which to recall and share their own experiences. This publicly-orientated and accessible work significantly offered a 'way in' through which a new audience, unfamiliar to the concept and practice of 'radio art' could come to the less immediately accessible works at the *Radio Arts Showcase* (2014) at the Beaney Gallery, Canterbury which I will discuss in depth later, along with new works I commissioned from Gregory Whitehead, Joaquin Cofreces and Michael McHugh. All were broadcast on Resonance FM in July, 2014.

You can listen to an extract of the work mixed down to for the Beaney Gallery on the pen drive it is found in the 'SWITCHOFF' folder the file is called ''3.Radio Recall (2014)'.

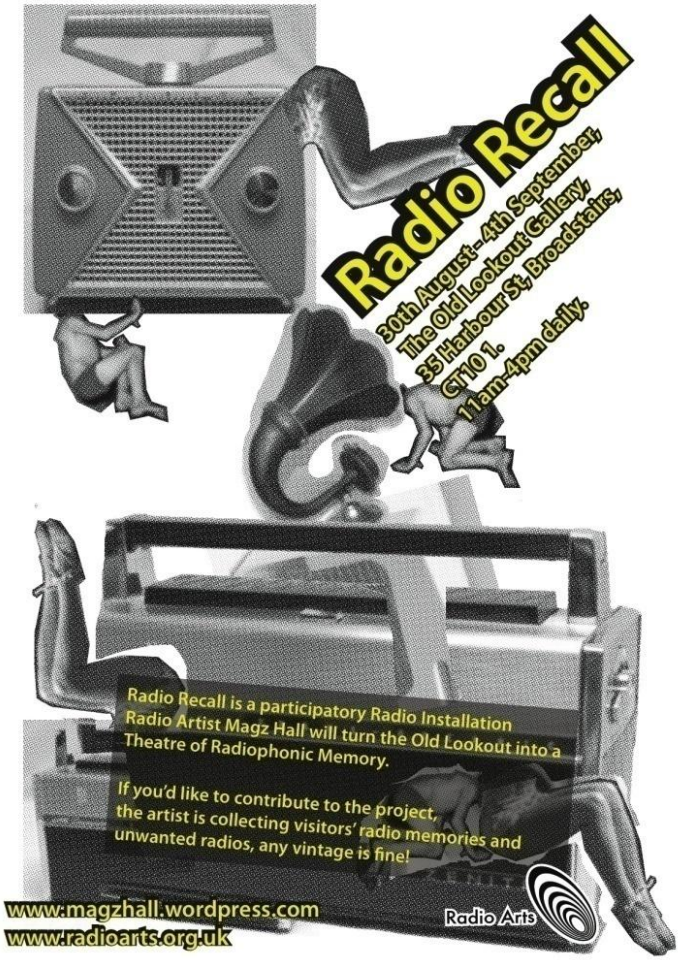


*fig.*10 *Radio Recall* (2013) Poster, Old Lookout Gallery

*fig.*11 *Radio Recall* (2013) Old Lookout Gallery

5.5 *Lone Broadcast* (2012)

Lone Broadcast was exhibited as part of a group show, *Flotsam, Jetsam, Lagan and Derelict*, 1st–11th April, 2012 at Untitled BCN, Barcelona, which also encompassed performance and transmission. The broadcast sought to open up a space between the use of radio as a tool of essential communication (such as by the emergency services) and in its common broadcast use, in this instance playing with the notion of emergency shipping broadcasts through the conjecture that FM could, in a putative 'post-analogue-switch-off' future be used for all such transmissions. Maritime radio, currently known as Marine VHF radio, refers to the frequency range between 156.0 and 162.025 MHz. The spectrum itself is split into bands based on frequency, from Band I to Band V1, the first three bands being of most interest to this research project, which is concerned with uses of FM. Band I of VHF ranges from 47 to 88 MHz and is used for radio and formerly analogue terrestrial TV (its use was phased out with the introduction of digital television). However, the upper end of Band I: 87.5 to 88 MHz, also constitutes the lower reaches of the radio FM band. Band II, which ranges from 87.5 to 108.0 MHz and used for the modulation of FM radio worldwide. Maritime radio uses the very top of the FM band 108.0MHz to 174 MHz. already, so the premise behind the work is very unlikely, but is feasible if they changed band and moved downscale. [62]

Since 2011, Ofcom has been researching selling off analogue TV space, and has been contemplating selling FM as ' white space' for mobile devices as an 'innovative new use for the airwaves' that would be 'liberated' in the aftermath of the UK''s switch over to digital radio. Ofcom chief executive Ed Richards identified unoccupied radio waves called 'white spaces' which could be used to transmit and receive wireless signals, using lower frequencies which were traditionally used for TV and radio: a more mundane future for the medium than my own playful futures, but an interesting circle none the less of FM radio waves coming back as radio via online digital devices. Ofcom has been piloting white space devices since April, 2013, using bands reserved for digital terrestrial TV and wireless microphones; it has not happened on radio in the UK yet but in Boston an internet start-up is doing just that, using the FM spectrum to relay the net (Farrell, 2014). In Germany Freifunk [Free Radio] is an

[62] Whilst Band III 174 to 240 MHz was also used for TV, the last British VHF TV transmitters closed down in 1985. It is now used in the UK for DAB radio.

initiative to support the development of such technology 'tools for free mesh networks' supporting communities to developing their own networks(Freifunk, 2014,website).

Lone Broadcast was realised as a futile FM mono broadcast of a lone women stranded at sea whom no one can hear, a deliberate metaphor of the waves as radio waves, which in this case were made from white noise static highlighting the FM spectrum. However, in reality FM is unlikely to be left abandoned as it seems set for use for large corporations like BT, Microsoft, Nominet and Google, who were part of the Ofcom pilot. The installation used ten small and very cheap radios to broadcast the work into the gallery space. The work itself was a loose drama which I scripted, commissioning writer and poet Sonia Frost to produce a poem for the piece and to voice the final work; I tried a number of voices but hers had a radiophonic tone that worked well with the mood of the work. Rather than aim for realism within the drama in terms of voice and sounds and music, I wanted a far more detached radiophonic mood and sound, so I used electronic sounds made by Jim Backhouse, using my analogue EDP Wasp synthesiser, which I layered in Audition to give texture and create a storm like quality, explicitly referencing early radiophonic workshop soundtracks, such as the way in which Delia Derbyshire created electronic mood and atmosphere in white radio frequency space. In the event of its installation there were some issues with frequency space in Barcelona so that prevented me realising this as a DIY surround work, as I've already mentioned; I also exhibited this work at the Old Lookout Gallery, Broadstairs in September 2012, alongside *Commercial Break* and *Numbers* on rotation.

As ever, I was up against time and with all of these works I wish I could have dedicated more time to production and editing of this work, which could be improved. This seemed more like a sketch; a vague last transmission. In Barcelona the cheap-sounding radios with which I aired the work had very low fidelity. The sound quality was poor and this affected the more subtle electronic sounds. The work sounded and worked better at the Old Lookout Gallery, as the context of the work and, just as Peter Strickland suggested, radio is always about context, as *Lone Broadcast* was set at sea and the Lookout Gallery site was very fitting in this respect.

You can listen to an extract of the work mixed down on the pen drive it is found in the 'SWITCHOFF' folder the file is called '4.Lone Broadcast(2012)'.

Site and context certainly seem to aid or detach the audience from works. *Commercial Break* and *Numbers* in this space were more disruptive in that they jarred with its serenity and ruptured the tranquility. Also the weather – ranging from hot summer sunshine to waves and rain beating against the building – played a part in the broadcasts moving the range and reflecting different moods for the listener to hear the work. There was an elemental mood to the works. Airing three short works on rotation worked well. Through creating a radio art as event and presentation as discussed by Whitehead these works all reflected relationship between 'listener, 'player' and system' (Whitehead, 2003, p.1). To his 'triangle', my experiences with aesthetic development and practical installation would suggest adding 'location' to emphasise the role of the point of reception.

*fig.*12 *Lone Broadcast* (2012) Barcelona BCN Gallery

*fig.*13 *Commercial Break, Lone Broadcast, Numbers* (2012) Poster

5.6 *Commercial Break* (2012)

Commercial Break (2012) was exhibited as a micro radio installation at The Old Lookout Gallery, Broadstairs. Kent. It was also broadcast every hour and forty minutes on Boat Radio DAB UK across Hampshire, Sussex, Kent and Essex, to over 4 million potential listeners for ten days. The work has since been broadcast on FM 5th June, 2013 for the MuseRuole: Women in experimental music, Radio Edition at the Museum of Modern and Contemporary Art, Bozen, Italy and 7th – 30th June, 2013 in a listening station at the Women's Museum in Meran, Italy.

The starting point for *Commercial Break* was a research question addressing the boundaries of the medium of radio art by exploring future sonic possibilities of analogue radio after 'switch off' and the migration to DAB. *Commercial Break* was broadcast as an intervention on 'pop up' Boat Radio, currently the only artist initiative to use DAB to date in the UK. 'A world first' according to the Community Media Association (2012) and supported by Arts Council England. Prohibitively high fees have caused a lack of artistic engagement in the medium and have forced conventional independent broadcasters such as Amazing Radio to abandon DAB for the internet. Broadcasting the work on DAB completed a theoretical circle as the thesis's starting point came from thinking about FM being abandoned for DAB. *Commercial Break* took the concept a step further by imagining DAB itself becoming obsolete. The creation of the piece from this theoretical standpoint, and its unique repeated broadcast on DAB, made this a sonic reality for the duration of the broadcasts. *Commercial Break* sounds the discarded ether as the sonic debris of commercial radio; it uses appropriation and is heard as rupture, glitches, noise and fragments: remnants of consumerism.

This plunderphonic work incorporates sounds from an FM radio jam and appropriates a digital radio advert. The work's corrupted and fractured sounds intentionally disrupted the clear digital sound of DAB, bringing back the hiss, static of analogue radios, representing a 'return of the repressed' within deliberate synthesised digital glitching. A successful artistic intervention: the work was not conventionally signposted and listeners were thrown into the work, drawing attention to the materiality of the medium though *détournement***.** I came across the Boat Radio project via the CMA just a few days before the project started in earnest via a call-out to creative artists to submit their own original sound works to be broadcast shore-to-ship via digital radio as *Collective Spirit* made its maiden voyage that week. The project was run

by Folkestone Fringe, who had problems getting the project off the ground:[63] there were issues over how the work was presented, concerns also raised by Steve Martin of Earshot Creative – the station was lacking in its overall execution on DAB and online by not making use of the scrolling text to list artists' work or to give any detail of the work being played on the website. [64] Despite its limitations in execution, as an artist keen to have radio art aired on DAB, it was the perfect way to execute a live radio intervention. These were not the kind of sounds one would expect to hear on DAB: the static sounds of glitch which DAB was invented to eradicate were brought back and I had sampled in sounds from Radio Jammers into this plunderphonic work. I was delighted that they gave two of my works a huge amount of air time on that platform to a potential audience of a few million people. *Radio Mind* was played in full (60 mins duration) every hour and twenty minutes as was *Commercial Break* (9mins) for nine days and nights. I do think more pop-up radio arts stations should happen on DAB and hope this is not the last occasion it is used, as at this time its use seems restrained to mainstream concerns. Folkestone Fringe welcomed my feedback, as they were not able to pick up the signal in Folkestone at all which certainly affected their ability to monitor the station, and this highlights the ongoing inconsistencies in DAB coverage across the UK. I do admire the fact they had made this project happen at all, especially in an area which is lacking its own radio arts station or creative pirate activity, and while their project may have invited criticism for its lack of signposting, it is worth noting that over-contextualisation can equally spoil a radio intervention project, as happened in 25th–29th March, 2012, on Radio 4/Artangel's Radio Art 'Interventions', as discussed in Chapter Two.

You can listen to the work mixed down on the pen drive it is found in the 'SWITCHOFF' folder the file is called '5.Commercial Break (2012)'.

---

[63] '*Boat Radio* has secured an OFCOM licence to transmit to and from The Boat Project, a wooden vessel built using donated items commissioned for the London 2012. Broadcasting from 1–22nd July, millions of people in Hampshire, Sussex, Kent and Essex can tune into Boat Radio in their homes, cars and offices' See Boat Radio.

[64] 'Once I'd confirmed that the peculiar whistling noise was coming from the radio and wasn't a fault with the coffee percolator I tried to enjoy the station. The sound may well have been a piece of that commissioned audio art. Equally, it might have been a test signal. It was hard to tell. There were no clues on the scrolling text, no audio to explain the project or what I was listening to.' See Martin, S.

fig.14 Lone Broadcast, Commercial Break, Numbers, Old Lookout Gallery (2012)

*fig.*15 *Lone Broadcast* (2012) Old Lookout

*fig.*16 *Boat Radio* Digital Radio website screenshot

5.7 *Babble Station* (2012)

The idea behind *Babble Station* continues with the theme of the possible futures of FM radio; in this case the spectrum would be used for baby monitors and what this might sound like. Radio promotes the semiotic aspects of the voice via the musicality of speech, a point of view drawn from the work of Rudolf Arnheim who described radio as 'developing to a further degree our feelings for the musical elements of speech and all sounds' (1936, pp. 42–43).There is an innate communicative musicality to infants' pre-speech utterances that I wanted to explore. Infants' sounds, like dead air, are not often broadcast so a station that took this to an extreme and was a hypothetical future of the medium appealed to me as a playful way of examining these relationships. Babbling is universally defined by Mladen Dolar as the presymbolic use of the voice, as Dolar points out 'In fans' literally means 'the one who cannot speak' (2006, p.26).

Research indicates that babbling is structurally and functionally related to early speech. John Locke argues

> that when variegated babbling emerges, a consistent relation is identified between vocalizations and specific communicative functions (i.e., protest, question, and statement). (1996)

As a parent it is easy to learn this pre language: tone, pitch speed and sounds do express meaning from happy chirps and beeps to distressed calls.

Babble Station was set up as a participatory radio art project to collect the pre-speech utterances as part of the Whitstable Biennale Satellite on Sundays 2nd, 9th and 16th September 2012 at The Horsebridge Arts Centre, Whitstable and the Babble Station recordings made at the workshop were used as part of a micro broadcast installation at the site on 16th September. Parents with young babies and toddlers of all social groups who visit Whitstable from Canterbury and beyond were invited by posters in toddler-friendly spaces and social media.

The project was about artificial soundscape and transmission, recording pre-speech utterances from a group inclusive of race and gender and a group of mothers often ignored by sound arts initiatives.

Infant voices are rarely broadcast. I can only think of three shows, all aired on community arts station Resonance FM, where infants were with their parents as they presented. Caroline Kraabel's radio show, which aired for nearly five years, called *Taking a Life for a Walk* in which she would push her young children around London in their buggy and play sax. The mostly sleeping child's voice though was never in the foreground and rarely heard.

Ben Watson, presenting his weekly 'Late Lunch with Out To Lunch' show brought his children, Iris and Mordecai, to the studio, and their voices and interactions were embraced as part of his polemical show, while the Hello Goodbye show presenters regularly had young children in the studio, adding to the general chaos. But there have been no radio shows, as far as I know, where infants' voices took centre stage.

Having the workshops made it easier for parents to take part and the resulting broadcast installation was interesting as it was far from torturous but rather sounded uncanny, particularly in its installation in a space frequently used by toddler groups, where it created an effect akin to an invisible crèche or ghost nursery. I was particularly happy with how it sounded spatialised across twelve radios around the room via four transmitters. I still needed to collect recordings in home locations so babble field recordings have been set-up, and I am also looking for more recordings of baby babble as this will be mixed into my final *Switch Off* production of all eight futures.

The work was discussed by Pippa Koszerek in an article on the Whitstable Biennale of 2012 on the Artist Network website:

> Babble Station is one of these future unsanctioned stations, using the airwaves for baby monitoring. This Sunday, Hall will be running an all-day drop-in workshop, sampling baby sounds and playing them back via solar radios. (Koszerek, 2012)

It seems my prediction of FM being used in this way is not far-fetched at all, as during the *Radio As Art* symposia (2014) Anna Friz talked about the uncanny interruption of a baby's cry from a nearby baby monitor during a live radio project she was undertaking. This unscripted intervention demonstrates the unstable nature of FM and the fact that stations can bleed into others and are thus more open to chance, serendipity in contrast to the demarcation and segmentation of the digital terrain.

You can listen to the work mixed down on the pen drive it is found in the 'SWITCHOFF' folder the file is called '6.Babble Station (2012)'.

The live mix for this installation and the first incarnation of *Radio Recall* was done on the fly in the space and as such engaged Thurmann-Jajes' proposed value of radio art as 'live and unpredictable' (Thurmann-Jajes, p.395); *Babble Station* was also akin to another of the definitions discussed in Chapter Three: Kunstradio's assertion that '[s]ound quality is secondary to conceptual originality' (n.d.) since my work was more about process than the finished sound. This balance between process and product was also the case with the next live radio broadcast action I will look at: *Radio Jam*.

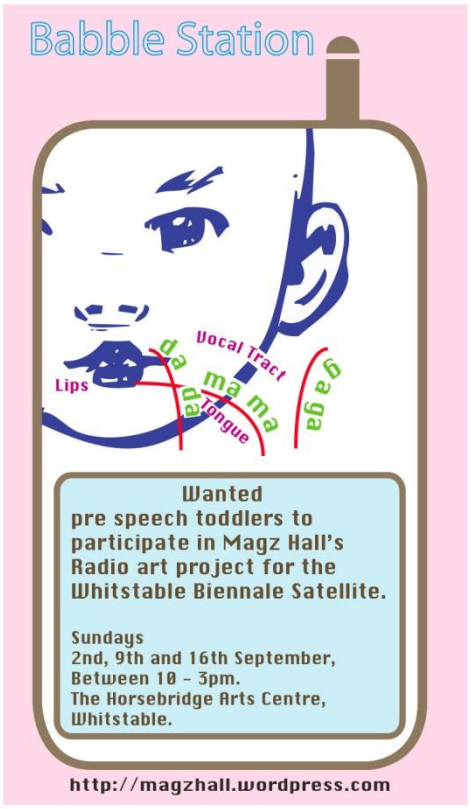


*fig.*17 *Babble Station* (2012) poster

*fig.*18 *Babble Station* (2012) Horsebridge Arts Centre

5.8 *Radio Jam* (2012)

'Jamming' is the term often used to describe the deliberate use of radio noise or signals in an attempt to disrupt radio communications. Radio Jam was my first experiment in online interactive radio networked art. One of the first radio programmes to do this was State of Transition (1994), heard via Austrian station ORF. As mentioned in Chapter Two's discussion of Kunstradio, aired weekly on ORF, an Austrian radio station in Vienna, it first aired in December 1987 then also went online in 1995. *Horizontal Radio* (1995) connected fourteen national public radio stations and 200 artists, encompassing radio listeners with internet users. This 24-hour live multi-media telematic radio network project that took place on 22–23 June, 1995.

My own radio jam was on a far smaller micro scale. As an individual artist I wanted to see what could be done with freely available technology in 2012, hoping that seventeen years later, it would be very easy to connect many people with good sound quality to take part in a Radio Jam. *Horizontal Radio* was criticised by Sabine Breitsameter for its 'poor sound quality'(2007, p.64) that it was only experienced by those taking part, that not all of it could be heard at once and consequently, there was no overall experience rather random result more of a musical jam. People apparently felt powerless as it was not really two-way communication and work lost context and mixed into others' pieces, individual radio art work's effectively became anonymous.

Reflecting on Breitsameter's responses and on *Horizontal Radio* itself, I embraced the idea of my work being a live 'radio jam', using radios as musical instruments, connecting to the themes of performance and transmission, and suggesting a playful way of thinking about the future of FM literally as a musical sound, the radio as instrument, using the FM frequencies to make noise jamming with other users. The 'jam' was broadcast on the internet from the V22 Gallery in London as part of the Radeq Summer Club Radio, curated by artist James Dunn, and Claire Urban, a founder of popular online leftfield music station NTS radio. I took advice on what program to use to host the jam from two highly technically proficient artists: Paul Chivers, who runs a regular online radio station Ramjac, and Rui Chaves, who has been experimenting with live online sound events. I quickly found out that it would not be as simple a process as I had hoped. Although seventeen years had passed since *Horizontal Radio* and huge advancements had been made in other online areas, simple programs which allowed more than five users to jam together in good sound quality did not yet exist. My best bet, it

seemed, was to use a site called Ejamming, which was free to use and had good sound quality that, after testing, was discovered to be limited to a maximum of five users 'jamming' at a time. I put out an online call and set up an International Facebook event,[65] inviting 356 people to take part; 14 people signed up with 6 'maybe': not as much participant interest as I had hoped, but the perfect amount for this experiment.

> Wanted: participants to be part of a Live Radio Jam happening live on Radeq V22 Summer Club Radio from London on the 7th July from 12 noon – 2pm. Each participant will need to play their own radio, as an instrument from your home via the internet, where you will be able to jam with others live on air. The station is found at and streamed live. (2012, Facebook)

Facebook was a good way to communicate with participants before and during the event, due to its live chat facility. Testing the Ejamming program proved to be very tedious as it had very specific requirements. It was not possible to just log in and play 'on the fly' as the program needed software to be downloaded and several adjustments made; there were lots of technical hitches. The program didn't work very smoothly and was very frustrating, so only those who were able to deal with technical problems easily stayed with us. The program allowed five people to jam at once, and each had a 'seat'. 'Seats' could be exchanged and taken if a player was removed by the host. We had four people playing radios in the studio and took a mix from the studio to be a permanent host seat in the mix. The programme went out for two hours streamed live on the internet station and the live recording I made in the studio sadly did not have the full mix of all playing together for the first hour. This is a real loss as this was a very good part of the transmission – I was too busy playing to keep an eye of what was going into the recording feed. Everyone who took part, and listeners, commented that they really enjoyed the experience, but all found the software tedious. However, it highlighted that this type of interaction is still missing from FM and internet radio as it seems simple programs don't yet exist to allow for more interaction than five people at time unless you develop the software yourself and have the bandwidth and servers. I would like to carry out further *Radio Jam* tests in the future, as more accessible programs are developed but at this time it seems very limited. Max Neuhaus had far more success in the 1960s as he had access to a national system and without seven internet servers and the help of 24 stations, as was the case with

---

[65]See Radio Jam.

Kunstradio's *Horizontal Radio*, the radio jam experiment was limited by resources and time. Interestingly, the 'New Radiophonic Workshop' has been given ample bandwidth on the 'The Space,' a BBC and ACE funded arts site, but its BBC funding has not produced any live interactive radio art events as yet, perhaps a future collaboration would work. This work was my only internet-focused radio output. I felt it to be the most live and unpredictable work of all. It could be interpreted from many perspectives – FM radio as instrument; a more freeform open echo of John Cage's radio work. Most importantly, it worked as transmission form of radio art of expanded radio as defined by Thurmann-Jajes discussed in Chapter Three, but was severely limited by the number of actual participants who could take part. However, this could be argued to reflect the possible future of radio moving from macro to micro. As mentioned earlier with regard to the possible definitions of radio art, sound quality was not a paramount consideration: since it was being streamed, the sound was less warm through tiny computer speakers than it would have been through high quality radio set. Kunstradio makes it clear that individual listeners hear 'their own final version of a work for radio combined with the ambient sound of their own space' (Adrian, 1998). Both *Radio Jam* and the next work, *Sound Train,* were explicitly produced for people to hear in their own space although in *Radio Jam*'s case listeners were expecting to hear an experiment happening from the gallery studio, whilst the purpose of *Sound Train* was to disrupt normal listening as interaction. The site of reception as we have heard by the previous works can be engineered for an audience to a certain extent and yet the level to which any individual listener engages remains – as with any other media text – open to personal interpretation.

You can listen to an extract of the live two hour broadcast on the pen drive it is found in the 'SWITCHOFF' folder the file is called '7.Radio Jam (2012)'.

*fig.*19 *Radio Jam* (2012) V22 Gallery, poster

*fig.*20 studio jammers live broadcast from V22 Gallery (2012)

5.9 *Sound Train* (2012)

Sound Train was tested as a live pirate soundscape broadcast on 14th February, 2012, an activist take on soundscape which took place on a train journey between Canterbury and London, using a FM pirate transmitter which was used to broadcast the internal soundscape of the train journey as it happened in real time, from the train to the surrounding area; a reach of approximately 17km was covered as the high speed train passed through the countryside. This was an unedited live soundscape with content that was mundane and everyday. However, this ordinariness was ruptured as its very broadcast was a subversive and illegal performance act. I was interested in producing a soundscape work as a form of radio art. I wanted to explore radio art's relationship to soundscape and was excited by the idea of soundscape compositions which have moved away from a static soundscape merely played on the radio to an expanded form which embraces and explore the particularities of the medium.

I wanted to examine and produce soundscape when it is produced as a form of radio art. My starting point was my case study, Hildegard Westerkamp, as discussed in Chapter Four. Her *Sound Walking* programme had allowed her to experiment with the recording of diverse sound environments and how she communicated with her listeners, engaging them and contextualising the environmental recordings via quietly spoken, soft, contemplative, intimate and meditative commentary. It was relatively unusual to hear environmental sounds or soundscapes on the radio at the time and, as she stated

> This type of radio making presents the familiar as though artificial, through a loudspeaker, second hand, framed in space and time and therefore highlighted. Daily life is thus presented from a new acoustic angle. Such radio can assist us in listening to our everyday lives, to who we are as individuals and as a society. (Westerkamp, 1994: 90)

Her pioneering work helped to push forward new understandings of soundscape and many soundscape radio shows have followed in its wake, such as *Framework*, playing works of all durations. Since the 1970s, under the influence of Klaus Schöning, German producer, academic, curator and researcher from the Ars Acustica group, a vast array of *Neu Hörspiel* radio productions have been produced using soundscape that incorporates verbal 'text or reportage' (Iges, 2000). Ars Acustica and Kunstradio have been at the forefront of broadcasting and encouraging artists to develop real-time projects using new media

technologies that can be understood as a form of 'expanded radio art' or 'transmission art'. If radio art can be understood as an acoustic media art constantly shifting and evading fixed definition, then 'transmission arts' have been drawn from radio art's expanded movement across media as a hybrid practice that seeks to address the particularities of transmission technologies and their effect on processes of mediation.

In direct contrast to the more high tech approaches of Locus Sonus, my own radio experiments examining soundscape through expanded radio practice have embraced an affordable, community-arts and low-tech approach; and a strong DIY ethos has driven my radio actions. Westerkamp stated 'simply to broadcast environmental sound will not work for radio' (1993) as context is crucial to reception of her work. Making explicit radio's capacity to intervene in the temporal and spatial dynamics of everyday life, Chris Cutler's year-long radio intervention *Out of the Blue Radio* (2003) – or the *Hole in Time* – was broadcast daily for one year from July 1st 2003 at the same time 23.30–00.00 on Resonance FM. 104.4 FM in London.

> Each programme will consist of an unedited real-time recording of this slice of the day as heard through one person's ears somewhere on the planet. All the recordings will be made in real time and not edited. All clock zones will be covered and as many geographical locations as possible. These broadcasts are not intended to be approached as conventional listening radio but more in the way of an open window. (Cutler, 2003)

This was a participatory project, pre-recorded and aired in real time as an event specific to the FM medium. I wanted to play with this notion of soundscape and live radio and did so in an action drawing from Westerkamp's notion of the radio's framing device presenting the familiar as artificial. In this work, I sought to share, draw attention to and render uncanny the sounds of everyday travel. This unedited live soundscape aired in real time transmitting sound content that was mundane and every day, however this 'ordinariness' was ruptured as the very broadcast of the soundscape was a subversive and illegal art action act which made explicit the controlled environmental sounds of high speed travel. The action was mostly likely to have been experienced by the unwitting participants who may have briefly heard the broadcast as a form of radio interference as the train passed through their broadcast area.

This work can be understood as a reversal of Max Neuhaus's first sound installation *Drive In Music* from 1967, a radio installation which used four radio transmitters installed at regular intervals along a road to broadcast seven sound components which were:

> situated in spaces where the physical movement of the listener through the space to reach a destination is inherent. They imply an active role on the part of listeners, who set a static sound structure into motion for themselves by passing through it. (Neuhaus, n.d.)

Through a reversal of this transmission process as broadcast action, *Sound Train* still also allows people who chance upon the work (as was Neuhaus' intention) 'to find the works in their own time and on their own terms. Disguising them within their environments in such a way that people discovered them for themselves and took possession of them, lead by their curiosity into listening'(LaBelle, 2006. p.151). *Sound Train* can also be seen to draw upon the activist approach of German radio art collective LIGNA through broadcast actions which test the limits of the law and legal broadcast to public gatherings in privately owned public spaces. LIGNA use radio to create situations which draw attention to stratifications of power through their denaturalisation of perceptions of space as discussed in Chapter Three.

Sound Train's illegal transmission of soundscape draws attention to the control and ownership of time and space and how this is experienced on a phenomenological level. Broadcasting controlled transitory non space and making it the subject of the broadcast meant the journey itself became broadcast action which used the timetable of the trains journey as the fleeting points of reception and thus challenged excepted rules of broadcast and schedule. The space felt secure and sounded controlled but I was able to carry out my broadcast unnoticed, which gave a sense of freedom in defiance of the heightened security which seemed already to be looming in preparation for the imminent Olympics of that year. Through this work I made strange the dull soundscape of modern train travel through a live transmitted soundscape which crossed the boundaries between radio arts, transmission arts and soundscape and represented daily life from a new acoustic angle. This was conducted as a radio action which happened in real time; appropriately, I discovered that the file of the recording had corrupted so no document remains. This auto destruction of the work means this fleeting live broadcast harks back to the original reception of radio and for me that completes the work as there is no trace. I wanted to reflect on the idea of people in the future being able to broadcast on FM whatever they want, as they can do now on the web, to an unwitting audience who happen to tune in, bringing the Duchampian idea of chance into the work's reception (instead of restricting that chance to its composition).Again there is a certain resonance with the

declaration in the Kunstradio manifesto that '[t]he radio artist knows that there is no way to control the experience of a radio work.'(Adrian, 1998).

5.10 Radio Arts Activity Overview (2005–2010)

Radio Arts is an independent artists' group which I set up and run with fellow artist Jim Backhouse, which has allowed me to experiment and share my PhD practice in another public context. It is engaged in experimental broadcasting projects and workshops, stemming from our belief in the airwaves as a public space that should be open to all for creative purposes. The first Radio Arts workshops happened for eight weeks in 2006 in the Albany, London, and was funded by Awards For All and by the European Social Fund. These workshops allowed me to directly share my practice with other artists, and new works were produced and aired on Resonance FM. A second wave of workshops started in July, 2013 and are ongoing, funded this time by ACE and Kent County Council and have been linked to live micro broadcasting as specific sites. These workshops have directly come about through my practice and in some cases complement particular aspects of the *Switch Off* suite such as *Radio Recall* and *Babble Station*. Workshops were themed to encapsulate each type of practice: soundscapes of Margate were recorded and used for a radio action in the Dan Graham sculpture at the Turner Contemporary Gallery; O-ton methods of appropriation were employed to make radical vox pops at the Duchamp Festival; collage and cut-up were used alongside activist and performance methods at the Whitstable Biennale, where the beach was used as a performance installation site; transmitter and receiver workshops focused on transmission at the Beaney Gallery and at the LV21Lightship arts space.

I curated the Radio Arts Showcase (2014) at the Beaney House of Art and Knowledge, the main public museum and gallery in Canterbury. The showcase presented an on-site broadcast of newly commissioned works, alongside radio receivers, transmitters and other material produced in the workshops we have been running in arts spaces and unusual locations across Kent over the last year. The public response was fantastic, with 2500 visitors whose comments included such reactions as 'eerie and beautiful,' 'inspiring,' ' fascinating stuff original and nostalgic', 'interesting, very strange and unique sounds'. It was great to engage with a new audience for the work who were unaware of radio art or sound art for that matter. The Radio Arts Showcase offered the first public airing of the Dreamlands Commissions, an open international call for radio art works which I established as a response to the need, that I

have discussed throughout this thesis, for more funding for new radio arts projects in the UK. The open-ended theme was Radio 'Dreamlands' and 92 people applied to the open call.

The open call has produced a series of outstanding new radio works from international artists Gregory Whitehead, Joaquim Cofreces and Michael McHugh and Noizechoir. *Dreamland* by Joaquim Cofreces(Argentina) was a captivating radiophonic work which explores the fragile line between the real and the illusion, representing acoustically the elusive Edgar Allen Poe poem, through a shifting soundscape, narrated by the voices of women reading the work across the globe. He drew out the enigmatic core of the poem through the electronic treatment of concrete sounds and the rendering of a multiplicity of international voices. Whilst Michael McHugh and the Noizechoir's *Dream of the Dream Scientist* used biomedical data examining brain patterns during sleep, re-interpreted vocally through graphical scores. This eerie sound portrait of the sleep centre and the scientists working there consists of building choral pieces performed and recorded by the Noizechoir with an explanation of the process and the science that underpins it. Giving an acoustic portrait of a sleep research centre and the musical rendering of the brainwave and somatic patterns of a sleeping sleep doctor. *Radio Recall* (2013) was also in the showcase, one of my eight speculative 'trace stations': the fictional radio stations that comprise my *Switch Off*, *Radio Recall* features local people's radio memories recorded at the Old Lookout Gallery in Broadstairs in the summer of 2013 that were then relayed audibly through the growing collection of vintage radio receivers that I have been given. Jim Backhouse composed a series of *Incidentals* in response to the interviews sourced from SW, LW and MW transmissions picked up from my collection and ones we built.

The *Dreamlands* commissions can be found on the pen drive in the '*Dreamlands* Commissions folder'.

All the radio art works were broadcast in the space over 50 radios. There was some very engaging feedback people particularly loved the vintage radios, making comments such as ' Interesting ideas the sounds feel like the last groans of old technology fading away ' and ' excited by the every growing army of radios multiples have the power to take over the world.' People also were excited by the tone of the older radios which clearly contrasted with the new FM radios; each old radio unlocked memories which visitors were keen to share, and there was a real buzz in the air. The audio showcase was accompanied by interactive visual art from digital artists Genetic Moo. Many children were drawn to this work as it was responsive to the

surrounding sounds through an interactive visual wall called *Aeroplankton* (2014). Microscopic airborne protozoa called Radiolaria Aeoliae display intricate mineral skeletons which act as receivers of extremely shortwave radio signals and children loved watching them and joining in. As Apple has noted in her definition of radio art in Chapter Three, the physical public space for these works was indeed acted upon by the artist in this case as producer and curator and used as 'a site for various cultural voices to meet, converse and merge in.' (Apple,1987).

The Dreamlands commissions were also broadcast more traditionally in July and August 2014 on UK stations, Sound Art Radio, Radio Reverb, Phonic FM, Resonance FM, Radio Papesse in Italy and Wave Farm's WGXC (USA). A new work by Ester Johnson *Plunge Flip Bump and Score* is to be broadcast later this year, and the works will also be archived on an online gallery at www.radioarts.org.uk. Ten more radio art commissions,[66] further workshops and live radiophonic event were funded through ACE in September 2014, and were set up as a direct reaction to the lack of funded opportunities for artists to make radio work that I found during this research in the UK, as discussed in Chapter Two. Radio Arts has partnered with ten stations to air them and set up a dedicated online gallery to stream each artist work monthly from its website.[67]

---

[66] Dreamlands commissioned Artist September 2014, Characterized by GX Jupitter-Larsen, Morse Code Choir by Iris Garrelfs, Muffled Cyphers by Langham Research Centre, All Eco by Louise Harris, Et In Dystopia Ego by Arturas Bumšteinas, Out Of Thin Air: Radio Art Essay #1 by Colin Black, Down The Royal Road by Carlo Patrão, Two Sleeps by Anna Friz, Dreamlands by Olivia Humphries, Medway Flow by The People Speak.

[67] Partner stations Resonance FM, Phonic FM (UK), Sound Art Radio (UK), Radio Reverb (UK), BCB (UK), Radio Papesse online (IT), ABC (AUS), Radiophenia (UK) and Borealis Festival Radio Bergan Norway, WGXC Wave Farm(USA).ABC National Radio Australia and RTE Public Radio Ireland will also air selected works from the commissions.

*fig.*21 *Radio Recall* (2014) The Beaney, Canterbury

*fig.*22 *Radio Showcase (*2014), The Beaney, Canterbury

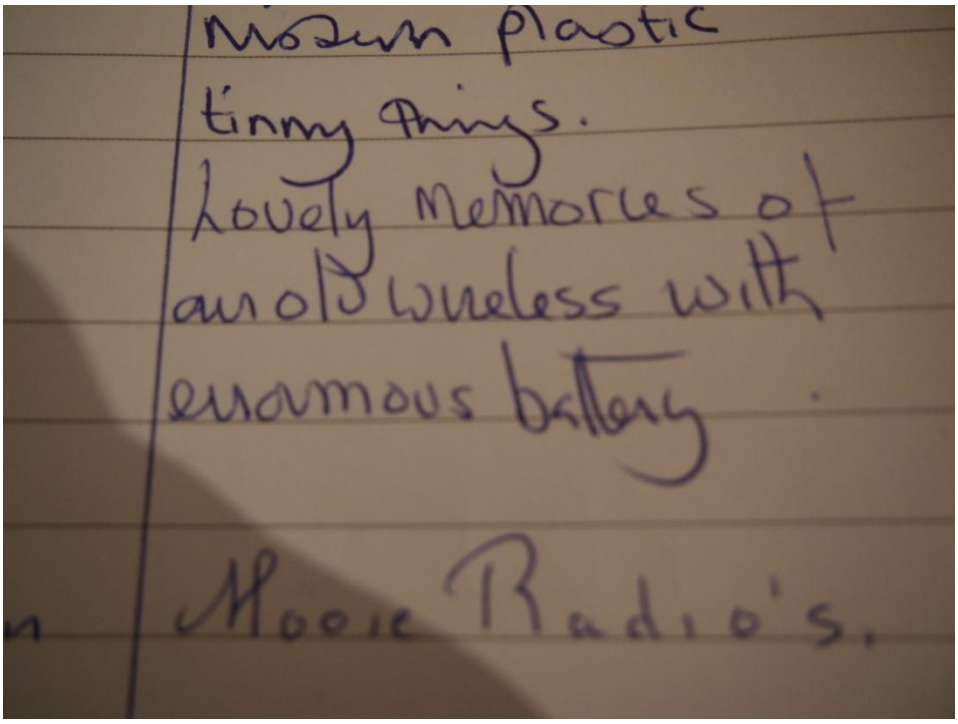


*fig.*23 *Radio Recall (2014)* visitor feedback

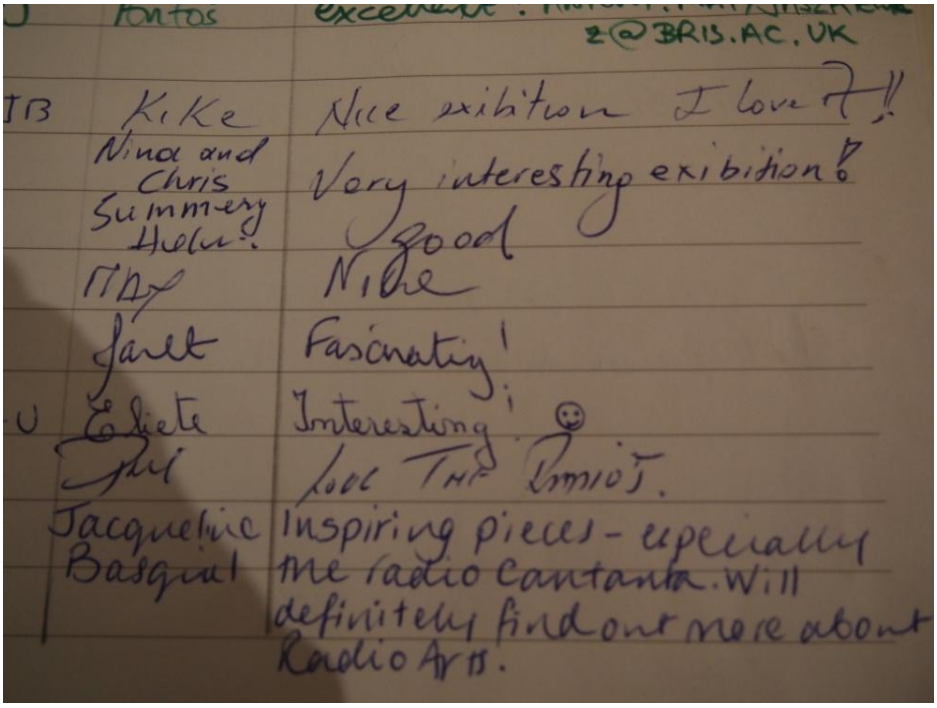


fig.24 Radio Arts Showcase (2014) Feedback

fig.25 Soundscape action (2013) Radio Arts workshop, Turner Contemporary

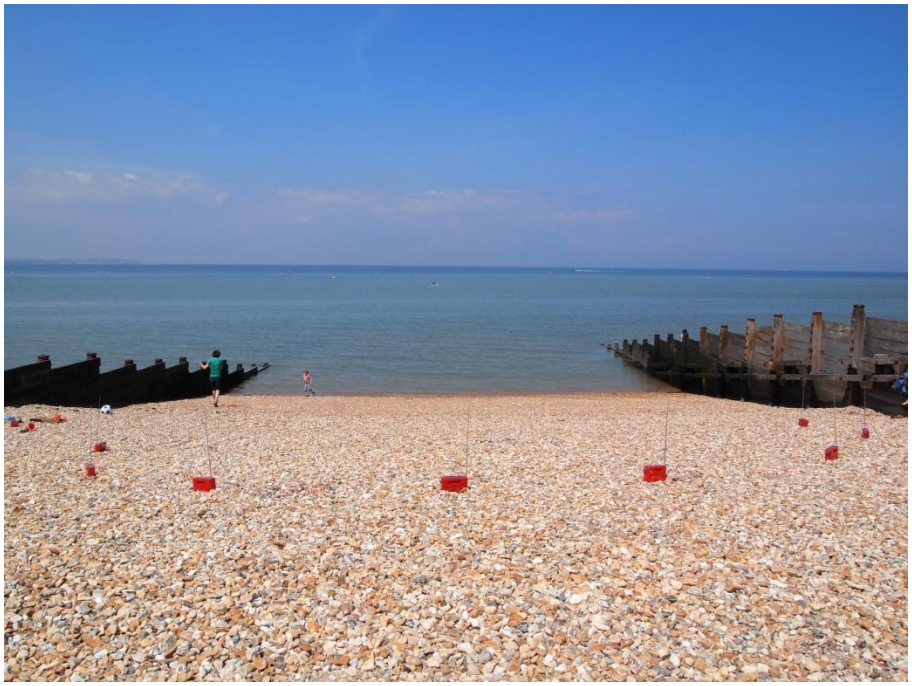


fig.25 Siren (2014) Installation, Radio Arts workshop Whitstable

5.11 Conclusion

My last work for this project, *Spiritual Radio* (2014), was commissioned as a transmitting radio book, for a touring exhibition called *Unbinding the Book* for creative arts studio Jotta in London and American publishers Blurb. The work was exhibited at Whitechapel Gallery London September 25th – 28th, 2014 at the London Art Book Fair, it will also travel to San Francisco and New York. The work consists of a transmitter nailed into a bound copy of the book *Spiritual Radio*. The hybrid 'book-radio' is an uncanny object, the pages held shut by copper nails, connected by wires to form a transmitter circuit; transmitting the words inside in an eternal loop. It can no longer be conventionally shelved, rather the text awaits the listener who is tuned to the right frequency. *Spiritual Radio* (1925) sets out cleric and radio enthusiast Archbishop F.H. du Vernet's vision of the nascent technology as a spiritually-charged electrical force capable of mediating human sensibilities and the transcendent will of God in a text that is by turns visionary and often absurd in the bathetic disjuncture between spiritual promise and quotidian reality. *Spiritual Radio* (2014) came directly from the *Radio Mind* (2012) project and from running FM transmitter workshops which allowed me to develop Kogawa's copper plate mini FM circuits and apply this to a breadboard circuit transmitter which were more sculptural and adaptable and could be used on wood and books. A unique edition of the book has been hand bound and contains a working FM transmitter on its cover. The book broadcasts the recorded text, voiced by writer Mark Pilkington with specially created music by Jim Backhouse. *Spiritual Radio* has already generated press in the *Guardian*, *Times Literary Supplement*, Artist Network and a short film by Crane TV.[68] Michael Caines wrote that the radio book 'looks like a hardback on life support'(2014) and Elizabeth Murton, that it is 'a spiritual text that sees technology "as a spiritually charged force"; the value of the content of the book surpassing its physical form.'(2014).

You can listen to the book on the pen drive it is found in the 'SWITCHOFF' folder in the file is called 'Additional Practice' titled '3. Spiritual Radio (2014)'. If time had permitted I would have liked to hand you, a copy of this thesis as a radio book with copper pins holding it shut as you listen to the text through FM radio. This would seem a fitting conclusion to such a practice-based thesis. Instead, I ask you to imagine this as a radio, in essence, is the art of the imagination.

---

[68] See Flood; Crane TV.

During my research I have embraced micro broadcasting and expanded radio art as my own broadcaster, first with podcasts and now using mini FM and working on site-specific environments to create radio events. I have also had work aired internationally and been curating work. I had initially been motivated to find out if 5.1 surround sound radio offered a useful tool for the radio art practitioner, a question I posed to all my case study interviewees. I quickly found this to be a less useful path upon which to center the research upon, as I found I was focusing on the technical production of surround rather on artistic ideas and content. My interest waned as I focused on the content of the *Switch Off* project and started experimenting with my own DIY diffusion techniques through multiple transmitters. I found this more satisfying than adopting an industrial approach. Interviews with my case studies also helped move me away from any fixation with surround sound and proved to me that it was not the most useful tool and could even be a distraction. Instead, I furthered my own radio art practice by exploring these issues within my work and through the analysis of others' practice (including establishing workshops and curating opportunities for new work). I have been commissioned to produce a surround radio work as another outcome of this research in the future for Kunstradio and this will be very fitting future radio art work which will come directly from this research project.

I found all of my categories of practice to be useful tools. Transmission proved to be the most consistent and existed in all the works purely because of the common distribution via radio. I decided that the term 'transmission' felt appropriate when this action was integral to the concept of the work; this was particularly the case when a work emphasised 'process' over 'product'. This has led me to conclude that while transmission art works still fall under a radio arts umbrella as a recurring type of practice, in the widest sense, all radio arts practice can be included as a subsection of transmission arts. Each can be considered a different lens through which art practices that adopt radiophonic techniques and technologies can be apprehended, with each emphasising and valorising particular facets of this practice. To simplify: transmission art focuses on the intrinsic materiality of radiophony and the processual nature of transmission whereas radio art, while also addressing issues of process and materiality, is concerned with questions of radio aesthetics, institutional framing and exploring narrative and format. They are essentially two different lenses through which look at radio art and bring different properties to the fore.

Relocating to Canterbury, Kent, allowed me time and space to reconsider my work outside of a collective banner. I regained my artistic voice and the overarching concept of *Switch Off* following the birth of my son in 2008, which was a hugely creative and liberating moment for my practice. I got back on track in earnest and committed to a self-devised work plan which saw me approach a radio project every few months; I have been fortunate to have enjoyed a nonstop flow since of creative outputs over the last four years

Podcasting from home – with the *You Are Hear* project – allowed me to reach an audience of nearly a million people, whilst working on installations allowed me to enjoy radio as an installation event outside the studio with a visible audience. However, podcasting quickly became a product and thus a chore. When I lived in London I was surrounded by live events, artists and musicians with whom to record and interview but with a young baby and full-time job it was hard to be as mobile and this, in its turn, reflected the issues of a lack of wider cultural practice to tap into as had been raised in the Cape UK report discussed in Chapter Two. Having a long view of radio had been good for my direction and understanding of radio art, when I started I was very excited about surround technology. However, this interest drifted as content and concept became more important to me. Like the birth and death of the Swedish radio arts stations c. (2001 to 2008) dedicated to 5.1, my interest in surround radio in a conventional setting waned for this project as my practice developed. Regrouping Radio Arts in the south east has been fruitful and from June to December in 2013 the new Radio Arts site has had 6,600 unique views and I have accumulated 1000 Twitter followers. My own practice blog for this research has had 6,127 views in Jan 2013, views which spur me to set up a dedicated artist website after the doctoral research project has been completed. An open call for new radio arts works by Radio Arts which was funded by ACE and KCC and supported by the CMA had 92 high-calibre artists apply.

It has been useful to watch my case studies projects through an eight-year lens. Sound arts have been accepted by the art world but radio art seems just as specialist as it was nine years ago in the UK. Despite the scarcity of radio artists and radio art stations, Basic FM was a positive new addition, sadly no longer, but Wave Farm projects in upstate NYC and Radius in Chicago and new UK community arts station Hive Radio have emerged. Several artist-led FM RSL stations have appeared since Kaffe Mathews' *Radio Cycle*(2003) and Tom McCarthy's *Calling All Agents* (2004) that I mentioned earlier in this written document. These include Zoë Walker and Neil Bromwich's *Celestial Radio* project (2008); the three arts stations that were

commissioned as part at the AV Festival 2008;Vicki Bennett's *Radio Boredcast* (2012) on Basic FM; the DAB *Boat Radio* (2012); Melissa Appleton and Matthew Butcher's *Whittle Calling* (2013), a temporary radio station and structure sited in the Essex landscape; and The Dark Outside in the Galloway Forest (2012-14). The most recent forthcoming is *Radiophenia* (2015), broadcasting from the Centre For Contemporary Arts (CCA) Gallery Glasgow.

The internet has helped spotlight and bring together an international radio arts community. The Facebook radio arts group set-up by Colin Black has 2753 members and other social sites such atwitter groups have also allowed practitioners to focus on calls for radio art projects around the world. FM is still going strong and digital radio has still not become the dominant main way of listening to radio in the UK. This project has caught the imagination of people who have encountered it, many of those who have engaged with the work have expressed projected feelings of loss if FM were to be turned off in the UK, and thankfully plans for analogue radio switch-off have been stalled for now by the government. My playful fictional predictions of the future use of FM radio have allowed me to explore the medium's resilience, my own concerns about digital switch-off and, through making work that is publicly accessible, to personally experience the audience's expressions of love for the medium. In 2011 Ofcom proposed a more industrial use of the FM analogue spectrum if freed up after the UK's digital radio switchover to power a range 'white space' devices– including augmenting those frequencies available for WIFI – and this is currently being tested and used on the old analogue TV spectrum.

However, such an outcome looks as if it will take some time to be realised; although successive governments have registered a strong commitment for the UK to switch to digital DAB radio, debate and delays are ongoing as the public and some commercial stations have not bought into the idea of DAB due to a variety of factors. The poor service of DAB, its inferior sound quality, its cost, and the waste of millions of sets which are currently working in UK households have certainly influenced the reluctance towards 'take up'. A group representing 80 stations made up of 13 commercial companies across the UK listened to by '6 million people a week' (Plunkett, 2013a) issued a joint statement against the move to DAB, reported in *The Guardian* a few weeks before the latest Government announcement. Scott Taunton, managing director of UTV Media (GB), said: 'We think the concept of migrating stations from AM and FM [to digital] is flawed. There is no consumer demand for this and unlike digital TV switchover there is no digital dividend for the taxpayer. The bulk of people

are quite happy with the radio services they already have' (Plunkett, 2013a). A further issue relates to motoring, since nearly 20% of all radio listening takes place in cars and yet 'fewer than 10% of the total number in the UK have digital' equipment installed (ibid).

Ironically, in several countries DAB itself has already been turned off. The switch-off date in the UK keeps receding ever further into the future. In 2009, the Labour government set 2015 for analogue switch-off ; in December, 2013, Ed Vaizey, Minister of Culture, issued a government announcement that strongly suggested that radio switch-off would not happen in the foreseeable future. 'I will not announce a decision in principle, or a date for switchover, until I am confident the radio listener is brought with us' (Vaizey cited in Plunkett, 2013b). Since there are 'estimated to be more than 100m analogue radio sets in the UK, post-switchover they would only be able to receive small local stations and community radio and [t]his doesn't seem ecological or resourceful.' (ibid).

It seems pertinent that in the UK the only manufacturer to put digital radios in all new cars is Volkswagen, the sponsors of Radio Arts PhD research at Bremen University. Nic Gibbs wrote a article in *the Independent* called 'DAB radio: dead on arrival?' which echoes my own long-held perspective. According to this article, the Government plans to rethink switch-off dates again when digital listening reaches 50 per cent – currently, it is at '36.6 per cent'(Gibbs, 2014). However, it seems to me and others such as radio futurologist James Cridland that by that time we will have moved on to a mix of platforms, and FM is unlikely to be switched off. Gibbs' prediction is that we may end up listening to internet radio, although my sense is that delivering this on a wide scale may well be too costly even for big stations; nevertheless, I agree at present with his ultimate conclusion that whatever happens, 'the under-used digital network will become an expensive albatross around the Government's neck.'(ibid). However its not all plain sailing as digital radios price have dropped and now outnumber analogue sets in large retailers like PC World, furthermore Norway have announced the switch off of analogue services in 2017, which as an artist and academic will be a fascinating case study to follow if a worrying time for many in the UK industry.

Back in 2011, Ed Richards, the CEO of Ofcom, stated his desire to allocate FM to the smaller stations who don't move to DAB and use 'white space' to restrict pirates and offer commercial use of the FM frequency for use with digital devices to ensure efficient use of radio spectrum

> White Space Devices offer a creative solution that would not only use spectrum to its full capacity, but would also work alongside existing smaller FM radio stations. This could be done without causing interference and without any commercial conflict. This approach not only would spur on technological innovation but it could also further restrict the opportunity for pirates to fill in the gaps caused by careful spectrum planning. (Ofcom, 2011)

For me, it is these very gaps that Richards promises to exclude that excite me artistically: who will be out there? Who will be the new radio pioneers? What will it sound like? How will they navigate this brave new world of spectrum planning? *Commercial Breaks* imagines the end of DAB and its radiophonic narrative becomes more prescient and more plausible as time goes on. White space devices are everywhere and, for many, the mobile phone is now a portable radio. James Cridland predicts that what we will be doing in the future is using all platforms, our device selecting the best service based on our location, whether it is FM, DAB or internet. This seems a rational way forward, rather than a battle for exclusivity and single delivery, it could herald an incorporation of modes for best use, one which would see FM utilised for many more years. This project can easily continue as the applications and debates continue to flow along with peoples' own current nostalgia for a pre-digital world continues. A critique of *Switch Off* in terms of its production values is that much of it can sound raw; all were, in a sense experiments, *Babble Station*, for instance, is still in essence a work in progress having not been refined outside of the site of production. The stations do not have the professional high end values that I would expect to hear in the work of, say, Gregory Whitehead's radio plays for Radio Four. They are brittle ramshackle affairs, concept-driven works but as such they are fulfilling Kunstradio's earlier definition of a radio at, one where conceptual originality is more important than sound quality. Having said that, I have not tired of engaging with them, despite having listened through countless playbacks: the trace stations which constitute the *Switch Off* project are now also memories of radio research, ideas, locations, voices, audience, participation, history and technological conflicts and resolutions. In all the public spaces and galleries that I displayed the work, I encountered a non-arts audience face to face; where I could experience immediate reactions, from those who fully committed to the work, to those who would walk out in disappointment when confronted by the absence of pictures to look at. This real-time audience response was something I could never do whilst broadcasting from a studio. Making the works also offered me the role of participant observer and has given me a unique perspective again not available from merely reading round the subject.

This was radio playtime and has been an immensely productive period, the project developed and has been received from wider radio arts communities and gave me creative freedom from the restrictions and conventions of mainstream radio practice I teach at university. I also focused on visualizing radio, having worked with a graphic artist, Theo Sykes who was able to run with my ideas and poster concepts and make them into reality. This visual side of the works has had an important impact as the internet and social media played a huge part in publicising and sharing the project, spurring me to move ever forward; creating a visual poster for each project helped boost the project's identity online as I embraced social media. Michele Hilmes writes of this new materiality of radio (2013) which I have embraced as a way to share projects, the second screen that carries radio is key to its rebirth along with radio's ability to be now be listened on demand part of its resurgence having lost its 'Ghastly Impermanence' (Sieveking,1934). As Hilmes puts it, radio is now 'a screen medium possessing extended capabilities' (2013, p.49) and although firmly embracing the internet it has remained a 'sound experience … screen interfaces are radio as much as the audio stream itself.' (Hilmes, p.49). Hilmes seems excited by the idea of a growing radio archive which runs counter to the concerns of the British Library, that most radio is not being extensively archived in the UK. *Switch Off* is only the tip of a growing iceberg of radio arts projects internationally, not all of which could be covered. However, I hope to have achieved an historical overview which brings together a range of important projects not previously discussed in one text.

Planned post-doctoral practice and study includes: researching the role of women in community radio in UK and editorial accountability in the sector; the use of DAB radio as an artistic platform; public sector funding of radio art in the UK and internationally; and the archiving of radio art in the UK and again internationally.

Researchers at Bedford University (BBC News, 2012) are patenting a device which allows them to power clocks by harvesting AM radio frequencies, which leads me to a new research project, thinking about how radio waves could be used to power radios for an installation. I plan to develop a forest location *Tree Radio* installation, using the breadboard transmitter technique I developed during the research for *Spiritual Radio* (2014). Drawing from this research practice, I am running further Radio Arts workshops in 2015, working with Londoners aged over sixty to produce a participatory radio installation for Tate Britain exhibited March 28th - May 9th 2015, and making book radios at the Beaney Museum Canterbury. At the Turner Contempory Margate I'm making a new participatory work

communicating *Dream Vessels*, dreams transmitted via ceramic pots a homage to surrealist Robert Desnos radio show *La Clef des Songes*,1936. *Spiritual Radio* will be exhibited at The Engine Room International Sound Art Exhibition, May 12th - June 12th, 2015 at Morley Gallery, London.

It is pertinent to ask whether we can now talk of a new definition of radio art in a world where internet streaming, webcasting, tweeting and podcasting, have fundamentally shifted the perception and practice of radio for public and practitioners alike, engaging debate and influencing my own and others' creative work in growing area of interest.[69] I consider my own work as a form of expanded practice; the term highlights the terrain's openness, its fluidity and movement between mediums. It seems fitting that for many 'wireless' was the first name for radio, a term still used by many older listeners in the UK. If Ofcom's plans come to fruition, the radio waves will be utilised as whitespace so unused radio frequency will be reused to carry all media and radio once again.

Switch-off may never happen as radio's resilience is one of the repeated lessons of my research across the long twentieth century and into the twenty-first. As an analogue form it may never be completely abandoned by the consumer and, as I have shown, artists are still deriving inspiration from the analogue airwaves. Although this research project has now come to an end, in a sense, it feels only as if phase one has reached its conclusion, as the possibilities for the topic are wide and there is much scope for additional work: there are still areas of exploration through which new radio technologies can drive forward new installation work that still retains a compelling focus on the future of the medium. Radio art as a field is an ongoing open and exciting terrain as long as there are those who wish to carry it forward. What I have found with my practice is the narrative of each trace station has allowed the works to be re-aired or worked in a range of settings. The projects are far from exhausted but offer a supply of ideas that tap into current issues surrounding new wireless technology as a way of understanding new advances. *Radio Mind* found new life in a radio taxi at the Marrakech Biennale and back into book form as a transmitter radio book at the Whitechapel Gallery, and

---

[69] The international symposium '*Radio As Art – Concepts, Spaces, Practices: Radio Art between Media Reality and Art Reception* took place in Bremen (2014). Organized by the Centre for Artists' Publications (home of a Radio Art Archive) with the Universities of Bremen and Köln who are also seeking to expand discussion in this field of research and have funded new PhD study in the area working in partnership with Kunstradio and sponsored by the Volkswagen Foundation.

later in San Francisco and New York, whilst *Numbers* has been relayed in galleries and across the Galloway Forest at night.

Radio after radio is an exciting place to create new work as radio has become, as it was at its inception, an open audio space on which anyone one can play, provided that they have the means to do so, means that are ever more accessible now that people can record and edit work via mobile phone and that a simple micro transmitter is very cheap to make.

At present there is no dedicated text addressing the development and contemporary practice of radio art in the UK, and this thesis is the first to analyse this area in depth, bringing into the frame the wider international context within which this particular history and trajectory has unfolded. This draws upon a diverse network of histories and practices, many of which have been hitherto undocumented in a radio art context, incorporating pioneering projects in Mexico, Poland, Cuba and France that intersect literary, media and art histories, provoking further potential avenues of interdisciplinary enquiry. In mobilising the proposed switch off of analogue radio as a conceptual grounding from which to generate new radio art works, I have brought current debates on analogue and digital radio into a politically engaged and imaginative discursive framework which draws explicitly on the contemporary condition of the 'post digital'. In foregrounding my personal experience I have been able to provide a detailed history of arts community stations in the UK from an insider's perspective, and have conducted interviews with radio artists whose work spans over half a decade as additional primary material for this research thesis, and as such this work offers a uniquely active and engaged perspective on current modes of radio art practice which will be an invaluable educational text for practitioners and researchers alike. The radio artists' work is highly dynamic drawing on materials, methods, concepts, and subjects that challenge traditional art boundaries. Examining radio arts histories enables myself and other practitioners not only to draw inspiration from the past but add to current debates around the art form. Understanding radio art's historical precedents' not only provides context, but ways of informing new work; referencing the past allows one to explore past themes and augment new ones. This has been an invaluable process from my own practice, allowing me to dig deep to develop conceptually led work which acknowledges and makes reference to radios art's rich history. It has been my intention to render this history accessible to other practitioners so that they too can derive inspiration and situate their practice within this still unfolding terrain.

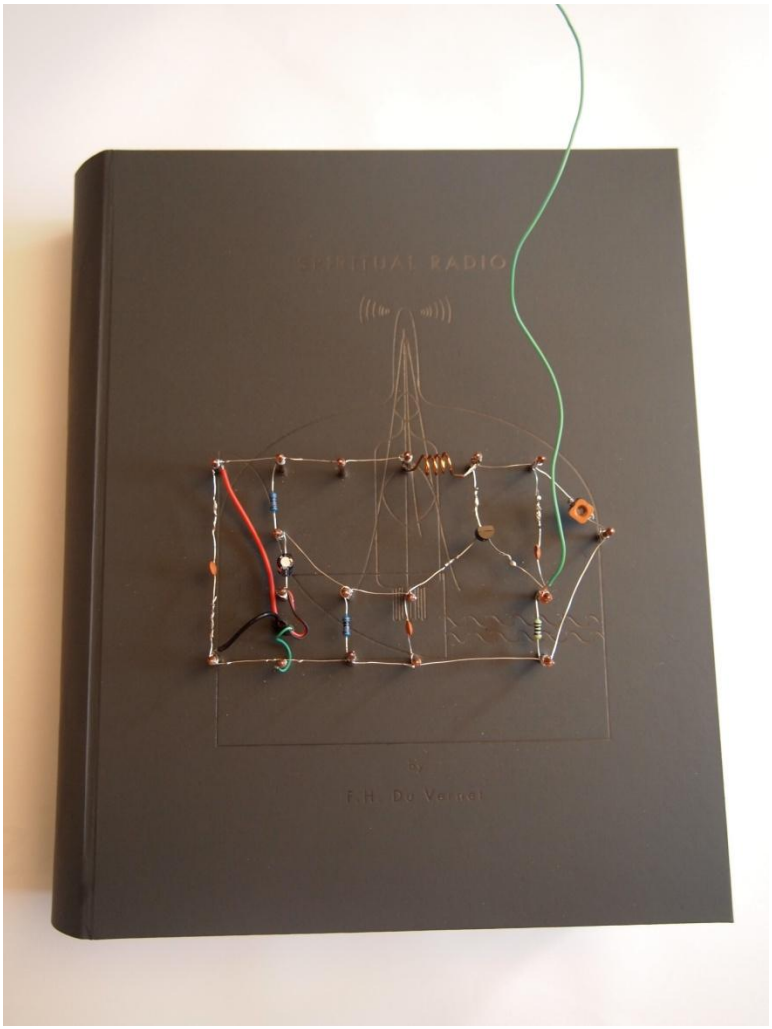


fig. 27 *Spiritual Radio* (2014) Unbinding The Book Commission

Bibliography

ABC Radio International. (2012) Radio National plans program cuts to save money. [Internet]. 25th September 2012. Available from: <http://www.abc.net.au/news/2012-09-25/radio-national-plans-program-cuts-to-save-money/4279846> [Accessed 1 January 2013].

Adrian, R. (1998) *Toward a definition of Radio Art*. [Internet]. Available from: <http://www.kunstradio.at/TEXTS/manifesto.html> [Accessed 5 July 2006].

Adrian, R. n.d. *Art and Telecommunication, 1979–1986: The Pioneer Years*. Available from: http://telematic.walkerart.org/overview/overview_adrian.html [Accessed 25 May 2012].

Agamben, G. (1993) *The Coming Community*. Minneapolis: University of Minnesota Press.

Air Time (2013) Facebook page. Available from https://www.facebook.com/events/238334319651815/ [Accessed 2 May 2015].

All FM (2011) Save All FM 96.9. Petition. 23 February. Available from: <http://www.petitionbuzz.com/petitions/saveallfm> [Accessed 20 April 2011].

Apple, J. (1987) *New American Radio and Radio Art*. Online article for New American Radio website. Available from: <http://somewhere.org/NAR/writings/apple.htm > [Accessed 5 September 2005].

Apple, J, Beyer, R and Kostelanetz, R. (1988)Making Radio Waves. *The Drama Review* [Internet]. vol.36(2) pp.7–14. Available through: JSTOR database [Accessed 14 March 2011].

Arnheim, R. (1936) *Radio: An Art Of Sound*. London: Faber and Faber Ltd.

Arnheim, R. (1937) Disciplining the Gramophone, Radio, Telephone, and Television. In: *Modernism/Modernity*. vol.16(2) pp 421–26.

Ars Electronica. (2004) Festival, Germany. Available from: www.kunstradio.at/PROJECTS/REINVENTING/index.pjp?c=5, [Accessed 13/9/10] Ars Electronica is a key international web festival and conference [online] http://new.aec.at/news/de/ [accessed 13/9/10].

Arts Council England. (2015) Interactive map: our funded organisations, 2015-18. Available from: www.artscouncil.org.uk/funding/our-investment-2015-18/national-portfolio/new-portfolio/interactive-map [Accessed 02/7/14]

Aspley, K. (2006) The Avant-Garde, Neo-Avant-Garde and Radio: Robert Desnos and Philippe Soupault. In: Hopkins, D. *Neo-Avant-Garde (Avant Garde Critical Studies 20)*. pp.223–43.

Augaitis, D and Lander, D. (1994) *Radio Rethink: Art, Sound and Transmission*, Banff, Canada: Walter Philips Gallery.

Austin, L., Boone, C and Serra, X. (1991)Transmission Two: The Great Excursion. The Aesthetic, Art and Science of a Composition for Radio. *Leonardo Music Journal* [Internet]. vol.1(1) pp.81–88. Available through: JSTOR database [Accessed 14 December 2010].

AV Festival. (2012) Radio Boredcast. Available from: <http://www.avfestival.co.uk/programme/2012?category=radio> [Accessed 22 July 2014].

Barber, B. (1990) *Radio: Audio Arts frightful Parent*. In: Lander, D and Lexier M, eds. *Sound By Artists*. Toronto: Art Metropole and Walter Phillips Gallery.

Barliant, C. (2005) *Stationary Flow: Process and Politics in Audio Art On the Air*. [Internet]. Available from: <http://somewhere.org/NAR/writings/barliant.htm> [Accessed 10 November 2007]

Basic FM website [Internet]. Available from: <http://www.basic.fm/> [Accessed 18 September 2014].

Baxter, E. (2009) Do the arts speak digital? Resonance FM [Internet]. Available from: <http://resonancefm.com/faq/research/ambitionpaper> [Accessed 12 December 2009].

Bazzichelli, T. (1997) *Networking – The Net as Artwork.* [Internet]. Available from: <http://www.networkingart.eu/english.html> [Accessed 10 November 2007].

BBC Media Centre (2013) More people than ever listening to radio after record-breaking quarter [Internet]. Available from: <http://www.bbc.co.uk/mediacentre/latestnews/2014/rajar-q4-2013> [Accessed 18 March 2014].

BBC News (2012) Researchers develop new system to 'eliminate' batteries, 11th February [Internet]. Available from: <http://www.bbc.co.uk/news/uk-england-beds-bucks-herts-16869064> [Accessed 29/6/12].

Beck, A. (1998) *Point-of-Listening in Radio Plays.* [Internet]. Available from: <http://www.savoyhill.co.uk/pointoflistening/pointoflistening.htm > [Accessed 1 May 2015].

Beck, A. (2002) *The Death of Radio*. [Internet]. Available from: <http://www.savoyhill.co.uk/deathofradio > [Accessed 1 May 2015].

Bengal, M H and Eckley, G. (1975) *Narrator and Character in 'Finnegans Wake'*. Lewisburg, Pa: Bucknell University Press.

Bennett, Vicki. *People Like Us*. Website. Available from: <http://peoplelikeus.org/> [Accessed 2 May 2015].

Bennett, V. (2011) Interview with Magz Hall. 25 February, 2011.

Berghaus, G. (1998) *Italian Futurist Theatre,* 1909–1944. Oxford: Clarendon Press.

Berry, R. (2006). 'Will the iPod Kill the Radio Star? Profiling Podcasting as Radio. Convergence. *The International Journal of Research into New Media Technologies*. vol. 12(2) pp143–62.

Birkenmaier, A. (2009a) Introduction to Paul Deharme: Proposition for a Radiophonic Art [1928]. *Modernism/Modernity*. vol.16(2) pp.403–05.

Birkenmaier, A. (2009b) From Surrealism to Popular Art: Paul Deharme's Radio Theory. *Modernism/Modernity*. vol.16(2) pp.357-374.

Birtwistle, A. (2009) Unpublished paper on Walter Ruttmann presented at the *Reinventing the Dial* Symposium. 27th October. Canterbury Christ Church University.

Black, C. (2009a) Radio Art: An Acoustic Media Art Form. Paper from Media Art Scoping Symposium. 4th July, 2009. University of Melbourne. Available from: <http://www.academia.edu/357752/Radio_Art_An_Acoustic_Media_Art_Form> [Accessed 1 May 2015].

Black, C. (2009b) Radio Art: Broadcast or Outcast. Music Forum. Journal of the Music Council of Australia. vol.15(2).

Black, C. (2010) An Overview of Spatialised Broadcasting Experiments with a Focus on Radio Art Practices. *Organised Sound*. vol.15(3) pp.198–208.

Boaden, H; 2013, BBC Media Centre website. Available from: <http://www.bbc.co.uk/mediacentre/latestnews/ 2014/rajar-q4-2013> [Accessed, 20 March, 2014].

BOAT Radio. Project website [Internet]. <www.transmissioncommission.com> [Accessed 6 September 2012].

Bonini, T. (2011) Blurring fiction with reality: the strange case of Amnesia, an Italian radio mockumentary. In Gazi, A., Starkey G., Jedrzejewski S. *Radio Content in the Digital Age: the evolution of a sound medium*. London, Intellect Books.

Bosma, J. (1997) Interview with Heidi Grundmann. 17th August, 1997. Available from: <http://telematic.walkerart.org/overview/overview_bosma.html> [Accessed 27 May 2012].

Brecht, B. (1932) Der Rundfunk als Kommunikationsapparat. [Excerpt]. In: *Blätter des Hessischen Landestheaters*. No.16. Available through: <http://www.medienkunstnetz.de/source-text/8/> [Accessed 12 December 2007].

Brecht, B. (1964) Der Rundfunk als Kommunikationsapparat [Radio as an Means of Communication: A Talk on the Function of Radio]. [1932] In: Willett, J. *Brecht on Theatre.* New York: Hill and Wang.

Breitsameter, S. (1998) Evening radio panel discussion. Resonance FM RSL, London. 4 July, 1998.

Breitsameter, S. (2007)Transmission To Procession: Radio in the Age of Digital Networks. In: Jensen, E.G. and LaBelle, B. eds. *Radio Territories*. LA/Copenhagen: Errant Bodies Press. pp.48–56.

Brennan, T, ed. (2002) Introduction. In: Carpentier, A. *Music in Cuba.* Minneapolis: Univ Of Minnesota Press. p25–26.

Briscoe, D. and Curtis-Bramwell, R. (1983) *The BBC Radiophonic Workshop – The First 25 Years*. London: BBC.

British Library. (2007) *Breaking the Rules: The Printed Face of the European Avant Garde 1900–1937*. Exhibition 9 November, 2007–30 March, 2008. London, British Library. Available from: <http://www.bl.uk/breakingtherules> [Accessed 20 May 2008].

Bruszewski, W. Wojciech Bruszewski (1947–2009) [Internet]. Available from: <http://www.voytek.pl/aindex.htm> [Accessed 1 December 2007].

Bull, H. (1993) Radio Art in a Gallery? *The Drama Review*. vol.37(1) pp.161–66.

Bull, M. (2005) No Dead Air. The iPod and the culture of mobile listening. *Leisure Studies*. vol.24(4) pp.343–55.

Burliuk, D. (1926). *Manifesto, Radio Style. Universal Camp of Radio Modernists*. [Internet]. Available from <http://www.ubu.com/papers/burliuk_modernists.html> [Accessed 1 May 2015].

Burtner, M. (2003) Regenerative Feedback in the Medium of Radio: 'Study 1.0 (FM) for Radio Transceiver'. *Leonardo Music Journal*. vol.13 pp.39–42. Available through: JSTOR database [Accessed 14 March 2011].

Camacho, L. (2004) *El Radioarte, Origen y Evolución en Europa y Desarrollo en México*. PhD. UNAM. México DF.

Camacho, L. (2004) El arte radiofónico en América Latina. Entre Ariel y Caliban. *Telos* [Internet]. vol.60. Available from <http://telos.fundaciontelefonica.com/telos/articulocuaderno.asp@idarticulo=3&rev=60.htm> [Accessed 11 January 2013].

Camacho, L. (2007) *El radioarte un genero sin fronteras/Radio Art a Generation Without Boundaries*. Iztapalapa: Trillas.

Caines, M. (2014). Books Unbound. *Times Literary Supplement* [Internet], 3 October, 2014. Available from: <http://timescolumns.typepad.com/stothard/2014/10/books-unbound-and-prufrock-unlimited.html> [Accessed 3 October 2014].

Cardiff, D and Scannell, P. eds. (1991) *A Social History of British Broadcasting*. Vol 1: Serving the Nation, 1922–1939. Oxford: Basil Blackwell.

Cardinal. S. (2007) Radiophonic Performance and Abstract Machines: Recasting Arnheim's Art of Sound. Liminalities. *A Journal of Performance Studies* [Internet]. vol.3(3) pp.1–23. Available from: <http://liminalities.net/3-3/cardinal.pdf> [Accessed 6 April 2011].

Cardullo, B. and Knoff, R. eds. (2001) *Theatre of the Avant Garde 1890–1950. A Critical Anthology*. New Haven:Yale University Press.

Carr, N. (2010) *The Shallows: What the Internet Is Doing to Our Brains*London: Atlantic Books.

Cartwright, L. (2007) Meet the Simon Cowell of radio. *Sun* [Internet], 6 March, 2007. Newspaper. Available from: <http://www.thesun.co.uk/sol/homepage/news/article20634.ece> [Accessed 7 March 2007].

Cassetteboy. (2002) The Parker Tapes.UK: Barry's Bootlegs. BAZ004 CD.

Chandler, A and Neumark, N. eds. (2005) *At A Distance: Precursors to Art and Activism on the Internet*. Cambridge: MIT Press.

Clock Tower Radio. Available from: <http://clocktower.org/about/> [Accessed 22 July 2014].

Community Media Association. Pop up Boat Radio launched as Folkestone hosts The Boat Project. Arts.community.media. Available from: <http://arts.commedia.org.uk/news/pop-up-boat-radio-launched-as-folkestone-hosts-the-boat-project> [Accessed 20 July 2012].

Community Radio Toolkit. Website. Available from: <http://www.communityradiotoolkit.net/tag/history-of-community-radio> [Accessed 12 January 2011].

Cochrane, P. and Jeffrey, G. (2008) *The Arts and Community Radio*. Cape UK Research Report for Community Media Association, Arts Council England and Department for Culture, Media and Sport.

Concannon, K. (1990) Cut and Paste: Collage and the Art of Sound. In: Lander, D and Lexier M, eds. *Sound By Artists*. Toronto: Art Metropole and Walter Phillips Gallery. pp.161–82.

Conley, C. (2004). *Robert Desnos, Surrealism, and the Marvelous in Everyday Life*. Lincoln: University of Nebraska Press.

Connor, James. (1997). Radio Free Joyce: Wake language and experience of radio. In: *Sound States: Innovative poetics and acoustical technologies*. Morris, A. ed. Chapel Hill: University of North Carolina Press. pp.17- 32.

Conrads, M. (2011) *LIGNA*. [Internet]. Goethe Institute. Available from: <http://www.goethe.de/ges/prj/rue/mag/en8608288.htm> [Accessed 4 November 2012].

Cory, M E and Hugh, B. (1981) Hörspiel as Music – Music as Hörspiel: the creative dialogue between experimental radio drama and avant-garde music. *German Studies Review.* vol.4 pp.251–79.

Cory, M E. (1992) Sound Play. In: D. Kahn and G. Whitehead, eds. *Wireless Imagination: Sound, Radio and The Avant-Garde*. Cambridge: MIT Press. pp.331–71.

Costa, M.S.R. (2013) *Radio, Arte e Politica*. Rio: State University Rio De Janeiro.

Costa, M.S.R., Ribeiro, A.G. and Albuquerque Araujo, P. (2013) The Arts on the Radio. joint paper given at ECREA Radio Research Conference London, 2013.

Cowan, S. (1977–8) The Unhappy Adventures of 'Alice' in Blunderland: Counter-Culture, Revolt and Repression in the Heart of Italy's 'Red Belt'. *Radical America*. vol.11(6)) pp.67–77.

Coyle, R and Miller, T, eds. (1992) Sound and Speed in Convocation: an Analysis of The Listening Room programs on Paul Virilio. *Continuum: The Australian Journal of Media & Culture*. vol.6(1).

Cramer, F. (2014)What is 'Post-digital'? *APRJA* [Internet]. Available from: <http://www.aprja.net/?p=1318> [Accessed 18 July 2014].

Crane TV (2014) Arts, Magz Hall Inspired by a religious book from the 1920s, this radio enthusiast is merging print and broadcasting for Unbinding the Book. Available from: http://www.crane.tv/magz-hall-unbinding-the-book [Accessed 3 October 2014].

Creative Skillset. (2013) Sound Women. Available from: <http://creativeskillset.org/about_us/diversity/sound_women_on_air>. [Accessed 2 May 2015].

Crestvolant, M. (2013) Transeuropa Festival, la creatività unisce tutto il continente per studiare i moviment di protesta. A Roma appuntamento all Stazione Tiburtina con la performance Air Time. *Artribune*. 4 October. Available from: <http://www.artribune.com/2013/10/transeuropa-festival-la-creativita-unisce-tutto-il-continente-per-studiare-i-movimenti-di-protesta-a-roma-appuntamento-alla-stazione-tiburtina-con-la-performance-air-time/> [Accessed 1 January 2014].

Crisell, A. (1994) *Understanding Radio*. 2nd ed. London: Routledge.

Crisell, A. ed. (2003) *More Than A Music Box: Radio Cultures and Communities in a Multi-Media World*. Oxford: Berghahn.

Crook, T. (1999a). *British Radio Drama: A Cultural Case History*. [Internet]. Available from <http://www.irdp.co.uk/britrad2.htm> [Accessed 1 October 2007].

Crook, T.(1999b) *Radio Drama: Theory &Practice*. London: New York: Routledge.

Crook, T. (2012) *The Sound Handbook (Media Practice).* Oxon: Routledge.

Crook, T. (n.d.) *Val Gielgud at the BBC. Val Gielgud and How to Write Radio Plays: The Wireless Play – 6 Articles.* [Internet]. Available from: <http://www.irdp.co.uk/GIELGUD/valbbc13.htm> [Accessed 1 October 2007]

Crowley, D. (2014) Spatial Music: Design and the Polish Radio Experimental Studio. *Post: Notes on Modern and Contemporary Art Around The Globe, MOMA* [Internet]. 14 January. Available from: http://post.at.moma.org/content_items/335-spatial-music-design-and-the-polish-radio-experimental-studio [Accessed 21 June 2014].

Cut and Splice Transmission. (2010) Festival. Website. Available from: <http://www.soundandmusic.org/projects/cut-splice-transmission> [Accessed 1 November 2010].

Cutler, C. (2003) *Out of the Blue.* Radio programme. Resonance FM. 104.4 FM. 1 July, 23.30 – 00.00 GMT. Available from: <http://www.ccutler.com/ccutler/outOfTheBlue.shtml> [Accessed 21 September 2013].

Dann, L. (2012) *Only Half the Story: Radio Drama, Online Audio and Transmedia Storytelling.* Paper given at Radio Evolution, Braga, Portugal and Mix Conference, University Bath Spa, Bath. [Internet]. Available from: <https://www.academia.edu/851782/Only_Half_the_Story_Radio_Drama_Online_Audio_and_Transmedia_Storytelling> [Accessed 21 June 2013].

Deharme, P. (1928) Proposition for a Radiophonic Art. Trans. Birkenmaier, A. *Modernism/Modernity*. vol.16(2) pp.357–74.

Deharme, P. (1930) *Pour un Art Radiophonique*. Paris: Le Rouge et le Noir.

De Lys, S and Foley, M. (2006) The Exchange: A Radio-Web Project for Creative Practitioners and Researchers. *Convergence; The International Journal of Research into New Media Technologies*. vol.12. Available from: <http://con.sagepub.com/cgi/content/abstract/12/2/129> [Accessed 14 September 2009]

Derrida, J. (1991) 'Videor'. In: *Passages de L'Image*. Barcelona: Caixa de Pensions. p.176. [*Passages de L'Image* was a traveling exhibition of media arts, video, holographs.]

DigitalRadio.com. Website. Available from: <http://www.getdigitalradio.com/dab-news/view/360> [Accessed 6 September 2012].

Dolar, M. (2006) *A Voice and Nothing More.* Cambridge, MA: MIT Press.

Douglas, A. and Wand, M. (1995) *Hearing is Believing* [CD]. Liverpool: Video Positive.

Douglas, C. ed (1984) *The King of Time.* Cambridge, MA: Harvard University Press.

Drakakis, J. ed. (1981) *British Radio Drama*. Cambridge: University Press.

Duchamp, M. (1934) Notes from the Green Box. In: Hamilton, G.H. and Hamilton, R. trans. 1960. *Inside the Green Box (Appendices of The Bride Stripped Bare by Her Bachelors Even)*. London: Humphries.

Du Vernet, F.H. (1925) *Spiritual Radio*. Mountain Lakes: Society of the Nazarene.

Dyson, F. (2009) *Sounding New Media, Immersion and Embodiment in the Arts and Culture*. Berkeley: University of California Press.

England, P. (1998) Resonance 107.3 Programme Guide. London: London Musicians Collective. Enzensberger, H. M., Armstrong, B. and Grimm, R, eds. (1982) *Critical Essays: The German Library*. New York: Continuum.

Eshun, K. (1998) *More Brilliant Than the Sun*. London: Quartet.

European Communication Research and Education Association (ECREA). (2013) Radio Research Conference, 11–13 September, 2013. Available from: <http://radioresearch2013.sunderland.ac.uk/> [Accessed 8 September 2013].

Everitt, A. (2003a) *New Voices: An Evaluation of 15 Access Radio Projects*. London: Radio Authority and Calouste Gulbenkian Foundation. Available from: <http://stakeholders.ofcom.org.uk/binaries/broadcast/radio-ops/new_voices.pdf> [Accessed 1 May 2015].

Everitt, A. (2003b) New Voices: an update. London: Radio Authority/Calouste Gulbenkian Foundation.

Everitt, 2A. (2003c) Keynote speech. Community Media Conference. Sheffield.

Farrell, M. (2014) Using radio signals, Internet startup takes on the cable giants. *Boston Globe*. 23 June. Available from:<http://www.bostonglobe.com/business/2014/06/22/using-radio-signals-internet-startup-takes-cable-giants/rWzEaNHNfoBy89hDo9OG0J/story.html> [Accessed 1 June 2014].

Felker, C.S. (1970) But Could A Computer Smile Like Mona Lisa? *New York Magazine*. 7 September. vol.3(36) p.48.

Fenner, Victoria. (2003) Teaser: By Listening to the Sounds that Inhabit Our World, We Can Learn Much About the World We Inhabit… [Internet]. Available from: <http://cec.sonus.ca/econtact/6_3/fenner_listening.html> [Accessed 2 May 2015].

Fisher, M. (2002) *Ezra Pound's Radio Operas: The BBC Experiments 1931–1933*. Cambridge, MA: MIT Press.

Fisher, M. (2011) New Information Regarding the Futurist Radio Manifesto. *The Journal of Italian Studies, Italian Institute* [Internet]. Available from: <http://independent.academia.edu/MargaretFisher/Papers/487150/New_Information_Regarding_the_Futurist_Radio_Manifesto> [Accessed 4 April 2011].

Fisher, M. (2009) Futurism and Radio. In: Berghaus, G. *Futurism and the Technological Imagination*. Amsterdam/New York: Rodopi. pp.229–62.

Flickerman. Website. Available from: <http://www.theflickerman.com/> [Accessed 22 July 2014]

Flood, A. (2014) Artists create book that turns black as it is read. *Guardian* [Internet]. 8 September, 2014. Available from: http://www.theguardian.com/books/2014/sep/08/artist-book-turns-black-london-art-book-fair [Accessed 3 October 2014].

Föllmer, G. and Neuhaus M. (1996) Drive in Music *Media Art Net*. [Internet]. Available from: <http://www.medienkunstnetz.de/works/drive-in-music/> [Accessed 20 March 2006].

Föllmer, G. and Neuhaus, M. (1994) *Rundfunkarbeiten und Audium in: Transit*. Vienna : Zeitgleich.

Föllmer, G. and Thiermann, S. eds. (2006) *Beiträge zur Zukunft des Radios*. Leipzig: Spector Books.

Fogg, Ally. (2009) Who will help the Volunteers. *Guardian* [Internet]. 9 November, 2009. Available from: <http://www.theguardian.com/commentisfree/2009/nov/19/volunteers-gay-dj-legal-protection> [accessed 20 November 2009].

Forsyth, J. (1976) *Tyrone Guthrie*. London: Hamish Hamilton.

Frahm, O. (2011) Ligna: The Call of the Mall. *Performance Research A Journal of the Performing Arts*. vol.16(3) pp.84–88.

Frahm, O, Michaelsen, T. and Hüners, M. (2011) LIGNA: *AN ALLE! Radio Theater Stadt*. Leipzig: Spector Books.

Freifunk.net. Website. Available from: <http://wiki.freifunk.net/Kategorie:English> [Accessed 1 June 2014]

Friz, A. (n.d.) Nice Little Static. Website. Available from: <http://nicelittlestatic.com/> [Accessed 8 September 2013].

Friz, A. (n.d.) 'Biography'. [Internet]. Available from: <http://nicelittlestatic.com/about/> [Accessed 12 May 2011].

Friz, A. (2008) Re-Enchanting Radio. *Cinema Journal*. vol.48 (1). pp.138–45.

Friz, A. (2009) Transmission Art in the Present Tense. *Journal of Performance and Art*. vol.31(3) pp.46–49.

Friz, A. (2010) Interview with Magz Hall. 15 November, 2010.

Friz, A. (2011) '*The Radio of the Future Redux: Rethinking Transmission Through Experiments in Radio Art*.' Unpublished PhD. York University, Toronto.

Frost, E. C. (1987)Why Sound Art Works and the German Hörspiel. *The Drama Review* [Internet]. vol.31(4) pp.109–24. Available through: JSTOR database [Accessed 14 May 2006].

Furlong, W. (1994). *Audio Arts: Discourse and Practice in Contemporary Art*. London: Academy Editions.

Gallo, R. (2007) John Dos Passos in Mexico. *Modernism/Modernity* [Internet]. vol.14(2) pp.329–45. Available from: <http://muse.jhu.edu/> [Accessed 21 January 2011].

Gallo, R. (2005) *Mexican Modernity: The Avant-Garde and the Technological Revolution.* Cambridge: MIT Press.

Gibbs, N. (2014) DAB radio: dead on arrival? I*ndependent*. 6 June. [Internet]. Available from: <http://www.telegraph.co.uk/motoring/news/10882006/DAB-radio-dead-on-arrival.htm> [Accessed 7 June 2014].

Gielgud, V. (1957) *British Radio Drama. 1922-1956*. London: Harrap.

Gilfillan, D. (2008) Networked Radio Space and Broadcast Simultaneity. In: Grundmann, H. et al, eds. *Re- Inventing Radio Aspects of Radio Art*. Frankfurt: Revolver. pp.199–213.

Gilfillan, D. (2009). *Pieces of Sound: German Experimental Radio*. Minneapolis: University of Minnesota.

Glandien, K. (2000). Art on Air. A Profile of New RadioArt. In: Emmerson, S. ed. 2000 *Music, Electronic Media and Culture.* Aldershot: Ashgate.

Glandien, K. (2001). Sound Art discourse in England. Ars Acoustica group. European Broadcasting Union plenary meeting. 13 December. [Internet]. <http://www.kerstenglandien.com/PDF/ebu_01_pdf ≥ [Accessed 1 May 2015].

Glandien, K. (2009) Keynote Paper. *Reinventing the Dial* symposium. Canterbury Christ Church University. 27 October.

Goodman, S. (2010) *Sonic Warfare, Sound, Affect and the Ecology of Fear*. Massachusetts: MIT Press.

Gordon, C, Powell, D, Stark, P (2013) Rebalancing Our Cultural Capital, Independent Report. [Internet]<http://www.gpsculture.co.uk/rocc.php> [Accessed 10 Nov 2013].

Greenwald, G. (2013) Revealed: how US and UK spy agencies defeat internet privacy and security. *Guardian*. 6 September, 2013. [Internet]. Available from:

<http://www.theguardian.com/world/2013/sep/05/nsa-gchq-encryption-codes-security> [Accessed 1 August 2014].

Grundmann, H.(2000) *But Is It Radio?* [Internet]. Available from: <http://acoustic.space.re-lab.net/heidi-isitradio.php> [Accessed 11 March 2011].

Grundmann, H. (2004) Re-inventing Radio. Kunstradio – Radiokunst [Internet]. Available from: http://90.146.8.18/en/archives/festival_archive/festival_catalogs/festival_artikel.asp?iProjectID=12947 [Accessed 2 May 2015].

Grundmann, H. (2007) Beyond Broadcasting: The Weincouver. In: Jensen, E. G. and LaBelle, B. eds. *Radio Territories.* LA/Copenhagen: Errant Bodies Press. pp.200–16.

Grundmann, H. et al, eds. (2008). *Re-Inventing Radio. Aspects of Radio Art*. Frankfurt: Revolver.

Guattari, F. (1996) *Soft Subversions*. New York: Semiotext(e).

Guthrie, T. (1931) *Squirrel's Cage And Two Other Microphone Plays*. London: Cobden-Sanderson, Camelot Press.

Guthrie, T. (1961) *A Life in the Theatre*. London: Hamish Hamilton.

Hagen, W. (1997) On the place of Radio. Kunstradio. [Internet]<http://www.kunstradio.at/FUTURE/RTF/SYMPOSIUM/LECTURES/HAGEN/hagen-txt-e.html> [Accessed 1 July 2011].

Hall, M (n.d) Practice Blog. <http://magzhall.wordpress.com/> [Accessed 1 January14]

Hall, M and Wallace, T. (2000) *Radio Art?* In *Airflash*, CMA Magazine. Issue 67.pp.12-13.

Hall, M. (2005) *Group Radio Art Show*. London: Resonance FM, 16 October 2005. Available from: <http://youarehear.co.uk/audio/radioart/radioday05.mp3> [Accessed 2 May 2015].

Hall, M. (2014) The New Wave: On Radio Arts in the UK. In. *Radio Art Reflections*, ed Hall, M. *Sounding Out Journal* [Internet]. <http://soundstudiesblog.com/2014/12/11/the-new-wave-on-radio-arts-in-the-uk/> [Accessed 1st Dec 2014]

Hall, N. (2008) Celestial Radio. [Internet].<http://www.a-n.co.uk/interface/reviews/single/456306> [Accessed 10 July 2014].

Harvard Gazette (2009) *Rudolf Arnheim's Memorial Minute*10 March, [online] <http://news.harvard.edu/gazette/story/2009/04/rudolf-arnheim/> [Accessed 6 April 2011].

Hemmings, D. (2010) My Response to Resonance's apology to Max Tundra. [Internet]. Available from: <http://mrtrick.posterous.com/my-response-to-resonances-apology-to-max-tund> [Accessed 10 October 2010].

Hendy, D. (2007) *Life on Air: A History of Radio Four*. Oxford: Oxford University Press.

Hendy, D. (2008). Radio's Cultural Turns. *Cinema Journal.* vol.48(1), pp 130–8.

Her Noise Archive. Sound::Gender::Feminism::Activism. Postgraduate Research Event. 17th May, 2012. London. College of Communications, University of the Arts. Available from: http://hernoise.org/interactions/soundgenderfeminismactivism/overview/ [Accessed 2 May 2015].

Hilmes, M. (2002) Rethinking radio. In: Hilmes, M and Loviglio, J, eds. *Radio Reader: Essays in the Cultural History of Radio.* New York: Routledge. pp.1–21.

Hilmes, M. (2008) Foregrounding Sound: New (and Old) Directions in Sound Studies. *Cinema Journal*. vol.48(1) pp.115–17.

Hilmes, M. (2013), The New Materiality of Radio Sound on Screens. In: Hilmes, M and Loviglio, J, eds. *Radio's New Wave: Global Sound in the Digital Era*. New York: Routledge.

Hogg, C. (2014) Radio: Who needs pictures in a digital world? The medium is still remarkably resilient. *Independent* [Internet]. 23 February. Available from: <http://www.independent.co.uk/arts-entertainment/tv/features/radio-who-needs-pictures-in-a-digital-world-the-medium-is-still-remarkably-resilient-9147683.html> [Accessed 23 February 2014].

Hübner, K. (2007) Ferdinand Kriwet: listening texts. *Titel: Kultur Magazin* [Internet]. 15 November. Available from: <http://titelmagazin.com/artikel/0/4375/ferdinand-kriwet-hoertexte.html> [Accessed 23 February 2014]

Hultberg, T. (2000) From 'Birds in Sweden' to 'Mr Smith in Rhodesia'. Glimpses of the history of text-sound composition in Sweden. [Internet]. Available from: <http://glukhomania.ncca-kaliningrad.ru/pr_sonorus.php3?blang=eng&t=0&p=14> [Accessed 13 September 2011].

Huwiler, E. (2005) Storytelling by sound: a theoretical frame for radio drama analysis. *The Radio Journal: International Studies in Broadcast and Audio*. vol.3(1) pp.45–59.

Ida de Benedictis, A. (2012) in CD box set booklet. *Imagination at play. The PRIX ITALIA and Radiophonic Experimentation*. Eds. Ida de Benedictis, A and Novati, M. Die Schachtel: Rai Trade.

Iges, J. (2000) Soundscapes: A Historical Approach. [Internet].<http://cec.sonus.ca/econtact/Histories/HistoricalApproach.htm> [Accessed 21 September 2013].

International Radio Conference. (2013) University of Bedford. 10-12 July, 2013. Available from: <http://www.beds.ac.uk/knowledgehub/events/awards/the-radio-conference-2013-a-transnational-forum> [Accessed 2 May 2015].

Izzo, P. (2014) Radio Remains King of the Road Despite Rise of Digital Music. *Wall Street Journal Blog* [Internet]. 5th September. [Available from: <http://blogs.wsj.com/numbers/radio-remains-king-of-the-road-despite-rise-of-digital-music-1741/> [Accessed 6 September 2014].

James, R. ed. (1992) *Cassette Mythos*. New York: Autonomedia.

Jensen, E. G. and LaBelle, B. eds. (2007)*Radio Territories*. LA/Copenhagen: Errant Bodies Press.

Joseph-Hunter, G. (2009) Transmission Arts. The Air that Surrounds Us. *Journal of Performance and Art*. vol.31(3) pp.34–40.

Joseph-Hunter, G., Duff, P., and Papadomanolaki, M. (2011) *Transmission Arts : Artists & Airwaves*. New York: PAJ Publications.

Joyce, J. (1967) *Finnegans Wake.* New York: Penguin.

Kac, E. (1992) Aspects of the Aesthetics of Telecommunications in *Siggraph Visual Proceedings*, Grimes, J and Lorig, G. Eds.New York: ACM. pp. 47-57. Available from: <http://www.ekac.org/Telecom.Paper.Siggrap.html> [Accessed 10 March 2006].

Kahn, D. (1990) Audio Art in the Deaf Century. In: Lander, D and Lexier, M, eds. *Sound By Artists*. Toronto: Art Metropole. pp.301–28.

Kahn, D. (1992) Introduction: Histories of Sound Once Removed. In: Kahn, D and G. Whitehead, eds. *Wireless Imagination: Sound, Radio and The Avant-Garde*. Cambridge: MIT Press. pp.1–29.

Kahn, D. (1994) Radio Space. In: Augaitis, D and Lander, D, eds. *Radio Rethink: Art, Sound and Transmission*. The Banff Centre for the Arts: Walter Phillips Gallery. pp.95–114.

Kahn, D. and Whitehead, G. eds. (1994). *Wireless Imagination: Sound Radio and the Avant Garde.* Cambridge, MA: The MIT Press.

Kahn, D. (2001) Two Sounds of the Virus: William Burroughs's Pure Meat Method. In: Kahn, D. *Noise, Water, Meat: A History of Sound in the Arts*. London: MIT Press. pp. 293–321.

Kahn, D. (2006) Interview with Magz Hall. 4 October, 2006.

Kahn, S. (2007). Community radio and the frequency of struggle. *Briarpatch Magazine* [Internet]. 1 June. Available from: <http://briarpatchmagazine.com/articles/view/community-radio-and-the-frequency-of-struggle> [Accessed 1 February 2010].

Karl Sczuka Prize. Website. Available from: <http://www.swr.de/swr2/hoerspiel-feature/karl-sczuka-prize-for-works-of-radio-art-regulations/-/id=661194/did=13791140/nid=661194/1ty1v9f/index.html.> [Accessed 13 January 2011].

Khlebnikov, V. (1921) The Radio of the Future. In: Douglas, C. ed. (1985) T *The King of Time*. Cambridge, MA: Harvard University Press.

Klassen, P E. (2007) Radio Mind: Protestant Experimentalists on the Frontiers of Healing. *Journal of the American Academy of Religion*. vol.75(3) pp.651–83.

Kostelanetz, R. (1990) John Cage as a Hörspielmacher. *The Journal of Musicology* [Internet]. vol.8(2) pp.291–99, Available through: JSTOR database [Accessed 3 March 2011].

Kobayashi, H. Website <http://.com/tele-echo-tube/> [Accessed 21 September 2013]

Kogawa, T. (1990) The First International Festival of Radio Art. Dublin, Ireland. 12–18 August, 1990. Archived by Tetsuo Kogawa. Available from: <http://anarchy.translocal.jp/radioart/1990IRAF.html[Accessed> [31 March 2011].

Kogawa, T. (1994) Toward Polymorphous Radio. In: Augaitis, D and Lander, D, eds. *Radio Rethink: Art, Sound and Transmission*. The Banff Centre for the Arts: Walter Phillips Gallery. pp.287–99.

Kogawa, T;. (2005) Mini FM,. In: Chandler, A. and Neumark, Norie. eds. *At A Distance: Precursors to Art and Activism on the Internet*. Cambridge: MIT Press. pp191–209.

Kogawa, T;. (2008) A Radioart Manifest. Available from: <http://anarchy.translocal.jp/non-japanese/20080710AcousticSpaceIssue_7.html> [Accessed 2 March 2006].

Kogawa, T. (2010) Interview with Magz Hall. 10 October, 2010.

Kostelanetz, R. (1986) A Conversation about Radio. *The Musical Quarterly* [Internet]. vol.72(2) pp. 216–27. Available through: JSTOR database [Accessed 14 March 2011].

Koszerek, P. (2012). Whitstable Biennale: Small for a reason. 14 September. [Internet]. Available from: <https://www.a-n.co.uk/news/whitstable > [Accessed1 May 2015].

Krolczyk, R. (2012) When John Cage came to Bremen. 31 October. [Internet]. Available from: <http://www.taz.de/!104672/> [Accessed 1 June 2014].

Kunstradio Manifesto [online]<http://www.kunstradio.at/TEXTS/manifesto.html> [Accessed 5/7/2006].

Kunstradio. (1995) Horizontal Radio. [Internet]. Available from: http://kunstradio.at/HORRAD/horrad.html> [Accessed 11 November 2006].

LaBelle, B. (2006) Tuning Space: Max Neuhaus and Site-specific Sound. In: Labelle, B *Background Noise, Perspectives on Sound Art* [Internet]. Available from <http://www.max-neuhaus.info/bibliography/BrandonLaBelle.pdf> [Accessed 2 June 2013].

LaBelle, B. (2008) Berlin conversation with Max Neuhaus. [Internet]. Available from: <www.max-neuhaus.info/audio-video/audio-video.htm> [Accessed 8 June 2009].

Lacey, K. (1996) *Feminine Frequencies: Gender, German Radio, and the Public Sphere, 1923–1945*. Ann Arbor: University of Michigan Press.

Lander, D. (1994) Radiocasting: Musings on Radio and Art. In: Augaitis, D and Lander, D. *Radio Rethink, art, sound and transmission*. Banff: Walter Phillips Gallery. pp.11–31.

Lander, D and Lexier M, eds. (1990) *Sound By Artists*. Toronto: Art Metropole and Walter Phillips Gallery.

Langebartels, R.(1996)*On Plastic Work with Sound and a Different Music Perception*[Internet]. Available from <http://www.floraberlin.de/rlangebartels/texts/klang.htm> [Accessed 17 June 2014].

Lanier, J. (2010)*You are not a gadget: A manifesto*. London: Penguin.

Lefebvre, H; 1991. *The Production of Space*. French original1974,Translated by Nicholson-Smith, D. Oxford: Blackwell.

Leonardson, E.(1995) Painting with Waves: An Interview with Sabine Breitsameter on Sound and Radio Art. [Internet]. Chicago Sound. Available from: <www.ericleona.rdson.org/articles/sabine.html> [Accessed 10 May 2009].

Leslie, Esther. (2007). *Walter Benjamin*. London: Reaktion Books.

Lewis, P M. (2000) Private Passion, Public Neglect, The Cultural Status of Radio. *International Journal of Cultural Studies*. vol.3(2) pp.160–67.

Libcom. (2012) Hour of Power. Audio, 11th November. Available from: <https://libcom.org/library/hour-power-11th-november-2012> [Accessed 22 July 2014]

LIGNA. (2005) Interview with Magz Hall. 11 December, 2005.

LIGNA. The Future of Radio Art. [Internet]. <http://ligna.blogspot.co.uk/2007/12/future-of-radio-art-die-zukunft-der.html> [Accessed 1 April 2013]

Lindgren, M. and Jokiranta, M. (2014) RN's Creative Audio Unit – what's that all about. *The Conversation* [Internet]. 8 May, 2014. Available from: <http://theconversation.com/rns-creative-audio-unit-whats-that-all-about-26454> [accessed 15 May 2014].

Locus Sonus. Website. Available from: <http://locusonus.org/w/?page=Lab> [Accessed 21 September 2013]

Locustream Tardis. Audio Tardis. Available from: <http://locusonus.org/w/index.php?page=Locustream+Tardis/> [Accessed 21 September 2013]

Locke, J (1996) Babbling and Early Words – Pre-symbolic Productions In Hearing And In Deaf Infants [Internet]. Available from <http://social.jrank.org/pages/71/Babbling-Early-Words-Pre-Symbolic-Productions-in-Hearing-in-Deaf-Infants.html> [Accessed 11 November 2012].

London SE1. Mixed fortunes for SE1 arts organisations as funding cuts are revealed. 30 March, 2011. Available through: <http://www.london-se1.co.uk/news/view/5193> [Accessed 30 March 2011].

Lotringer, S. and Marazzi, C. (2007) Autonomia Post Political Politics. *Semiotexte.* intervention series 1, LA: MIT.

Lovink, G. (1993) The Theory of Mixing: An inventory of free radio techniques in Amsterdam. In: Strauss, N. and Mandl, D. eds. *Radiotext(e).* NewYork: Semiotext(e). pp.114–22.

Lovink, G. (2011) *Networks without a Cause, A Critique of Social Media*. Cambridge: Polity.

Lydenberg, R. (1994) Sound Identity Fading Out: William Burroughs Tape *Experiments*, in Kahn, D and Whitehead, G. eds. *Wireless Imagination: Sound, Radio and the Avant-Garde*. Cambridge, MA and London. MIT Press. pp.409-37.

Madsen, V. (2009) *Written in air : experiments in radio*. Sydney, N.S.W: UNSW Press.

Madsen, V. (2010) A radio d'auteur: the documentaire de creation of Kaye Mortley. *Scan: Journal of Media Arts* [Internet]. Available from: <http://scan.net.au/scan/journal/display.php?journal_id=142> [Accessed 17 March 2010].

Maggs, D. (2010) Interview with Magz Hall. 8 September, 2010.

Manovich, L. (1998) *Database as Symbolic Form.* Available from: <http://classes.dma.ucla.edu/Spring06/259M/readings/manovich-lev_rev2.pdf> [Accessed 17 March 2012].

Marinetti, F.T. (1912) *Technical Manifesto of Futurist Literature* [Internet]. Available from <http://www.italianfuturism.org/manifestos/technical-manifesto-of-futurist-literature/> [Accessed 1 May 2015]..

Marinetti, F.T. and Masnata, P. (1933) La Radia In: Kahn, D and Whitehead, G. eds. 1994. *Wireless Imagination: Sound Radio and the Avant Garde.* Cambridge MA: The MIT Press. pp.265–68.

Martin, S. (2012) Boat Radio Is All At Sea. *Earshot 1 July* [Internet blog]. Available from: <http://earshotcreative.com/2012/07/boat-radio-is-all-at-sea/> [Accessed 6 September 2012].

Matheson, H. (1933) *Broadcasting.* London: Thornton Butterworth.

Maume, C. (2012) Recycled Radio, Radio 4, Monday Tarzan: Lord of the Jungle, Radio 4, Tuesday. *Independent* [Internet]. 4 March. Available from: <http://www.independent.co.uk/arts-entertainment/tv/reviews/recycled-radio-radio-4-mondaytarzan-lord-of-the-jungle-radio-4-tuesday-7528101.html> [Accessed 30 April 2013]

McCartney, A.S.J. (1999) *Sounding Places: Situated Conversations Through The Soundscape Compositions of Hildegarde Westerkamp*. Unpublished PhD. York University, Toronto. Available from: <http://beatrouteproductions.com/Andradiss.pdf> [Accessed 21 August 2013].

McCartney, A.S.J. (2012) Soundwalking: creating moving environmental sound narratives. Draft. Available from: <http://soundwalkinginteractions.wordpress.com/2010/09/27/soundwalking-creating-moving-environmental-sound-narratives/> [Accessed 21 August 2013].

McKechnie, K. (2008). Funding cuts threaten community radio. *ABC online news* [Internet]. 3 August. Available from: <http://www.abc.net.au/news/2013-03-08/funding-cuts-threaten-community-radio/4562428> [Accessed 2 May 2007].

McLuhan, M. (1995) *Understanding Media: the Extension of Man*, London: IT Press.

McLuhan, M. and Fiore, Q. (1967)*The Medium Is the Massage: An Inventory of Effects*. New York: Bantam, London: Allen Lane.

McWhinnie, D. (1959) *The Art of Radio.* London: Faber and Faber.

Megapolis Festival. (2009–) Various places. Available from: <http://megapolisfestival.org/> [Accessed 9 September 2013].

Milutis, J. (2003) Superflux of Sky. *Cabinet* [Internet]. Issue 10. Available from: <http://www.cabinetmagazine.org/issues/10/superflux.php> [Accessed 4 May 2006].

Milutis, J. (2009) Bottled. *Journal of Performance and Art*. vol.31(3) pp. 41–43.

Mitchell, C. (2000a) *Women and Radio Airing Differences*. London: Routledge.

Mitchell, C. (2000) 'Short - Term Bursts of Inspiration': The Development of British Women's Alternative Radio. *Journal Of Radio Studies*. vol7(2) pp.342-349.

Morris, A, ed. (1998) *Sound States: Innovative Poetics and Acoustical Technologies* [Internet]. Chapel Hill: University of North Carolina Press. Available from <http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1010&context=csound> [Accessed 9 October 2006].

Morris, C.(2003) Bushwhacked 2. UK: Warp Records. 12 inch vinyl.

Moss, R. (2008), Todays Radio: Critics Choice, The Independent, 21 February.

Murin, M. (n.d.) Radioart – Archeological Exploration/Archeologický výskum. Available from:<http://www.radioart.sk/frames.php?url=http%3A> [Accessed 9 September 2006].

Murin, M. (2005) Radio Art: A Slovak perspective. P*roceedings of the Inaugural Totally Huge New Music Festival Conference*. Available from: <http://ro.ecu.edu.au/cgi/viewcontent.cgi?article=1010&context=csound> [Accessed 9 September 2013].

Murton, E. (2014).The London Art Book Fair, Whitechapel Gallery. [Internet]. 27 September. Available from: https://www.a-n.co.uk/blogs/an-artists-notebook/post/52391303 [Accessed 3 October 2014].

Muzyczuk, D. (2013) The Future Sound of Warsaw Introduction to PRES. *Post: Notes on Modern and Contemporary Art Around The Globe, MOMA.* [Internet]. 13 December. <http://post.at.moma.org/content_items/349-the-future-sound-of-warsaw-introduction-to-pres> [Accessed 19 July 2014].

New Adventures in Sound Art (NAISA). (2006) Radio Without Boundaries Conference. Toronto, Canada. Website. Available from: http://www.naisa.ca/RWB/[Accessed 1 November 2006].

NAISA. (n.d.) Deep Wireless Festival. Website. Available from: <http://www.naisa.ca/deepwireless/faq.html> [Accessed 8 September 2013].

Neibur, L. (2010) *Special Sound: The Creation and Legacy of the BBC Radiophonic Workshop*. NY: Oxford University Press.

Neuhaus, M. The Broadcast Works Radio Net. Website. Available from: <http://www.kunstradio.at/ZEITGLEICH/CATALOG/ENGLISH/neuhaus2b-e.html> [Accessed 15 May 2006].

Neuhaus, M. (2000) Introduction to *Volume: Bed of Sound*. P.S.1 Contemporary Art Center, New York. Available from: <http://www.max-neuhaus.info/soundworks/soundart/> [Accessed 15 May 2006].

Neuhaus, M. (n.d.) Broadcast Works and Audium. [Internet]. Available from: <http://www.max-neuhaus.info/audio-video/Broadcast_Works_and_Audium.pdf> [Accessed 15 May 2006].

Neuhaus, M. (n.d.) Passage [Internet].Available from: <http://www.max-neuhaus.info/soundworks/vectors/passage/> [Accessed 21 September 2013].

Neumark, N. (2006). Different Spaces, Different Times. Exploring Possibilities for Cross-Platform 'Radio'. In: *Convergence: The International Journal of Research into New Media Technologies*. vol.12(2) pp.213–224.

New Adventures in Sound Art (NAISA). (2012) *TransX*. Transmission Art Symposium. Toronto, Canada. 27 May, 2012. Available from: <http://naisa.ca/symposia/trans-x/transx-2012-proceedings> [Accessed 2 May 2015].

Odier, D. (1970). *The Job: An Interview with William Burroughs*. London: Cape.

Ofcom. (2009) Community Radio. Annual Report of the sector 2008/2009. [Available from: <http://stakeholders.ofcom.org.uk/binaries/broadcast/radio-ops/cr_annualrpt0809.pdf/> [Accessed 10 June 2009].

Ofcom. (2011) Ofcom considers future of FM radio band. 6th July. [Internet]. <http://media.ofcom.org.uk/news/2011/ofcom-considers-future-of-fm-radio-band/> [Accessed 21 July 2011].

Parasol Unit Foundation for Contemporary Art. *Sensing Site*. London. 15–16 April, 2013. Available from: <http://parasol-unit.org/sensingsite_2013> [Accessed 8 September 2013].

Perreault, J. (2009) David Burliuk, the Ukranian father of Japanese Futurism. *Artopia*. *11 January*. [Internet blog]. Available from: <http://www.artsjournal.com/artopia/2009/01/david_burliuk_the_ukrainian_fa.htm> [Accessed 20 May 2008].

Plunkett, J. (2013a) Abandon digital radio switchover plans, stations tell ministers. *Guardian* [Internet]. 11 November. Available from: <http://www.theguardian.com/media/2013/nov/11/abandon-digital-radio-switchover-stations> [Accessed 11 November 2013].

Plunkett, J. (2013b)Digital radio switchover may not happen until after 2020. *Guardian* [Internet]. 16 December. Available from: http://www.theguardian.com/media/2013/dec/16/digital-radio-switchover-2020-ed-vaizey> [Accessed 11 November 13].

Ponsford, D. (2014) Talk Stations all grow their audience as UK radio listening rises to new high. *Press Gazette* [Internet]. 6 February. Available from: <http://www.pressgazette.co.uk/talk-stations-all-grow-their-audience-uk-radio-listening-rises-new-high> [Accessed 10 February 2014].

Popper, F. (1993) Art and the Electronic age. In: *Communication Art*. Thames and Hudson.

Potts, J. (1999) *Schizochronia: Time in Digital Sound* [Internet]. Available from <http://audiolabo.free.fr/revue1999/content/potts.htm> [Accessed 1 June 2014]

Power, N. (2013). Prospects For 2013. *New Left Project* [Internet]. 3 January. Available from: <http://www.newleftproject.org/index.php/site/article_comments/prospects_for_2013_nina_power > [Accessed 4 January 2013].

Priestman, C. (2002) *Web Radio: Radio Production for Internet Streaming*. Boston: Focal Press.

Priestman, C. (2004) Narrowcasting and the Dream of Radio's Great Global Conversion. *The Radio Journal – International Studies and Audio Media*. vol.2(2) pp.77–88.

Pritchett, J; 1995 The story of John Cage's The City Wears a Slouch Hat. Website. [online]<http://www.rosewhitemusic.com/cage/texts/slouch.html> [Accessed 24/3/11]

Prix Europais. Available from: [online]<http://www.prix-europa.de/>[Accessed 13 January 2010].

Prix Italia. Available from: <http://www.prixitalia.rai.it/2010/En/Default.aspx> [Accessed 13 January 2011].

Quiroga, Maya. (2014) From the Transitory to the Transcendent in Alejo Carpentier. Cubanow 14 January 2014 <http://www.cubanow.net/articles/transitory-transcendent-alejo-carpentier> [Accessed 2 May 2015].

Radia. Website. Available from: <http://www.radia.fm/?page_id=2.> [Accessed 11 February 11].

Radia. Wikipedia, Radia [online] <http://en.wikipedia.org/wiki/Radia> [Accessed 20/6/12]

Radio Arts. Website. Available from: <http://radioarts.org.uk/> [Accessed 10 July 2014].

Radio Jam. (202) *Radio Jam* Facebook event page[Internet]. Available from: <]https://www.facebook.com/events/296505540445682/> [Accessed 12 July 2012].

Radio Papesse. Website. Available from: <http://radiopapesse.org/> [Accessed 22 July 2014].

Radio With Out Boundaries, Conference, 27th May, 2006. Deep Wireless, Toronto, Canada.

Radioart.net. Website. Available from: <http://radioartnet.net> [Accessed 20 April 2011].

Radius. Website Available from: <http://theradius.us/about> [Accessed 18 May 2013].

Rasmussen, M.B. (2006) Promises in the Air. Radio Alice and Italian Autonomia. In: Jensen, E.G. and LaBelle, B. eds. *Radio Territories*. LA/Copenhagen: Errant Bodies Press. p.43

Resonance FM. Website. Available from: <http://resonancefm.com/> [Accessed 18 May 2013].

Resonance FM. (2009) Resonance wins Radio Academy award [Internet]. 17 November. Available from: http://webcache.googleusercontent.com/search?q=cache:jRN9FgNSJgkJ:resonancefm.com/archives/2615+Controller+BBC+5+live+resonance+fm&cd=5&hl=en&ct=clnk&gl=uk [Accessed 17 September 2009].

Resonance FM. (2010). An Apology: an open letter from Ed Baxter and the Board of Directors of Resonance104.4fm [Internet]. 6 October. Available from: <http://resonancefm.com/archives/5045> [Accessed 6 October 2010].

Richards, D. (2003) *The Creative Ear : The ABC's the Listening Room and the Nurturing of Sound Art in Australia*. Unpublished PhD. University of Western Sydney. Available from: <http://researchdirect.uws.edu.au/islandora/object/uws%3A2416> [Accessed 24 March 2011].

Ridder, Willem de. (2008) Interview with Magz Hall. 24 May, 2008.

Rismandel, P. (2013) *R*adius creates an on-air exhibition space for transmission art in Chicago. *Radio Survivor* [Internet]. 29 April. Available from:]<http://radiosurvivor.com/2013/04/29/radius-creates-an-exhibition-space-for-transmission-art-on-the-chicago-airwaves/> [Accessed 8 July 2013].

Robinson, M. (2014) NPO 2015-18: Stability welcome but more than small changes needed. 7 July. Available from: https://www.a-n.co.uk/news/npo-2015-18-stability-welcome-but-more-than-small-changes-nededed [Accessed 10 July 2014].

Roi, M. (2010) Radio is Dead ! Long Live radio! *Musicworks* edition106. p.5.

Saout Radio. Website. Available from: <http://www.saout-radio.com/> [Accessed 8 September 2013].

Schiemer, G. (1994) Interactive Radio. *Leonardo Music Journal* [Internet]. vol.4 pp.17–22, Available through: JSTOR database [Accessed 14 March 2011]

Scannell, P. (1986) The Stuff Of Radio: developments in radio features and documentaries before the war. In: Corner, J. ed. *Documentary and the Mass Media. London*: Edward Arnold. pp.1–26.

Scannell, P. (1996) *Radio, Television and Modern Life.* Oxford: Blackwell.

Schöning, K and Cory, M (1991) The Contours of Acoustic Art. *Theatre Journal* [Internet]. vol.43(3) pp. 307–24, Available through: JSTOR database [Accessed 14/5/06].

Shingler, M. and Wieringa, C. eds. (1998) *On Air: Methods and Meanings of Radio.* London: Arnold.

Shingler, M. (2000) Some Recurring Features of European Avant-Garde Radio. *Journal of Radio Studies.* vol.7(1) pp.196–212.

Sieveking, L. (1934) *The Stuff of Radio*. London: Cassell.

Silverman, K. (2003) *Lightning Man: The Accursed Life of Samuel F. B. Morse.* New York: Knopf.

Smirnov, A. (2013) *Sound in Z.* London: Koening Books.

Smith, N. (2010) David Cameron launches Tories' 'big society' plan. *BBC News* [Internet]. Available from: http://www.bbc.co.uk/news/uk-10680062 [Accessed 27 August 2014].

Smyth, S. Smyth, M. and Cheung, S. (2008) Headphone Surround Monitoring for Studios. *Music Everywhere*. 23rd AES UK Conference. Available from: http://www.smyth-research.com/articles_files/SVSAES.pdf [Accessed 1 May 2015].

Sonic Catering Band, website. [online]>http://www.soniccatering.com/> [Accessed 1/5/05]

Sound and Anthropology. (2006) Conference. University of St Andrews. 21 June, 2006. Available from: <http://www.st-andrews.ac.uk/soundanth/index.php>

Sounding Out. (2010) Conference. Bournemouth University. 8–10 September, 2010. Available from: http://www.bournemouth.ac.uk/soundingout/ [Accessed 2 May 2015].

Soundproof. (2014) Radio Yak: Gregory Whitehead. Australian Broadcasting Corporation. 25 May. Audio download. Available from: http://www.abc.net.au/radionational/programs/soundproof/radio-yak3a-gregory-whitehead/5461766/ [Accessed 26 May 2014].

Soundproof. (2014) Joaquim Cofreces *Dreamland.* Australian Broadcasting Corporation. 27 July. Audio download. Available from: http://www.abc.net.au/radionational/programs/soundproof/dreamland/5615162/ [Accessed 26 May 2014].

Spinelli, M. (1996) Radio Lessons for the Internet. *Postmodern Culture* [Internet]. vol. 6(2). Available from: <http://muse.jhu.edu/journals/postmodern_culture/summary/v006/6.2spinelli.html> [Accessed 4 April 2009].

Spinelli, M. (2005) Experimental Radio and its Audience. *Resonance.* vol.10(1) pp.7–10.

Spinelli, M. (2006) Rhetorical Figures and the Digital Editing of Radio Speech. *Convergence Journal of Research into New Media* [Internet]. vol.12. Available from: <http://con.sagepub.com/cgi/content/abstract/12/2/199> [Accessed 4 September 2012].

SR c. Website. Available from: <http://sverigesradio.se/p1/src/Src_English/EngFrames.htm > [Accessed 1 February 2006].

Stone, S. (2005) Here There Is No Moon [Internet]. Available from: <http://transom.org/2005/here-no-moon/> [Accessed 2 May 2015].

Street, Seán (2014) The Memory of Sound: Preserving the Sonic Past. London: Routledge.

Strauss, N. (1990) 'Klaus Scheming: Radio You Can See. *Ear Magazine.* vol.15(3) pp.14–15

Strauss, N. and Mandl, D. eds. (1993) *Radiotext(e).* NewYork: Semiotext(e).

Strickland. P (2013) online interview, 2nd May.

Stone, D. (2012) What will Radio National cuts mean for the arts? *Artshub* [Internet]. Available from: <http://au.artshub.com/au/news-article/opinions/arts/what-will-radio-national-cuts-mean-for-the-arts-192103> [Accessed 1 February 2013]

Syntone. Website. Available from: <http://syntone.fr/> [Accessed 20 April 2014].

Szlifirski, K. (2013) The Polish Radio Experimental Studio. In: Tekstow, Z. Studio Ekperyment. Warszawa:Fundacja Bęc Zmiana.

Tacchi, J. (1997) *Radio Sound As Material Culture in the Home*. Unpublished PhD. University College, London. Available from: <http://discovery.ucl.ac.uk/1317663/1/267690.pdf> [Accessed 29 December 2013].

Tacchi, J. (2000) The Need for Radio Theory in the Digital Age. International Journal of Cultural Studies.

SAGE Publications. pp. 289-298.

Takeaway Festival. (2006) London, Science Museum, Dana Centre. 30th March, 2006. Available from: <http://www.sciencemuseum.org.uk/smap/collection_index/node_london.aspx?keywords=Takeaway+Festival+2006> [Accessed 2 May 2015].

Themerson, S. (2007) ' The Potentialities of Radio' 1928 in The Films of Franciszka and Stefan Themerson DVD booklet (2007) London: Lux.

The Quietus. (2011) *Max Tundra's Rotogravure Radio.* 7 January. Available from: <http://thequietus.com/articles/05513-max-tundra-s-rotogravure-radio-the-quietus-special> [Accessed 3 January 2011].

The Space. Website. Available from: <http://www.thespace.org/> [Accessed 1 July 2014].

The New Radiophonic Workshop. Website. Available from: <http://www.thenewradiophonicworkshop.com//> [Accessed 1 July 2014].

Thorington, H. *What is Radio Art?* Article for Tate Modern website. [online]http://www2.tate.org.uk/intermediaart/radio_art_text.shtm [Accessed 4 June 2009].

Thorn, R. (1996). Hearing is Believing. *Sound Journal online* [Internet]. <http://www.kent.ac.uk/arts/sound-journal/thorn981.html> [Accessed 20 January 2006].

Thurmann-Jajes, A. (2008) Radio As Art: Classification and Archivization of Radio Art. In: Grundmann, H. et al. eds. Re-inventing Radio: Aspects of Radio Art. Frankfurt: Revolver.

Transeuropa Festival. Website. Available from: <http://transeuropafestival.eu/programme/activities/move-and-discover/airtime> [Accessed 9 September 2013].

Transmission Arts Colloquium (2012) *Radio Mind*. Broadcast from Transmission Arts Colloquium on WGXC 90.7-FM and free103point9FM, USA. Available from: <http://transmissionarts.org/audio/8k5z5y> [Accessed 2 May 2015].

Tundra, M. (2010) *Rotogravure*. [Internet blog]. Available from: <http://rotogravure.blogspot.co.uk//> [Accessed 10 October 2011].

Tratner, M. (1995) *Modernism and Mass Politics: Joyce, Woolf, Eliot, Yeats.* Stanford, CA: Stanford University Press.

Ukranian Museum (2008) *Futurism and After; David Burliuk 1882–1977.* Exhibition. Ukrainian Museum, New York. October, 2008–April, 2009. Available from: <http://www.ukrainianmuseum.org/burliuk/> [Accessed 20 May 2008].

Ulrik, C. et al, eds. (2014) Post-digital Research. *APRJA* [Internet]. Available from: <http://www.aprja.net/?page_id=1327> [Accessed 18 July 2014].

Unbinding the Book. Website. Available from: <http://www.unbindingthebook.com/> [Accessed 17 September 2014].

Valliant, D. (2002) 'Your voice came in last night and I thought it a little scared'. Rural Radio listening and 'talking back' during the progressive era in Wisconsin 1920–1932. In: Hilmes, M. and Loviglio, J. eds. *'Radio Reader: Essays in the Cultural History of Radio.* New York: Routledge. pp.63-89.

Waterman, E. (2007) Radio Bodies: Discourse, Performance, Resonance. In: Jensen, E.G. and LaBelle, B. eds. *Radio Territories.* LA/Copenhagen: Errant Bodies Press. pp.118–34.

Watson, B. (2013) Out To Lunch. *Facebook* page. 17 February, 10:28. Available from: https://www.facebook.com/out.t.lunch?fref=ts at 10:28 [Accessed 17 February 2014].

Wave Farm. Transmission Archive [Internet]. Available from: http://wavefarm.org/ [Accessed 8 July 2013].

Wennersten, M. (2007) To See With Each Other's Ears-SRc and Ambiguous Radio. In: Jensen, E.G. and LaBelle, B. eds. *Radio Territories.* LA/Copenhagen: Errant Bodies Press.pp.85-89.

Weiss, A S. (1992) Pressures of the Sun: manifesto against the electric drug. *Continuum: The Australian Journal of Media & Culture* [Internet]. vol.6(1). Available from: <http://wwwmcc.murdoch.edu.au/ReadingRoom/6.1/Weiss.html> [Accessed 24 March 2011].

Weiss, A. S. ed. (1995) *Phantasmic Radio.* Durham: Duke University Press.

Weiss, A.S. ed. (2001) *Experimental Sound and Radio.* Cambridge MA: The MIT Press.

Weiss, A.S. (2002) *Breathless: Sound recording, Disembodiment, and the Transformation of Lyrical Nostalgia.* Wesleyan University Press, Middletown Connecticut.

Westerkamp, H. (1974) *Soundwalking*. Sound Heritage 3 no. 4. pp.18-27. Republished (2007) in *Autumn Leaves, Sound and the Environment in Artistic Practice*, Ed.Carlyle, A. Paris: Double Entendre.

Westerkamp, H. (1989a) Kits Beach Soundwalk. Available from: http://www.sfu.ca/~westerka/assets/Images/programnotes_pics/kits%20beach%20soundwalk/kits.html [Accessed 2 May 2015].

Westerkamp, H. (1989b) Türen der Wahrnehrung/Doors of Perception. Available from http://www.sfu.ca/~westerka/installations/turen.html [Accessed 2 May 2015].

Westerkamp, H. (1992) One Visitor's Portrait of Banff. Available from: http://www.sfu.ca/~westerka/program_notes/banff.html [Accessed 2 May 2015].

Westerkamp, H. (1994) The soundscape on radio. In: Augaitis, D. and Lander, D. eds.; *Radio Rethink: Art, Sound and Transmission*,. The Banff Centre for the Arts: Walter Phillips Gallery. pp. 94–97.

Westerkamp, H. (2001) Breaking News. Available from http://www.sfu.ca/~westerka/program_notes/breakingnews.html [Accessed 2 May 2015].

Westerkamp, H. (2005) Interview with Magz Hall, 10 December, 2005.

Westerkamp, H. (2007) Soundwalking. In *Autumn Leaves. Sound and the Environment in Artistic Practice.* Carlyle, A. ed. Paris: Double Entendre. Available at: <http://www.sfu.ca/~westerka/writings%20page/articles%20pages/soundwalking.html> Accessed 2 May 2015].

Whitehead, G. (1992) Out of the Dark: Notes on the Nobodies of Radio Art. In: Kahn, D. and Whitehead, G. eds. *Wireless Imagination*. Cambridge, MA: MIT Press. pp.253–63.

Whitehead, G. (1992) Pressures of the Unspeakable : A Nervous System for the City of Sydney. *Continuum: The Australian Journal of Media and Culture* [Internet]. vol.6(1). Available from: <http://wwwmcc.murdoch.edu.au/ReadingRoom/6.1/Whitehead.html> [Accessed 3 January 2011].

Whitehead, G. (2003) Drone Tones and other Radio Bodies. Available from: <http://wxcity2.appspot.com/w?w=ZmRwLmVub3JkL2RhZWhldGlody9kbnVvcy9tb2MudWJ1Lnd3dy8vOnB0dGg%3D%0A> [Accessed 24 October 2006].

Whitehead, G. (2003) Gregory Whitehead & John Dryden: The Bone Trade. Exhibition. Massachusetts Museum of Contemporary Art. 1–22 June, 2003. Available from: http://www.massmoca.org/event_details.php?id=49 [Accessed 2 May 2015].

Whitehead, G. (2009) Gregory Whitehead. Available from: <http://transom.org/2009/gregory-whitehead/> [Accessed 2 May 2015].

Whitehead, G: (2011) Anywhere Out of This World. A Conversation in the Vicinity of Radio Art between Gregory Whitehead and Manuel Cirauqui. Available from: <http://gregorywhitehead.files.wordpress.com/2012/07/mcdialoguegw.pdf> [Accessed 4 January 2013].

Whitehead, G. (2011b) Mainly the Mysteries. Available from: http://netartery.vispo.com/?p=935 [Accessed 2 May 2015].

Whitehead, G. (2012) Interview with Magz Hall. 13 October, 2012.

Whitehead, G. (2012a) If a voice like than what then whitehead. Available from: <http://gregorywhitehead.net/tag/if-a-voice-like-then-what-whitehead/ [Accessed 2 May 2015].

Whitehead, G. (2012b) Disorder Speech. Available from: <http://gregorywhitehead.net/2012/07/28/disorder-speech/> [Accessed 2 May 2015].

Whitehead, G. (2013) Interview with Anna Friz. Available from: http://gregorywhitehead.files.wordpress.com/2012/04/gwaf.pdf [Accessed 1 May 2012].

Whitehead, G. (2013b) [Radio Proposal.] Available from: http://www.youarehear.co.uk/radioarts/gregory-whitehead/ [Accessed 2 May 2015].

Whitehead, G. (2014) Radio Yak, Interview ABC, Soundproof, May 25th. Available from: [Accessed 2 May 2015]. http://www.abc.net.au/radionational/programs/soundproof/radio-yak3a-gregory-whitehead/5461766

Whitehead, G.(1985) *If A Voice Like Then What*, NPR, USA, [radio].

Whitehead, G.(1985) *Dead Letter,* NPR,USA, [radio].

Whitehead, G. *(1987) Disorder Speech,* Minerva Editions cassette.

Whitehead, G. (1992) *Pressures of The Unspeakable,* Australian Broadcasting Corporation, [radio].

Whitehead, G. (1990) *Lovely Ways to Burn,* New American Radio, [radio].

Whitehead, G. (1993) *Shake, Rattle and Roll*, New American Radio, [radio].

Whitehead, G and Migone, C (1994), *The Thing About Bugs*, New American Radio, [radio].

Whitehead, G. (1999)*The Bone Trade,* BBC Radio Four, [radio].

Whitehead, G. (2003)*The Loneliest Road,* BBC Radio Three, [radio].

Whitehead, G. (2005) *No Background Music,* BBC Radio Four, [radio].

Whitehead, G. (2004) *Project Jericho*, BBC Radio Three, 6 Nov, [radio].

Whitehead, G. (2008) *The Day King Hammer Fell From The Sky,* BBC Radio Four, [radio].

Whitehead, G. (2012)*Four Trees Down from Ponte Sisto,* BBC Radio Four, [radio].

Whitehead, G. (2013) *Bravo Echo*, gallerycast/multi broadcast Haunted Air, [radio].

Whitehead, G. (2013) *In the End,* Silence Radio, France [radio].

Wieczorek, W. (2002) Scattered Listening [Internet]. Available from: <http://eipcp.net/transversal/1202/wieczorek/en> [Accessed 1 June 2006]

Wilson, S. (2004) Gertrude Stein and the Radio. *Modernism/Modernity*. vol.11(2) pp.261–78.

Williams, A. (2010) Negative Solidarity and Post Fordist. *Splintering bone ashes 31 January*. [Internet blog]. <http://splinteringboneashes.blogspot.co.uk/2010/01/negative-solidarity-and-post-fordist.html> [Accessed 1 July 2014].

Williams, Z. (2009). Radio head: Flickerman. *Guardian* i[Internet]. 22 April. Available from: <http://www.guardian.co.uk/culture/2009/apr/22/radio-head-zoe-williams> [Accessed 22 July 2014].

Wright, O. (2014) Big Society charity winds up after claims it misused up to £2.5m in funding. *Independent* [Internet].19July. Available from: <http://www.independent.co.uk/news/uk/politics/big-society-charity-winds-up-after-claims-it-misused-up-to-25m-in-funding-9681836.html> [Accessed 27 August 2014].

Writtle Calling. Website. Available from: <http://www.writtlecalling.co.uk/information.pdf> [Accessed 10 July 2014]

Youngs, I. (2013) Warning over Arts Council funding cull. *BBC News* [Internet], 12th June. Available from:]<http://www.bbc.co.uk/news/entertainment-arts-22868823> [Accessed 10 July 2014].

You Are Hear (n.d.) Website. Available at www.youarehear.co.uk [Accessed 1 September 2014]

Zurbrugg, N. (1988) Lecture given at With Eyes Shut Symposium, Steirischer Herbst [Internet]. <http://www.kunstradio.at/THEORIE/zurbrugg.html> [Accessed 17 March 2011]

Zurbrugg, N. (1989) Sound art, radio art, and post-radio performance in Australia. *Continuum: The Australian Journal of Media & Culture*. vol.2(2). Available through: <http://wwwmcc.murdoch.edu.au/ReadingRoom/2.2/Zurbrugg.html> [Accessed 17 February 2006].