12 Electronic Sound Art and Aesthetic Experience

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It is incontrovertible that sound art has been an area of great activity in recent years, though it is also the subject of many definitional disagreements. Sound art as a term might stretch to cover any artistic activity involving sound; more usually, however, it is confined to the case of fine artists who have made sound central to their practice across various media, and musicians who work with site-specific presentation of an installation rather than traditional concerts and recordings. This chapter on electronic sound art will explore categorising representative examples of work, and the possibility of applying John Dewey's theory of aesthetic experience (Dewey 1934) to sound art.

A concise theory of sound art has yet to be written, especially one that seriously applies the notion of aesthetic experience. Most existing books on the subject spend much time trying to define sound art and explain how it differs from experimental music, giving lists of example artworks (Kahn 1999; Licht 2007). Whilst there is a consensus that sound art tends to fall between the categories of art and music (LaBelle 2015; Licht, 2007; Toop 2005), most steer away from offering a theory of aesthetics specific to sound art.

Brendon LaBelle in *Background Noise: Perspectives on Sound Art* (2015) does show how the development of sound art has been parallel to both the history of fine art and the development of electronic music; he further groups sound artists in certain loose categories, and mentions a link between relational aesthetics and sound art. The theory of 'Relational Aesthetics' was first proposed by Nicolas Bourriaud in 1998 (Bourriaud 2002) and revolves around the premise that art that sets up interpersonal relationships can have aesthetic value and political significance. LaBelle suggests that the core relationship in sound art is that between sounds and space, that sound is further affected by bodies and is predominantly a social affair. He states: 'With this in mind, we can understand how sound as relational phenomena operates through modes of spatiality, from immediate present to distant transmission, from inside one's thoughts and toward others, from immaterial wave to material mass, from the here and now to the there and then.' (LaBelle 2015, p. xiii)

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Whilst LaBelle's subsequent examples of sound art are contextualised by roughly where they fit in art history, a deeper examination of the link with aesthetics is not forthcoming. In *Listening Through the Noise: The Aesthetics of Experimental Electronic Music* (2010) Joanna Demers aims to provide an aesthetic theory of experimental music since 1980; she touches briefly upon sound art, anchoring it in concerns with space, but again doesn't provide an aesthetic theory specific to its practice. The need of such a framework is apparent when the desire is to move beyond a mere indexing of the medium.

Theorising about sound art also becomes more interesting when it starts to address the deeper undercurrents and aesthetics that feed it. Mullane (2010) approaches this by applying the ideas of French philosopher Jacques Rancière to the work of four sound artists. He leans on Rancière and his stance on 'critical art', whereby an artwork has the power to expose systems of domination and 'turn the spectator into a conscious agent of world transformation' (Rancière, 2004).

As not all sound art is necessarily striving to transform the world, or predominantly concerned with space, I propose the experiential aesthetics of Dewey (1934) to be a more inclusive aesthetics to apply. Before I begin along those lines, an attempt at defining sound art must be made. Hegarty (2007) suggested that sound art

> either has to be an installation where the sound occupies a certain space (or exceeds it) or a performance. Transportable works can be sound art (particularly if we take self-description as a useful marker), if they are headphone pieces that guide you around town aurally (Hildegard Westerkamp, Janet Cardiff) or maybe set up an environment, through site-specific sound recordings, other than the one you are in (Richard Long, Chris Watson), even if only listening on headphones in the gallery. A CD of sound art that gets played at home seems less fully part of sound art – despite the growth of field recordings, ambiences, and recordings of installations.
>
> (Hegarty, 2007, 171)

Whilst this definition gives a flavour of the sorts of work we might expect to encounter, it doesn't answer the question of why one piece deserves to be called sound art whilst another is merely a piece of sound. Hegarty's definition is also narrow, excluding sound art that is consumed at home, either from an online source or from a CD. I would argue that the documentation of a site-specific sound installation is still sound art as long as it's clear in its text. After all, a photograph of a painting is still art even if a reproduction of the original. Furthermore, there are other domains where sound is used in aesthetic contexts such as internet-based sound art or radio art, and to some extent in film and gaming.

It may be useful to borrow from George Dickie (1974), who suggested that art becomes art when it has this status conferred onto it by someone from within the art world. This could (and most often would) be the artist, and so according to Dickie almost anyone can be an artist (Adajian 2012). Transferred to sound art specifically, this advances a very wide definition where works fit in as long as the sound art community accepts them. Primarily, it will be the (sound) artist who claims whether it is (sound) art or not. Further, the challenge quickly arises of whether a work must make sound to be sound art. Using Dickie's adapted definition, there are no further criteria to be met to qualify for the label sound art; a pair of shoes could be called sound art because of their potential to make sound when walked in. Maybe that's justified, as their ability to make you hear sound (even if imaginary) is strong: once instigated by the artist to imagine the sound these shoes would make, you could keep yourself busy for a while imagining the different sounds these shoes create with different people walking in them, being walked on different surfaces and in different spaces.

We have reached a somewhat lazy definition where almost anything goes. One might be tempted to define sound art further in the way its features (volume, pitch, timbre, rhythm, etc.) are organised, but the definition would easily be too narrow. Perhaps a compromise would be to say: 'It is sound art when the maker says it is and when the work makes the viewer/hearer more aware of sound.' This would now exclude soundtracks in film and games unless they were specifically presented as sound art. It should be stressed that the battle for the 'liberation of sound' as a medium in its own right was played out in filmmaking (Whittington, 2007) as much as it was in the fields of music and art, and platforms like the School of Sound continue to discuss this.

The term sound art was first coined in 1983, after an exhibition called 'Sound/Art' by William Hellerman at the Sculpture Center in New York (O'Mahony 2013), but decades earlier artists had been already using sound as art (Russolo 1913) or imagining its creative use (Moholy-Nagy 1922). LaBelle (2015) starts his discussion of the subject in the fifties with examples by John Cage, Pierre Schaeffer and the group Ongaku, but these all operated from within the field of music. They had a desire to expand its repertoire to include noise, sound, silence and life, as well as indeterminacy. However, though Cage didn't label his work as sound art, his famous ground breaking conceptual listening piece *4′33″* (1952) has been so influential in the art world that one might call him the 'grandfather' of sound art.

That sound art as a medium has now been widely accepted in the art world can be concluded not only from the number of sound art exhibitions there have been (to name just a few: *Sonic Boom* (South Bank Centre, 2000), *Her Noise* (South London Gallery, 2005), *Soundings: A Contemporary Score*

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(MOMA, 2013), *SoundArt, Klang als medium der Kunst* (ZKM, 2012–13), *Sons & Lumieres – A History of Sound in the Art of the 20th Century* (Centre Pompidou, 2004–5) and *Soundscapes* (National Gallery, 2015)), but also from the fact that a sound artist can, since Susan Philipsz in 2010, win the Turner Prize, a major award for an artist working in the UK.

Ultimately the fate of sound art is probably similar to that of what once was called 'new media art' and before then 'video art': once the medium is fully accepted in the art world it will be called simply 'art'. Therefore, the best way to theorise about it is to bring it more centrally into the wider debates of fine art. With that in mind I would like to apply Dewey's theory of aesthetic experience to some examples of sound art.

The core of Dewey's theory of aesthetics is that the 'aesthetic' is seen to reside in the experience of the art rather than in the art object itself (Dewey, 1934). According to Dewey, the aesthetic is to do not with notions of beauty or with formal qualities, but with the extent to which the experience makes the person *reconstruct their reality*. In other words, observers of the artwork are prompted to think about something in a different way or to make more sense of the world around them. According to Dewey the artwork also has to provide a sense of unity or resolution. Dewey distinguishes between aesthetic experiences and anaesthetic experiences, where anaesthetic experiences are those that don't involve any initiation, selection or rejection, whereas aesthetic experiences require an active reconstruction by the experiencer (van 't Klooster 2011). For Dewey, the reception of the artwork has to be an active one. This is eloquently further extrapolated in Dewey's own words: 'The expressiveness of the object is the report and celebration of complete fusion of what we undergo and what our activity of attentive perception brings into what we receive by means of the senses.' (Dewey, 1934, p. 107)

This should not be confused with the 'flow' experience described by Csikszentmihalyi (1990) and often applied in the field of Human Computer Interaction (HCI) where it means the right balance between challenge and joy (reaching a target) in one's fluid interaction with an interface. Being hooked to a game might supply this feeling of flow but never actually allow a player to reconstruct their reality because of it. Dewey does not delve into the specifics of how artists make their audience reconstruct their reality, and this may be why it remains such a potent theory, applicable to artforms that came in to existence long after the theory was proposed.

Given the focus of this book, this chapter will predominantly look at examples of *electronic* sound art – sound art that uses electronic media in one form or another – and explore whether Dewey's two criteria can be applied. I propose the following five provisional subcategories for electronic sound art, to provide some sense of order:

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1) Noise makers/ instruments / sound sculptures
2) Sound installation as sound only
3) Sound installation as sound with a visual component
4) Sound walks
5) Transmission art using sound

These subcategories are treated in turn below, giving examples for each with one treated in more depth in the light of Dewey's ideas.

Noisemakers/Instruments/Sound Sculptures

There is a tradition of sculptures that serve as instruments or noisemakers, and many, though not all, use electronics. New instruments that use electronics in one form or another are yearly shown at NIME, the New Interfaces for Musical Expression conference. I mention this category here because this crossover between musical instrument and sculpture is often left out of existing books on sound art. This is surprising, as it would be straightforward to trace back the history of sound art to earlier sound generating sculptures.

To give some examples, consider first the *pneumaphones* of Godfried-Willem Raes, Moniek Darge, Tom Flamant and Guy de Bievre (Hopkin 1996, p. 22), a collection of wind sound instruments. They consist of four wind generators, with multiple tubes to guide the air into inflatable cushions and from there into sound-making wind instruments of various kinds, all designed to be unpredictable and irregular in the sound they produce. People can change the sound of the installation by sitting on and hugging the cushions, though clearly the compositional control of the sound generated is minimal. On the other end of the spectrum of control, Wendy Mae Chambers' *Car Horn Organ* (1983) collected twenty-five car horns to essentially form a keyboard device of two octaves.

A more contemporary example is work by the Owl project (Simon Blackmore, Antony Hall and Steve Symons) who use wood and electronics to create music-making machines that fuse sound art with sculpture (*Blackmore et al.* 2016a). Their floating instrument *~Flow* was moored on the river Tyne in 2012. Visitors could enter the timber structure and interact with various electro-acoustic instruments that responded to the river itself. The *Salinity Sampler Sequencer* (Fig. 12.1) had a wooden conveyor belt that drew water from the river each hour, storing the last twelve hours at any one time. The salinity (saltiness) of the water determined the pitch per sample and the instrument could be pre-programmed by the artists to produce a tune. The visitor is able to determine the length of

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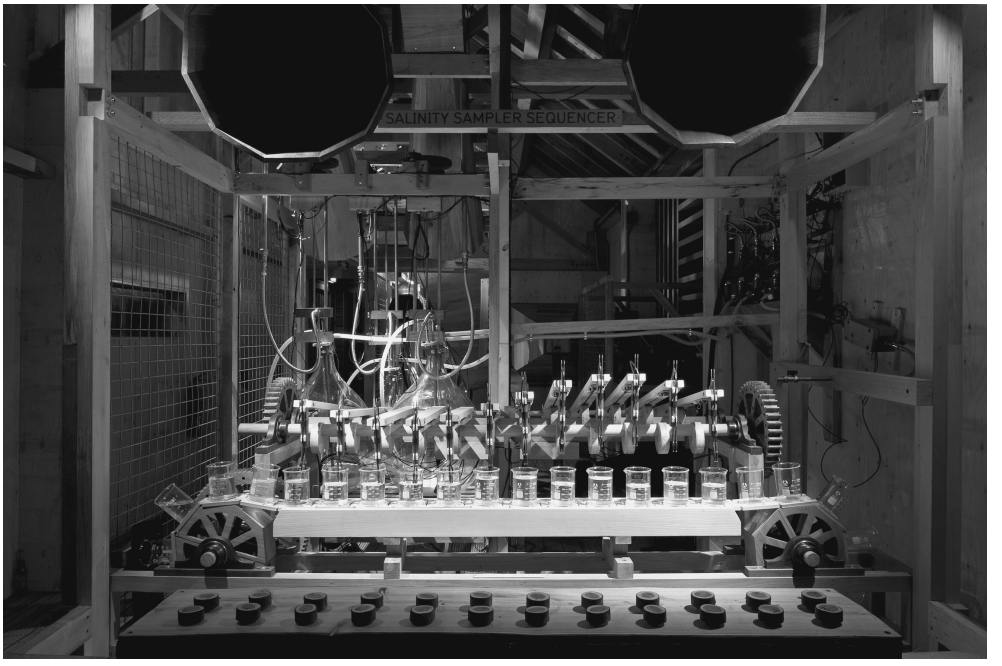

Figure 12.1 *Salinity Sampler Sequencer*, Owl Project, 2012 (photo by Jill Tate)

samples using a controller made of larch. A laser *Turbidatron* used optical audio synthesis to respond to the turbidity (muddiness) of the water. It was a large complicated looking machine with wooden gears and cranks and pistons that take water from the river, driving a laser beam through the water and turning this signal into sound. Another component of the installation was a bubble synth that used large vessels and live recordings of the bubbles created in the glass containers. The sound of resonating bubbles could be modified by the visitor through a 3-channel filter interface (Blackmore *et al.* 2016b).

Owl project's interactive sound environment made me and possibly other visitors think about the river as an active participant in the creation of the soundscape in the space. In that sense, it was able to give me an aesthetic experience using Dewey's terminology, as it made me reconstruct my reality to include the river as a sonic improviser with which I could 'collaborate' to come to a sonic output in the space. I had not thought of the river as such before. The visual language of the work is also highly developed, with the chunky wooden look being used all the way through the space and the instruments in it. There is an honesty of craftsmanship that is both charming and slightly ironic; in terms of sonic output, the same results could have been achieved with a whole lot less material if not basing the work on wood! Dewey's second criterion of providing a sense of unity is thus met visually, but there is no resolution in terms of the sound, which

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stays quite similar over the short time that the visitor is onboard. The level of interaction that is possible with the instruments is limited, since they were claimed to provide more opportunity for control than was accessible in reality when manipulating them. This may have been due to the fact that not everything was fully working, as is often the case with interactive works. This sense of frustration might have been avoided if audience participation had not been actively sought and the sonic interaction had been solely between the river and the instruments. The twelve-hour sampling of the salinity of the river provides long-term reactivity and I imagine the muddiness will change quite a lot when boats pass, so the work provides enough inputs for change.

Sound Installation as Sound Only

Suzan Philipsz has made a body of work which consists of sound in site-specific contexts. Interestingly, she doesn't call herself a sound artist but an 'artist who works with sound' (Channel 4 News 2010). Whilst it was *Lowlands* (2010), the first sound installation to bank the prestigious Turner Prize, that brought her fame, it's probably not her most successful piece of work. Originally playing through Tannoy speakers at three bridges along the river Clyde in Glasgow, the site-specificity was rather lost in its relocation to Tate Britain, where it became just three speakers in a gallery with different versions of herself singing *Lowlands*, a sixteenth-century ballad about a man drowned at sea who returns to tell his lover of his death.

Her piece *Study for Strings* (2012) has the clearer conceptual message and is in my opinion more able to make the viewer 'reconstruct his/her reality'. For this sound installation she used an orchestral work by Pavel Haas, a Czech composer who composed the work whilst captive in the Theresienstadt concentration camp. Haas and many of the performing musicians were killed by the Nazis after they finished filming the performance of this piece. The music was later used in the propaganda film *Theresienstadt*, made after the camp had been beautified for a visit by the Red Cross in 1944. Phillipsz isolated and recorded only the viola and cello part to effectively bring to memory the musicians who were killed through the silent gaps in the music. She made this installation for the Documenta, where twenty-four speakers were installed at Kassel's former train station Hauptbahnhof from where several Nazi-led deportations took place (Philipsz, 2013). Each note was recorded separately, further fragmenting the music. This piece with its sad historical references turns Kassel's train station into a memorial in a very subtle way. It's easy to see how this piece will make visitors 'reconstruct their reality' as they are transported

in time: the Hauptbahnhof is no longer their happy place of arrival, but a place where cruel things once happened in broad daylight. The music likewise is more than its notes, a memorial for the deceased musicians and composer. Dewey's concept of unity or resolution can be attached in particular to the concept of this piece. Knowing that the musicians were killed after the performance of the piece one unavoidably imagines this end destination as the music comes to a close.

Other examples of sound installation as sound only are Janet Cardiff's *Forty Part Motet* (2001) where forty speakers are placed around a room in an oval shape, each playing one musician's part of Thomas Tallis' forty-part motet, *Spem in alium*, and Jana Winderen's *Ultrafield* (2013), a sixteen-channel sound installation that utilizes wild life recordings of insects, flying bats and melting ice sheets, gradually amplifying them.

Sound Installation as Sound with Visual Component

Many sound artworks have a strong visual component. Possibly the most established sound installation artist here is Canadian-born Janet Cardiff, who creates installations with many objects in a room, including old-fashioned loudspeakers; many of her works are made in collaboration with George Bures Miller. Sometimes they rebuild whole rooms, as in *Opera for a Small Room* (2005): an almost square room that can't be entered by the viewer, but can be experienced by peeking through window-shaped holes in the walls. Inside, piles of records are stacked up and twenty-four different sized antique loudspeakers play classical arias, incidental sounds, and occasional pop tunes. One can hear the sound of someone moving and sorting albums and eight record players turn on and off, robotically syncing with the soundtrack.

A more haunting piece, *The Killing Machine* (2007), creates the idea of a room through a large metal frame without walls. It is a five minute loop of a hauntingly animated dental chair and two robotic arms that hover and move, sometimes like a ballet, and sometimes like a battle when they stab an invisible patient with pneumatic pistons. The dental chair is covered in pink fun fur with leather straps and spikes and is encircled by a moving megaphone speaker. Old televisions turn on and off, creating a nightmarish atmosphere further emphasised by the disco ball that rotates above the scene. This work is certainly intended to make the viewer reconstruct their reality, as according to the artists the piece is 'a critique to society's indifferent attitude towards killing' (Cardiff and Miller 2007). The question whether the work achieves this can only be answered by each person for themselves, as each person has a different experience of the same artwork. Having seen this work in Toronto in

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2013, I would say the artists were successful in facilitating an aesthetic experience, though perhaps slightly different from the one intended. The installation provides all the loose narratives and angst that one finds in a nightmare. The music (*Heartstrings* by Freida Abtan) is full of dark foreboding and the nature of the robot arms' intentions become increasingly clear when they move from hovering to stabbing the invisible reclining patient, leaving a sad and uneasy feeling. Instead of making me rethink society's attitude towards killing, it made me think of medical procedures and how these can plunge one into a living nightmare when the outcome is bad. The sense of unease is different, though, from the scene in *Reservoir Dogs* (1992) where a man's ear is cut off to the happy song of *Stuck in the Middle With You* (1973). There, the unease arises from the light-hearted music combined with the graphic violence of the scene. In terms of resolution, in the installation the ending is clearly shocking, but in a satisfying way. It is a privilege of the arts to escape pressures of false positivity and reflect something more life-like.

Other examples include works by new media artist Rafael Lozano Hemmer, whose *Sphere Packings* (2014) consists of seventeen rapid prototyped spheres, each playing back simultaneously all of the works of a single composer. The size of the sphere is related to the productivity of the composer, with Bach's sphere being the largest, housing 1,100 loudspeakers to play each of his 1,100 compositions. Other (unfortunately mostly male) composers included in the series, in order of increasing productivity, are Monteverdi, Mahler, Von Bingen, Nono, Nancarrow, Ligeti, Górecki, Wagner, Ives, Stravinsky, Stockhausen, Cage, Beethoven, Mozart and Handel (Lozano-Hemmer 2015)

Some works by Kaffe Mathews such as the *Sonic Bed_London* (2005) or the *Sonic Bike* (2014) also have a visual component. The latter is a collaboration with programmer Dave Griffiths and other participants of the Bicrophonic Research Institute, an association that makes music and audio landscapes to be triggered and played by the cyclist. The *Sonic Bike* has an onboard GPS system, a Raspberry Pi computer and battery powered speakers. The software acts as a sampler of sorts, where certain zones of the city are mapped to particular sound files, often precomposed soundscapes or music. Sound files can also overlap and different behaviours be applied dependent on cycling behaviour (for example, speeding up or slowing down). The sonic experience the user gets will be the bike's soundtrack accompanied by the existing soundscape of the area they cycle through. The system has been repurposed in many different site-specific contexts, including in France along the river Douro (*Opera fiXI* 2013) and in *Pedaling SeaSides* (2015) along the dune bike paths in Kijkduin (Bicrophonic Research Institute 2016).

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Sound Walks

Hildegard Westerkamp created her first sound walks in the seventies, though she would prefer to be called a soundscape artist rather than a sound artist, due to her lack of visual arts background and her primary concern with the soundscape itself.[1] Originally devised for the radio programme *Soundwalking*, she would record a walk through a rural environment and record her own voice commenting on the sounds and sights encountered. In *Lighthouse Park Soundwalk* (1977) her spoken commentary includes quotes from West Coast painter Emily Carr's writings about the sounds of the forest (Westerkamp 1999).[2]

Another artist well known for her sound walks is Christina Kubisch. She has developed bespoke wireless headphones that transform electromagnetic waves into audible sound, deploying these in *Electrical Walks* all over the world. The first one took place in Cologne in 2004; I took one in London in 2005 and it was a very poetic way to experience London: walking on Euston Road and hearing church organ above the roar of traffic, standing in front of illuminated advertising boards and hearing them transmit a different pitch each, possibly due to each light bulb having a slightly different remaining lifespan. Security systems also make an interesting sound with her headphones, making you aware that surveillance literally

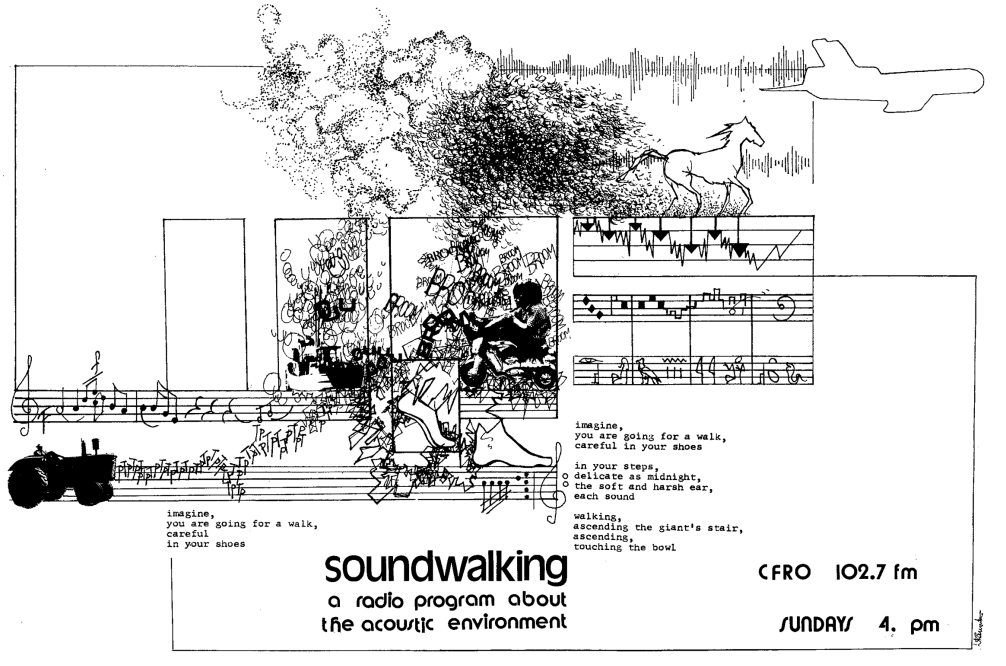

Figure 12.2 Original poster for the Soundwalking radio show of Hildegard Westerkamp (1978/79)

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goes directly through the body. Kubisch's walks give a sense of an ultra-real experience, and the awareness that electromagnetic fields, whether good or bad, are everywhere. In this sense the *Electrical Walks* certainly make you reconstruct your reality, as they make the inaudible audible. A sense of unity is provided by the choice of the objects that Kubisch chooses to convert to sound and the ways she turns the banal into the unexpected.

In Janet Cardiff's sound walks the participant listens to a recording of Cardiff giving them instructions whilst undertaking the same walk herself. Thus two slightly different sonic layers overlap, that of the walk Cardiff took and the one taken by the visitor on a different day. Many of Cardiff's walks use the binaural recording technique, enhancing the realism of the recordings.

Transmission Art (Using Sound)

From the lively field of radio, *radio art* emerged. Tetsuo Kogawa (2008) argues in his manifesto that radio art is more than transmitting sound art over the radio. In radio art the concept of transmission is the key ingredient rather than the act of transmitting content; radio art has to somehow mould the transmission process. Kogawa attempted to keep the transmission as small as possible and translated this to minimal distance, in his case the radius of one metre.

With the expanding possibilities of internet broadcasting, it seems old fashioned to have a separate category for radio art. *Transmission art* is the term preferred by Anna Friz, and it may be more suitable, as transmission technologies include television, the phone and online communication systems. Friz suggests that contemporary transmission art is often a form of protest against the industrialisation of communication; artists look to de-industrialise and consider transmission as craft (Friz 2009; see also Chapter 8).

In Friz's own work radio is the source, subject and medium of the work. Originally from a community radio background, she started using radio as a way to make art. In the installation *Respire* (2009), over two hundred pocket-sized radio receivers are suspended from the ceiling, and hang slightly above the heads of the listening audience, spinning on their strings as people move through the space. The radios transmit a precomposed soundscape by Friz, mixed in with static caused by interference from the larger radio transmission towers clustered around Toronto and with bleeds from other FM channels. Visitors to the installation interfere, by their presence, with the reception of the radio waves, allowing for further random modulation of the soundscape (Kennedy 2010).

An earlier example of transmission art is *Aeriology* (1995), by the Australian artist Joyce Hinterding. This massive antenna of copper wire pulls in small stray bits of energy and more comprehensible transmissions. The antenna resonates with a range of radio frequencies, both high and low, and in this process gathers enough energy to power its own speakers. Recreated in Sunderland for the AV Festival in 2008, it involved wrapping over fifteen kilometres of copper wire around two pillars in the Reg Vardy Gallery, turning it into a radio antenna listening to activity in the atmosphere outside. The gallery became a pulsing and throbbing energy gatherer, enabling the visitor to hear sounds that would normally escape them. I experienced this piece in Sunderland, and it did produce an aesthetic experience for me in Dewey's terms. The structure sounded rather threatening and I wondered if it was actually safe to get so near, though, apparently, the work simply receives and amplifies frequencies in the surroundings of the antenna; some consist of 'natural radios' created by solar flares and lightning that become audible as pinging and popping sounds (Liminal Product 2000). The work certainly brings home that we are surrounded by energy fields we are not even aware of, and in this way reconstructs reality for the observer. The artist explained that the sound produced at the Reg Vardy was one she had not come across anywhere else. She tried to find out where it came from with a very low frequency antenna and found merely a small empty room. The visual side of the work provides a certain sense of unity. The strands of copper wire both divide the space and reflect the light in the space and provide a centre of attraction for visitors in the space, who flock around it to hear it better.

Of course there are works of sound art that don't so easily fit Dewey's theory. Jem Finer's *Longplayer* (1999), for example, can't be experienced by any one person in its entirety, as its duration is a thousand years. This computer controlled music results from the application of simple rules to six short pieces of music. One section from each piece plays continuously and the *Longplayer* chooses and combines these sections so that the piece doesn't repeat itself for a thousand years. The piece can be experienced online and at various listening posts, including the Royal Observatory and the Lighthouse in Trinity Buoy Wharf (both in London), the Long Now Foundation Museum in San Francisco and the Yorkshire Sculpture Park (The Longplayer Trust 2016). However, one can get a good idea of the flavour of the sound in a shorter lifetime, as the composition doesn't change radically over time.

Such algorithmically produced sound installations can produce sound not previously heard or even anticipated by their creator, and in this sense it is likely that Dewey's notion of the aesthetic experience would have to be expanded upon for those works to be viewed in light of his thought. This will

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become the most pressing case when artworks become so intelligent they can learn from their own behaviour and themselves aim to produce better or more surprising sound over time. Nevertheless, given that Dewey's main body of thought comes from the 1930s, his concepts stand up remarkably well and can be applied to art forms that came into existence after his death in the mid-twentieth century, including electronic sound art.

Notes

1 Personal communication, 2016.
2 Nowadays, many of these works can be experienced online. See, for example, http://cec.sonus.ca/Radio/Long/Westerkamp.html

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