3. Scape: Investigating the Environment through Sound

3.1 Rethinking Land Art and Acoustic Ecology

The multiple, conceptual and embodied ways in which we understand and relate to architectural and natural environments have been extensively explored by artists and composers over the last forty years. The current environmental predicament of climate change and sustainability, marked by the Kyoto Protocol agreement of 1997, and the UN Climate Summit in Copenhagen in 2009, make these explorations by artists ever more pertinent as they suggest alternative imaginations and practices for radically rethinking the ongoing challenge of relating to the environment, beyond the so-called ‘green-washing’ of current social politics. The rhetoric of climate change emphasises the dramatic pressure demanded to effect substantial global change in a short time frame, where the future must always be considered in the mind of the present. Historical perspectives and attempts to assess the situation are commonly neglected in this rush forward. The following discussion examines various artistic approaches to the environment, focusing on practices associated with Land Art and Acoustic Ecology, with special attention to composers R. Murray Schafer, David Dunn, and Hildegard Westerkamp, art historians Jack Burnham and Lucy Lippard, and cybernetician Gregory Bateson. This context frames my own research on sound and the environment.

Important historical precedents for current artistic practices involving environment can be traced to Land Art and Acoustic Ecology in the 1960s and 70s. The Land Art movement assessed the relationship between visual art and the environment by moving outside the gallery using the environment itself as material. Key examples include Robert Smithson’s Spiral Jetty (1970) and Helen and Newton Harrison’s Lagoon Cycle (1974-84). These works didn’t just add sculptural forms to wilderness spaces, but used natural processes to engage in forming and questioning human relationships to environment. Around the same time the Acoustic Ecology movement was developing with Schafer publishing his now influential book The Soundscape: Our Sonic Environment and the Tuning of the World (Schafer, 1993, republished after The Tuning of the World (1977)). The aim was to bring more widespread attention to the sonic environment through study, experiments, mapping and teaching. By creating greater awareness of our relationship to these many sounds and their relationship to each other, Acoustic Ecology sought to heighten a sense of shared human responsibility for maintaining a sustainable balance in the environmental soundscape, and thus in the
environment in general. In what ways have these movements from forty years ago been rethought in terms relevant to today?

The last decade has seen a resurgence of interest in land and environmental art from the 1970s, particularly the work of artists such as Richard Long, Robert Smithson, Hans Haacke, Walter de Maria, Nancy Holt, Helen and Newton Harrison, James Turrell, Agnes Denes and others, that was somewhat neglected in the intervening decades. In the 1998 survey *Land and Environmental Art*, art historian Brian Wallis contrasted the marginal experimental attempts of a handful of artists in the 60s and 70s, with the global scale of the highly politicised United Nations Earth Summit of 1992 in Rio de Janeiro. In doing so he highlights the ironic neglect of Land Art in the 80s and 90s, that although “flamboyantly boosterized in the heady, back-to-the-earth 1960s, has since largely fallen off the map of canonical art histories” (Wallis, 1998: 23). More recent attempts to address this gap include art historians Maja and Reuben Fowkes’ essay ‘Planetary Forecast: The Roots of Sustainability in the Radical Art of the 1970s’ in which they note a neglect of the implications offered by environmental work of that time. “It turns out that many of the issues identified by theorists of sustainability …” they write, “were explored in the radical art of the early 1970s, only to be ignored in subsequent decades. These prophetic art texts are now ripe for rediscovery in the context of current attempts to grapple with the social and ecological consequences” (Fowkes, 2009). Although the publication in 1983 of Lippard’s vital text, *Overlay: Contemporary Art and the Art of Prehistory*, suggests ongoing scholarly concern with these issues, the claims of Wallis and Fowkes, if overstated, nonetheless identify a diminished interest in the field.

Likewise, the work of Acoustic Ecology is being rediscovered and reinvented after a period of relative obscurity. Historian Kendall Wrightson in his paper, ‘An Introduction to Acoustic Ecology,’ describes the problem: “Like many issues emerging from the explosion of ideologies in the late 1960s, the profundity of Schafer’s message is now hidden behind a single, soundbite-friendly issue: noise pollution” (Wrightson, 2000). Indeed, LaBelle claims that Acoustic Ecology confuses the concept of noise with noise-pollution, generating negative associations that imply a moral system of thinking about sound. He further argues that “acoustic ecology runs the risk of shutting down auditory possibilities by registering sound within an overarching framework of value: what sound is harmful and what sound isn’t? Which sounds contribute to noise pollution and which sounds don’t?” (LaBelle, 2007: xv). While this is a valid critique, it is these very social and moral implications that are being explored in much current work growing out of the traditions of Land Art and Acoustic
Ecology. Rather than being dismissed or ignored as a marginal environmentalist’s niche and historical period, composers like Dunn work to define the ideas of sound and environment with greater relevance to the present, contributing to scientific knowledge and impacting upon public policy, while in the process of conducting artistic research.

In a recent essay entitled ‘Acoustic Ecology and the Experimental Music Tradition’ Dunn clarifies his relationship to Acoustic Ecology. In contrast to the limited ‘soundbite’ notion of the field (noise-pollution), he describes it as “a much more expansive domain of intellectual activity than would have ever been claimed by its original practitioners” (Dunn, 2008). He extends Schafer’s work on defining listening and the soundscape as the social and didactic aim of the original Acoustic Ecology group, advocating a more open-ended interest in “the concern for achieving a deeper understanding of how sound and our sensory modality of hearing are unique organizing forces within human society, and our physical/ecological environment”. He sees this concern as not exclusive to Acoustic Ecology, but also central to American experimental composers including Cage, Lockwood, Lucier, Max Neuhaus, Oliveros, Tenney, David Tudor and La Monte Young. He describes the new generations of artists and composers in the 2000s that show affinity with these backgrounds as “soundscape recordists, noise composers, installation sound artists, phonographers, microphonists, audificationists, and sonification researchers”, and includes my own work on sonic navigations in a list of “diverse practitioners”.

3.2 Systems Aesthetics and Direct Involvement with Environment: Burnham, Bateson, Dunn, Schafer

One of the most traditional ideas of ecology is based on interlinking natural systems and the mutual dependence of life within these systems. An ecosystem is based on balances within the complex parts that dynamically change in response to one another. The development of systems theory and cybernetics in the mid twentieth century theorised such structures of information within systems across many disciplines, from sociology and economics to science and the arts. More recently this has developed into ideas of complexity theory and emergent properties that develop from these dynamic systems. It is beyond the scope of this dissertation to explain systems theory in detail. For current purposes, it suffices to say that the relationship of systems theory to ecology and environmental research, especially with respect to the arts, has a significant history that is being reinvigorated by current practices.
The basic principle is one of interconnected complex systems that affect the development of one another, where a change in one part of the system will have effect throughout the whole. A crucial notion is that of positive and negative feedback loops within these systems, which move the system out of stable balance towards growth or destruction. Systemic relationships and feedback can be heard throughout the development of electronic music and seen in some visual art related to ecology. For example, German-American artist Hans Haacke’s *Rhine Water Purification Plant* (1972) used systemic processes within a gallery setting, vividly illustrating these systemic processes in early environmental art. The installation consisted of glass bottles with dark polluted water from the nearby Rhine river that was passed through various purification processes in the gallery space, moving finally as clear water to a large glass tank with live goldfish, and ending with an overflow pipe through the window into the garden and joining the ground water level.

American art critic and curator Jack Burnham was at the forefront of forming ideas of what he termed ‘systems aesthetics’ in relation to emerging ideas of art and technology (Burnham, 1968). Although influential in the art and technology discourses of the late 1960s and early 1970s, systems aesthetics suffered neglect similar to that of Land Art and Acoustic Ecology but began resurfacing in contemporary art discourses in the 1990s and 2000s (Shanken, 2010). Art historian Marga Bijvoet gives an extensive account of the relationships between art and technology, environmental art and systems aesthetics in her book *Art as Inquiry* (Bijvoet, 1997), proving it to be particularly relevant to ideas of art, environment, and sustainability. Burnham applies a systems theoretical approach in his writing on Helen and Newton Harrison’s environmentally engaged artwork:

> One of the basic principles of Nature is concerned with asymmetries that develop between bordering ecological subsystems. Given two bordering subsystems (either natural or cultural or a mixture of both), the less-organised sub-system releases energy to the more-organised, and in the process the less-organised sub-system loses information while the more-organised gains some. Over a period of time this produces imbalances between neighbouring ecosystems precipitating crises within the more-organised system. As a culture builds up its urban areas, mechanises and simplifies its food chains, cuts down its diversity of relations with Nature, it assumes the form of a more organised ecosystem drawing on the surpluses of energy from the simpler ecosystems around it (Burnham, 1973: 256).

As Burnham explains, the Harrisons observe that working with the interacting environmental systems in creation of a functional ecology (e.g. their *Lagoon Cycle* project...
with crab and fish farms) inevitably influences the artists themselves and their relationship to their work. “Being drawn into an integral, on-going, natural system gradually alters the artist’s attitude towards self and the world.” (Burnham, 1973: 256). This observation emphasizes the integration of the artists as part of the environmental system itself and not as outside observers.

The basic tenet of Acoustic Ecology, as well as some bio-acoustic science, relies on ideas of interacting systemic balances between sounds in an environment. Schafer's work on Acoustic Ecology can equally be described in these terms, as an elaborate unravelling of systemic interactions between sonic events that together make up the soundscape. Schafer’s account of the activities of a fishing community in Brittany, France, demonstrates how his conception integrates sound, weather and other environmental factors.

Lesconil is surrounded on three sides by the sea and is subject to an onshore-offshore wind cycle known as "les vents solaires". Distant sounds are carried to the village in a clockwise sequence, beginning from the north at night, moving to the east and south during the day, and finally to the west in the evening. In the early morning, when the fishermen put out to sea, the Plobannalec church bells and nearby farming noises are heard clearly. By 9 a.m. it is the bells of Loctudy to the northeast; by 11 a.m. the "puffer" buoys off the east coast; then by noon, the motors of the trawlers out to sea at the south. (On a calm day they can be heard up to 12 kilometres away.) By 2 p.m. the western buoys are clearly heard, and by 4 p.m. it is often possible to hear the blowhole at Point de la Torche, 12 kilometres away to the west. If the weather is foggy, the afternoon will bring the sound of the great foghorn at Eckmühl, on the same coast. By evening the farm sounds return and with them the bells of Treffiagat to the northwest. This pattern is characteristic mainly of the summer months when the weather is clear and the fishing good. Variations in it indicate weather changes: for instance, when certain buoys are heard out of sequence, there will be a squall; or when the surf is strong in the west, good weather will follow. Every fisherman and every fisherman’s wife knows how to read the nuances of these acoustic signals and the life of the community is regulated by them. (Schafer, 1977: 215-6)

Creating such an awareness of the systemic interrelatedness of environmental factors with human perception and activity is central to the principles of Acoustic Ecology and provides a shared foundation for ongoing research currently conducted by many sound and visual artists. For example, the work of Lucier lends itself to interpretation in terms of systems and systemic relationships between sound, perception, and environment. Lucier often sets up a
system or a set of procedures by which loops occur, as in for example *Music for Solo Performer*, *I am Sitting in a Room* or *Quasimodo* (discussed in more detail in chapter five). This systemic awareness of sound extends as well into scientific research. In bio-acoustics, for example, it is often the interaction between sonic elements of biotic, abiotic and anthropogenic sounds that are analysed, providing clues to the health or imbalance of an ecosystem through acoustic analysis (discussed in chapters four and five).

Dunn explicitly refers to cybernetics and systems theory as important influences on his work as a composer, specifically identifying anthropologist and cybernetician Gregory Bateson as well as more contemporary complexity theories especially related to ecology (a discussion of Dunn’s work on bark beetles in relation to complex systems is discussed in chapter four). Bateson’s book *Steps to an Ecology of Mind* (1972) was widely read and discussed by artists. In it, he calls for a change in attitude towards the natural world, away from human dominance and an outside perspective, to one integrated within the system itself. In his lecture ‘The Roots of the Ecological Crisis’, he identified the basic causes as lying “in the combined action of (a) technological advance; (b) population increase; and (c) conventional (but wrong) ideas about the nature of man and his relation to the environment” (Bateson, 1972: 488-93). Dunn is informed by Bateson’s ecological systems theory ideas, in particular the notion of “mind in nature” which considers “mind” to be larger than the individual, embedded in the ecological systems themselves. The composer’s work from the 1980s to the present engages with the problem of complexities between systems of non-human and human worlds and envisions a possible re-shifting of balance away from human dominance, for example in his recordings of underwater sound used in *Chaos and the Emergent Mind of the Pond* (1991). In Dunn’s view, this shift embraces technological advances as a part of the complex evolutionary system.

The issue that confronts us is that the living systems making up the homeostatic complexity of the biosphere are reorganising as a consequence of human influence. All natural systems will do this given sufficient perturbation and disequilibrium. We have been a part of that natural process. The question remains: Will it reorganize in a manner that includes or excludes us from its larger complexity? In our attempts to grapple with this question, we cannot easily abandon the technologies that have contributed to the disequilibrium. I believe we can transform their use into tools to remind us of the larger systemic complexity within which we reside. (Dunn, 1988)
3.3 From Prehistory to Eco-Aesthetics: Lippard and Dunn

The artistic exploration of relationships to environment has a long history, even a prehistory and important parallels can be drawn between the visionary work of Lippard on recontextualising Land Art and Dunn on recontextualising Acoustic Ecology. In her book Overlay: Contemporary Art and the Art of Prehistory, Lippard conceptually ‘overlays’ environmental art from the 1970s onto prehistoric art, in particular the land-based stone circles and burial mounds found throughout North West Europe and North America (Lippard, 1983). In doing so she generates a dramatically broader context in which to theorise the challenging questions set out by Land Art. Rather than to suggest a nostalgic return to a distant period, she uses this overlay of two vastly different historical and cultural periods to refresh the relevance of articulating the relationship to environment by artistic means. She argues that late twentieth century artists’ interests in land and environment, echoing an embedded social function of prehistoric art and ritual, lead towards the opening up of the art-world, and artists roles within it, to social activism. By moving outside of the usual, urban realm of art and gallery, the performances and sculptural interventions in the environment, as described in her book, offer experiences that reinvigorate the question of humanity’s ongoing, changing relationship to the environmental context of which it is a part.

Lippard argues against a simplistic romantic interpretation of this interest in environment, instead presenting it as a down-to-earth compulsion towards investigating the relationships between the natural and cultural worlds through aesthetic means.

Speculation about the close relationship between nature and culture in prehistory is not starry-eyed idealization, nor is it ahistorical fantasizing about a Golden Age. People living between earth and sky, with few human-made distractions, had to be far closer to natural forces and phenomena than people living on our crowded planet now. They were undoubtedly aware of their environment in ways lost to us. Obviously we do not relate to nature in the same way, but the reestablishment of a coherent relationship between nature and culture is a critical element in any progressive view of the future. (Lippard, 1983: 12)

There are significant parallels between Lippard and Dunn. Where Lippard’s insights into the relationship between prehistory and contemporary art – specifically Land Art from the 1970s - lead to her claim that “the reestablishment of a coherent relationship between nature and culture is a critical element in any progressive view of the future” (Lippard, 1983: 12), Dunn makes a similar move in his theories of the development of music. He places
work from the Acoustic Ecology and the Experimental Music traditions from the 1970s, within the context of recent prehistoric theories of sound and music. Drawing on paleo-anthropologist Steven Mithen’s book *The Singing Neanderthal*, which posits a common prehistoric root between music and language in an early communication system he refers to as Hmmmm communication – Holistic, manipulative, multi-modal, musical and mimetic (Mithen, 2006). Dunn suggests that this co-evolution of music and language has vast implications:

In the light of insights inherited from the experimental music tradition and the broader meaning for Acoustic Ecology previously outlined, I am willing to contend that this capacity to hear the soundscape as music is simultaneously one of the most archaic ways of listening and the most modern. Music is both a conserving action for keeping alive a mode of communication similar to non-human forms of cognition and an intuition to a future communication modality that we are actively evolving. (Dunn, 2008)

Dunn’s interest in the relationship between understanding the soundscape and musical development as an evolutionary process and necessity is highly distinctive. His position suggests a validation for detailed research into our relationship to the environment through sound, not simply as a relationship to music but in its social, political and scientific potential. In doing so he broadens the expectations and scope within which music can act:

I also believe that awareness of the historical moment—signalled through extensive loss of biological diversity, global climate change, and the impacts of human over-population—will demand an even further shift in how the sonic arts move beyond purely expressive concerns, or documentary and sensory heightening strategies alone, towards participation in both scientific research and subsequent interventions in growing environmental dilemmas. This is just another stage in how music has always congruently evolved with human needs. (Dunn, 2008)

Dunn’s vision of the composer’s potential transdisciplinary role as a researcher working at the intersections of science, art and environment, can be seen in contemporary developments of environmental art and sound art. The present interest in environment is reflected in the rise of ‘eco-aesthetics’, ‘eco-art’ or ‘environmental aesthetics’ in recent years. Seen in a number of exhibitions, often using the same name, including *Weather Report: Art and Climate Change* curated by Lippard (Lippard, 2007), and *Ecomedia: Ecological Media in Today’s Art* (Himmelsbach and Volkart, 2007), eco-aesthetics shows the emergence of a
contemporary interest in relating to environment in ways that include technological visualisations and sonifications of complex data, and social actions revealing environmental processes. Much of this work tends towards an overtly didactic emphasis. For example, some works seek to create awareness and educate the public about their role in sustainable living, echoing the educational priorities of Acoustic Ecology. Other work relates more to the aesthetic traditions of Land Art. In general eco-aesthetics illustrates a tendency of environmental art to move towards social engagement, as posited by Lippard in Overlay, and reinforced by LaBelle’s notion of sound as relational.

My own work has been exhibited and performed in the contexts of eco-aesthetics, acoustic ecology, video installation, and sound art. It is often illuminating to observe how the same work is interpreted differently in various visual art and musical traditions stemming from Land Art and Acoustic Ecology. This is not only characteristic of the nature of artwork that crosses disciplines, but also illustrates the interest of these disciplines to broaden their scope, overlapping topics that may previously have been dismissed as belonging to the other camp. I lectured on my work ‘Taking Soundings: A Composers Investigation into Technologies of Navigation’ at the international conference Mutamorphosis: on Art and Science in Extreme Environments, in Prague in 2007. In this context, I was part of the Eco-Sonifications panel, alongside Dunn and James Crutchfield and environmental sound artist Andrea Polli. The following year Sun Run Sun: on Sonic Navigations was presented in the visual art exhibition Eco-Aesthetics curated by Hicham Khalidi at TAG in Den Haag 2008. This show included visualisation work by eco-artists and designers Tiffany Holmes, Beatriz de Costa and Michael Mandiberg. My sound and video performance Fishing for Sound, which explores underwater sound in relation to sonified satellite data from space and sound in the mind, was programmed at the festival, Sonic Acts XIII: The Poetics of Space, in Amsterdam in 2010 as part of the Acoustic Spaces session alongside work by Hildegarde Westerkamp and Barry Truax from the original Acoustic Ecology group, and Annea Lockwood. The same piece was programmed later that year at the Ear to the Earth Festival organised by the Electronic Music Foundation in New York City with other artists dealing with sound and water such as Lockwood, Polli and David Rothenberg. These are some of the very varied contexts within which my work has been framed, illustrating the overlapping areas of interdisciplinary work stemming from Land Art and Acoustic Ecology.
3.4 Walking as Active Engagement with Environment

Both Land Art and Acoustic Ecology share a key technique that continues to be influential: walking as a material and as an art form. Walking, as an artistic medium, has been theorised as an action that relates one to the space being moved through. Writer Rebecca Solnit, in her book *Wanderlust: A History of Walking* (Solnit, 2001) traces the history of walking as a cultural act embedded in literature, philosophy, art, religion, environment and politics. She considers how walking relates to the body and thought, the city and country through the historical emergence of walking as a consequence of less dangerous cities, and gender issues of safety, leisure and historical convention. It is also a history of people breaking with convention and stepping out, often literally, to make a point, to act out dreams, to resolve or prove. Solnit mixes very personal accounts of actual walking experiences with examples drawn from a wide variety of sources. She ends with a wonderful personal reflection of a walking exploration of Las Vegas and the Nevada Desert, as a site of contemporary walking culture being revitalized in new (warped) forms in the least expected place. She describes the active relationship built up between walker and environment in these terms:

> Walking has been one of the constellations in the starry sky of human culture, a constellation whose three stars are the body, the imagination, and the wide-open world, and though all three exist independently, it is the lines drawn between them – drawn by the act of walking for cultural purposes – that makes them a constellation. Constellations are not natural phenomena but cultural impositions; the lines drawn between stars are like paths worn by the imagination of those who have gone before. This constellation called walking has a history, the history trod out by all those poets and philosophers and insurrectionaries, by jaywalkers, street walkers, pilgrims, tourists, hikers, mountaineers, but whether it has a future depends on whether those connecting paths are travelled still. (Solnit, 2001: 291)

The “constellation” of body-imagination-world is an experiential, first-person relationship to environment generated by walking through it. Presented in so many forms by land artist Richard Long, but perhaps most emblematically in his *A Line Made by Walking* (1967), this constellation is also a key to the ‘sound walks’ of Schafer and other sound artists. Hildegard Westerkamp, Janet Cardiff, and Christina Kubisch for example, have developed the walking as an artform in different ways. Westerkamp, who joined Schafer’s World Soundscape Project in the early 1970s, takes groups on listening walks with no technological aid. Cardiff, whose sound walks gained attention in visual art circles in the mid-1990s, creates pre-recorded scripts that provide a narrative for a journey taken by walkers, who listen to the
recording on headphones. Kubisch, a trained composer whose first sound installations date to the 1980s, gained recognition in the 2000s in media art circles for her Electrical Walks that detect electromagnetic interferences in the environment (e.g., transformers, wireless devices, antitheft and surveillance equipment) and translate them into audible range that users can listen to on special headphone instruments.

I am interested in the different approaches of both non-technological and technological sound walks, like those of Westerkamp and Kubisch, as both encourage different relationships to environment through walking. In a lecture at the Sonic Acts Festival in Amsterdam 2010, Westerkamp talked about the diversity of her sound walk practice. Most walks consist of a group with a pre-determined leader who has planned and mapped out the route of the walk prior to the event itself. The group are led around already existing sound marks and changing soundscapes that are in a way composed by the group leader.

Westerkamp described another walk however, where the group had no leader and no predetermined route. What emerged were moments of confusion, particularly at road junctions where choices of which direction to walk could split the group. As verbal communication is prohibited on these walks, negotiation could not take place by discussion. She described how the state of heightened awareness is produced by active listening. The group came to consensus as a whole, without argument or negotiation, in a way that she likened to migrating animals or birds. This kind of heightened bodily sensing and awareness of the group came through walking and listening.

The introduction of technology provokes a rather different constellation of body-imagination-world than walking without a technological extension. Solnit remarks, “… the sensing, breathing, living, moving body can be a primary experience of nature too: new technologies and spaces can bring about alienation from both body and space” (Solnit, 2001: 257). It is the usual concern that technologies effectively cause ‘alienation from both body and space’, for example the ‘schizophrenia’ described by Schafer where the sound is split from its source. “Schizophrenia … refers to the split between an original sound and its electroacoustic reproduction … I employ this ‘nervous’ word in order to dramatize the aberrational effect of this twentieth-century development.” (Schafer, 1977: 273) But this very alienation can be challenged, and even used or played with, to provoke greater awareness of ones surroundings and body in environment.

Westerkamp concentrates on heightened listening to environmental sounds within the environment and group behaviours that develop out of this state of awareness when being guided predominantly by sound rather than sight. Cardiff, by contrast, uses the environment
as a setting for dramatic enactment of events to take place, where the actor, rather eerily, is oneself, literally walking in the shoes of the narrator whose voice is quite literally in one’s head via the pre-recorded sound played back on headphones. Relation to the environment through sound is in this case shifted, altered, fractured somehow, causing a disturbance that provokes the imagination. Kubisch’s *Electrical Walks* expand our listening capabilities to introduce us to sounds that are always present in our everyday environment, but that we cannot hear with the naked ear. The participants can explore these soundworlds, activating the constellation of body-imagination-world.

In my own work, walking as a means of embodied experience of movement in environment has featured prominently since *Walk for an Absent Public* (1995). I also have explored other forms of motion, such as sailing and swimming, related to the aqueous environment of the sea. For example, *Symphony no.2: Sargasso Sail across the Bermuda Triangle* (1997), which involved a week-long sail through this fabled location of countless ships lost at sea. These laid the foundation for further experiments with landscape and in particular the importance of interacting with technologies of navigation to find one’s way and build meaning via movement through an environment. Rethinking walks in terms of a technological relationship to environment, I created *Taking Soundings* (2007-8) and *Sun Run Sun* (2008-9) (described in chapter four), key works in the evolution of *Scorescapes*, which explore historical, contemporary and animal navigations through sound. In terms of walking and the importance of navigation, these projects, which created GPS sonifications, maps, installations, performances and instruments, were contextualised in a variety of contemporary emerging practices. In the music and technology field I have presented these projects in the Mobile Music Workshop 2007 and 2008 (Tanaka et al, 2008) and NIME 2008 (New Instruments for Musical Expression conference), both of which are concerned with the influence of technology on musical instrument development. Most recently they have been theorised as challenging Locative Media practices, which use hand-held portable media such as GPS and mobile phone devices to create interactive situations in outdoor space, some of which generate affective bodily involvement in these spaces.

For example, curator Annet Dekker, who commissioned *Sun Run Sun*, theorises it in terms of changing awareness of one’s environment through the embodied use of technology, in contrast to many locative media practices that use current mobile technologies which “evolve around an interest in new tools, and without questioning them, they are asserting the aesthetics of the consumer market and affirming the control society.” Her analysis of the use of sound to create intuitive and embodied experiences in the participants taking the
walks with the Satellite Sounders illustrates these points.

By using sound as a vehicle, Harris attempts to open the lesser-used space of aural experience. Sound has the ability to open up a subjective dimension in listeners, mitigating the coldness and mechanization of reading digitally generated data. SRS does not contain musical meaning or symbolic references, nor is it a usable navigation aid; it functions as a catalyst for subjective experience. Participants describe their walk as a heightened sense of embodied location, as a strong emotional-physical connection to locational technologies in the sky, and as a merging of intuitive and rational means of navigating the environment. Returning from a walk, one person said it made her feel small and insignificant, and that this was a revelation to her. People comment that they see and feel the world around them differently, as someone pointed out, “like being on drugs”. Others experienced a transformation, with a contemplative sense of body and place temporarily blocking out the cares of an otherwise hectic urban lifestyle: “It’s like being in a constant conversation with every aspect of my environment, reacting physically to everything around me”. Using an intuitive navigator, Sun Run Sun provides people with new experiences not just of space but also of body and mind. Affect of place is constituted here through technology; its relation to the body in movement is what makes its affect felt. (Dekker, 2009: 3)

Media theorist Susana Zaragoza, discusses Sun Run Sun in the context of non-representational theory and knowledge gained through qualitative, embodied experience of place.

In fact, a different sensitivity to one’s immediate surroundings and one’s position on Earth arises. These non-representational spaces are out of the realm of meaning and can only be experienced in their performance. A performative practice is necessary in order to understand this new logic of our current calculative world. (Zaragoza, 2010)

I have experimented with this process of hyper-aware listening while walking, implied by Westerkamp, Kubisch and my own Satellite Sounders, by taking the recording and its removal of context a step further. If I walk down the street I listen primarily to sounds that facilitate my movement and navigation of space, working in combination with the other senses. If I play a sound recording of that same walk back to myself in a quiet space I listen in a different way, without the need to process and interpret sounds immediately for action, motion and understanding of my environment. Because I am not physically active I am listening with
different criteria and necessity, and so the sounds have a different meaning. I may not even really recognise the recording as the place I have just walked. However, if I play that same recording back to myself while making the same walk, but of course at a different time, I am confronted by a disjunction between my listening and my environment. For example, I may recognise the road, but not see the car that I hear pass by me. I see someone walking towards me, but their footsteps are out of sync with the sound I am hearing.

Through this experiment of layering sound, I became consciously aware of my listening process and the function of hearing in orientation, movement, time and being in that place. These are my notes after trying out the walking piece for the first time at Orpheus Institute Ghent in January 2010 with five participants:

Think also of the walking piece – recording sound just before and playing the same walk back in the same place but time-shifted. What does this do to us? Different reactions, of paranoia, of getting in sync, of play, of indifference, of out of balance, asynchronicity and surprise, of awareness of environment and our use of senses in its perception. Time, time folded, time collapsed upon itself, the same place different time, an extension of time, time past but overlap to time future through time present. Where is my sound in time present? Or am I listening to it and walking in the future? Do I loose my reference point, my temporality of ‘now’?

In an analysis of this walking experiment, media theorist Marta Colpani interprets it in terms of perceptual functioning and shifts that generate an enhanced bodily awareness.

From a theoretical perspective, the relevance of this piece is mainly in perturbing the interaction that takes place between exteroception in sound and vision, proprioception, and interoception in the perception of suspense generated by the sounds of absent events. This work makes the participant extremely aware of the functioning of his body when feeling and perceiving reality. The work therefore reflects on human perception, and in this case is strictly focused on the relation between space-time and the body. (Colpani, 2010)

These theoretical interpretations of my recent work corroborate my artistic attempts at using walking as a central element and extending this through sound and perception to create embodied, active experiences of environment.