

Critical  
Approaches  
to Arts-based  
Research

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# UNESCO Observatory Multi-Disciplinary Journal in the Arts

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## ABOUT THE E-JOURNAL

The UNESCO Observatory refereed e-journal is based within the Graduate School of Education at The University of Melbourne, Australia. The journal promotes multi-disciplinary research in the Arts and Education and arose out of a recognised need for knowledge sharing in the field. The publication of diverse arts and cultural experiences within a multi-disciplinary context informs the development of future initiatives in this expanding field. There are many instances where the arts work successfully in collaboration with formerly non-traditional partners such as the sciences and health care, and this peer-reviewed journal aims to publish examples of excellence.

Valuable contributions from international researchers are providing evidence of the impact of the arts on individuals, groups and organisations across all sectors of society. The UNESCO Observatory refereed e-journal is a clearing house of research which can be used to support advocacy processes; to improve practice; influence policy making, and benefit the integration of the arts in formal and non-formal educational systems across communities, regions and countries.

# Critical Approaches to Arts-Based Research

## Guest Editors

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## THEME

Arts based research (ABR), its products, processes and critical theorising have come a long way in recent times. Nuanced distinctions indicate the development of the field, as arts-informed research, arts-based research, practice-led research, applied research, and creative participatory action research all claim different relationships with the art and criticality present in such innovative scholarship. Finally, it seems, we are moving away from a defensive stance regarding arts based research and its ‘validity’, and toward a celebration of this proliferation of diverse ways of knowing, theorising and doing research. This ‘coming of age’ is evident in this special issue, which urges readers to move beyond binarised notions of scientific ‘versus’ arts based research that still at times dominates academic research environments and conversations, and outmoded practice/theory divides. For we co-editors and for the authors here, theorising is indeed a creative practice, and goes hand-in-hand with the epistemological and ontological potential of arts-making methods. This issue celebrates the opening of new doors in theorising innovative arts based research from a range of global contexts, theoretical and epistemological frameworks, and inter/disciplines. We avoid any attempt to codify or limit the parameters of what contemporary arts based research is or can be. Indeed, we seek the opposite: to highlight its ever-expanding possibilities.

The essays here aim to encourage critical analysis and dialogue about the objects and subjects of arts based research for contemporary times, poststructuralist, posthuman and other critical approaches to arts based research, and the interdisciplinary application of performative and practice-led research in transferable methodological models. We are pleased to be able to include digital assets with many of the articles in this special issue. Indeed, the layered and multimodal complexity of arts based 'outputs' or artefacts is one of its rich distinguishing features, and it requires commitment from editors and publishers to not always demand a 'reduction' back into text-based forms, a diminishment of many forms of ABR. For this we thank the UNESCO editorial and production team, and hope you enjoy this contribution to the critical development of the arts based research field.

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# The Cartographic Network: Re-imagining university learning environments through the methodology of immersive cartography

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## ABSTRACT

This paper presents a discussion of the methodology, theory and key findings from an arts-based inquiry into academic learning environments entitled *Cubic Reflections*. The *Cubic Reflections* project involved a series of twelve site-specific cubes that were installed within the outdoor environments of a university campus in regional Australia. The cubes were designed to form a network of objects that reflected the aesthetic and ecological dimensions of the university's learning environments. Students and staff were invited to both activate and build on this network by mapping and reflecting on their own movements within and between the twelve installations. This paper firstly describes the methodology of immersive cartography, drawing on a range of cartographic theories and practices from contemporary art, philosophy and anthropology. Following this, the concept of the 'cartographic network' is developed through the work of Deleuze and Guattari (1987, 1994) and Latour (2013) in relation to the *Cubic Reflections* project. The methodology of immersive cartography is then analysed at the level of lived experience in terms of environmental aesthetics, drawing on *the aesthetics of engagement* (Berleant 1992) and ambient poetics (Morton 2007). Lastly, several artifacts from the *Cubic Reflections* project are discussed in relation to the methodology of immersive cartography and the concept of the cartographic network.

**KEYWORDS** cartography; contemporary art; philosophy; Deleuze and Guattari; Latour; learning environments; environmental aesthetics

## 1. INTRODUCTION

This article discusses the methodology, conceptualisation and findings of an arts-based inquiry entitled *Cubic Reflections* which was undertaken over a period of three months at a regional university campus in Australia. The project involved the construction of twelve site-specific cubes, which were then installed within outdoor learning environments located on the university campus. The cubes were designed to form a cartographic network of objects that reflected the aesthetic and ecological dimensions of academic learning environments. Staff and students from the university actively participated in this cartography by navigating between the various learning environments, responding to each site through poetry, drawing and photography, and transcribing their movements on modified maps of the campus. The emergent process of this arts-based inquiry was framed by a hybrid methodological approach that I have entitled ‘immersive cartography’. This methodology draws primarily from the fields of philosophy and contemporary art, while also integrating approaches from anthropology and human geography.

*Cubic Reflections* was conceived as an interactive artwork and pilot study as part of a larger doctoral research project exploring the eco-aesthetics of academic learning environments. The first aim of the *Cubic Reflections* project was to map the

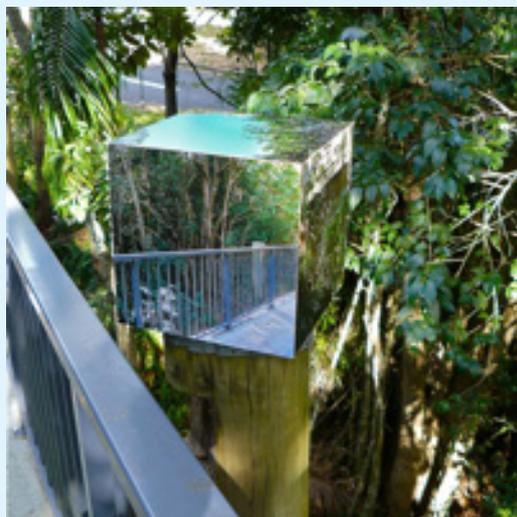
diverse learning environments found on this particular campus, with a focus on the ecological and aesthetic properties inherent to those environments. A second aim was to explore how participatory engagement could make this cartography immersive, and thus affect the perceptions and practices of students and staff within those environments. In approaching these aims, the *Cubic Reflections* project was informed primarily by the theory and practice of cartography and environmental aesthetics in the fields of contemporary art and philosophy.

The *Cubic Reflections* project is presented in this paper as an interactive work of art and applied philosophy in which learning environments are re-imagined as spaces for eco-aesthetic engagement and philosophical speculation. The first section of the paper describes the artistic process as it unfolded within an emergent methodological design. This narrative of the project's development frames the following sections of the paper, which respectively discuss the contextual, conceptual and analytic frameworks which were assembled for the inquiry. These sections situate the inquiry within a methodology of 'immersive cartography', and also develop the concept of the 'cartographic network' through an assemblage of the work of Deleuze and Guattari (1987, 1994) and Latour (2013). An analysis of the inquiry is then addressed from perspectives grounded in environmental aesthetics, including *the aesthetics of engagement* (Berleant 1992) and ambient poetics (Morton 2007). Lastly, two artifacts from the *Cubic Reflections* project are put into a generative dialogue with the methods and concepts set out in this paper. These creative artifacts include one geospatial map and one drawing which illustrate two very different responses from participants in the project.

## 2. THE ARTISTIC PROCESS

I began the *Cubic Reflections* project by conducting a geographical survey of a regional university campus located on the east coast of Australia. The campus was selected because of its diverse learning environments, which integrate features of the natural environment into those of its architecture and landscape design. I developed a simple surveying process that involved walking around the grounds of the campus with two blunt yet effective instruments: a digital camera and a recycled plywood cube. In some cases I identified sites where the cubes looked as if they belonged there, and other times I chose sites that were more disjunctive. I also focused on selecting sites that were widely distributed across the disciplinary domains of the campus, and which reflected the heterogeneity of those domains. In doing so, I specifically took into account the nonhuman elements of each site, honing in on learning environments in which, for example, buildings, stairways and ramps were intermingled with plants, rocks, and soils (see Figure 1).

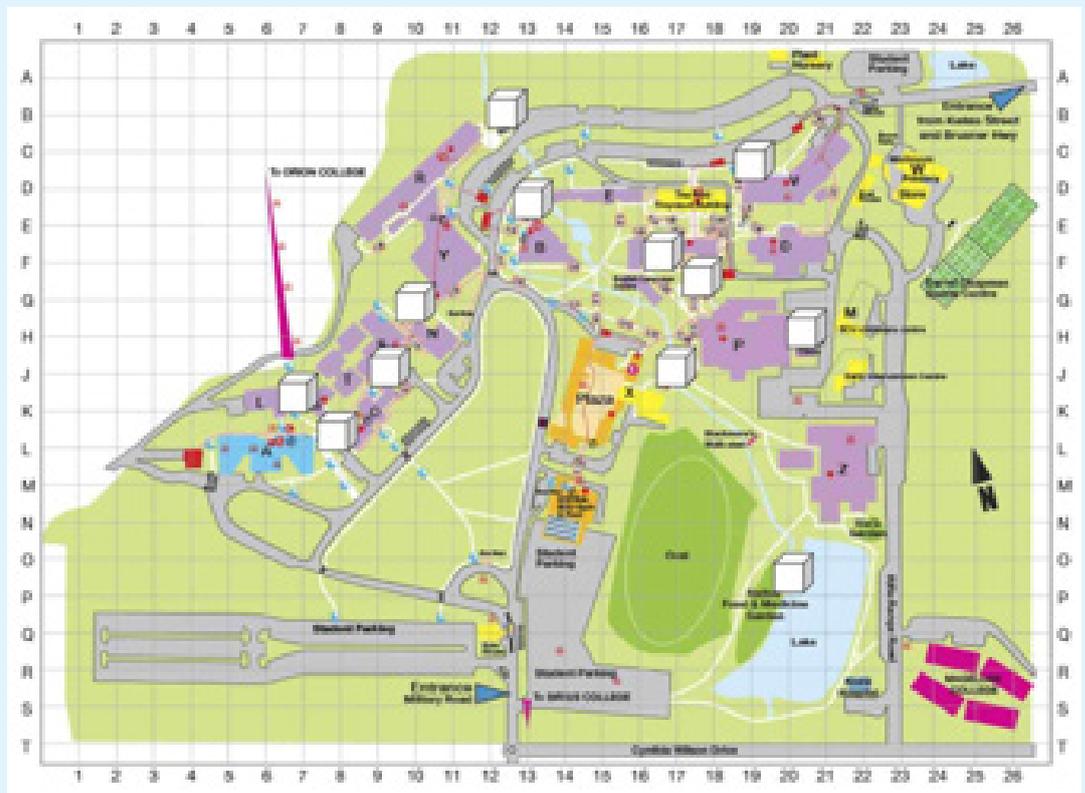
*Figure 1*  
A cube on the ramp leading up to the division of research (left); a cube situated near the chemistry labs (right).



Once I decided on the siting of each installation, I took photographs from the five faces of the cube as emplaced in that specific location. These photos were then reversed, printed in high resolution, and adhered to the respective faces of each cube. In this way, the cubes were used quite literally as geospatial surveying instruments for capturing and reflecting the eco-aesthetic properties of learning environments. Essentially I wanted to photograph the learning environments from the perspective of a nonhuman object, rather than from my own human perspective as an artist and researcher. In attempting to capture the nature of these learning environments apart from their human usages and meanings (Bogost 2012), I hoped to catch glimpses of what a posthuman university might look like in the future (Braidotti 2013).

On September 3rd, 2013, the cubes were installed at each of their twelve sites, and a modified campus map showing the cubes' locations was emailed to all staff and students (see Figure 2). This map was chosen because of its familiarity for students and staff at the university. It was a map within which the landscape had already been territorialised and made accessible for disciplinary teaching and learning experiences. In overlaying a topology of cubes onto this campus map, I wanted to provide a new set of coordinates for cycles of de- and reterritorialisation to take place within and between learning environments (Deleuze & Guattari 1987). My intention was for this modified campus map to enable participants to discover new forms of movement, sensation and expression within the university landscape, and hence come to learn in new ways.

*Figure 2*  
The modified  
campus map  
distributed to  
participants.



Once the twelve cubes were installed, staff and students from the university were invited to participate in the project by navigating between each of the locations, reflecting on each site through poetry, drawings and photographs, and transcribing their movements across the campus on the map provided. Participants were not primed in any way as to the implied meaning or significance of the work, and there were no specific references to aesthetics, ecology, perception, disciplinary frameworks or theoretical paradigms in the documents provided. Instead, participants were simply encouraged to reflect openly and creatively on their experiences of the spaces through which they traveled, and to trace their movements between the various locations on the campus maps provided. As a result, each participant interpreted and contributed to the project's cartography in a different way, providing responses that were personal and authentic rather than predetermined by research questions. The data generated through this project thus took the form of artifacts created by myself and the participants, and included objects, maps, photographs, drawings, poetry and field notes. The following three sections discuss the contextual,

conceptual and analytic frameworks that were assembled and applied over the course of the inquiry.

### **3. BACKGROUND TO THE METHODOLOGY**

The *Cubic Reflections* project is contextualised within a growing body of theoretical and applied work that situates geospatial methods of cartography within the field of contemporary art (O'Rourke 2013). Varied approaches to cartography have constituted a significant movement towards mapping as an artistic practice since the mid-20th century (Harmon 2009; Foster 1996). Artists have employed a diverse range of media and modalities to construct these cartographies, which have often taken the form of installations, soundscapes, relational events and ecological artworks (Pink 2009). The movement towards mapping as a distinctly artistic practice can be traced back to the Situationists, a group of artists who initiated the practice of psychogeography in 1950s Paris. Psychogeography initially involved a process of mapping psychological states as affected by movement through geographical locations, and often took place in urban locations via the improvised movements of the artist or 'flaneur' (Foster 1996). Recently there has been a resurgence of psychogeography as taken up by artists such as Mark Bradford, who scours his Los Angeles neighborhood for posters and advertisements to create cartographies of 'found situations' within the social landscape (Harmon 2009). The layering of Situationist cartographies such as Bradford's take the form of palimpsests, which reflect an archeological engagement with historical strata and the politics of 'superimposed horizontal structures' (Massey 2005, p. 110).

Where psychogeography emphasises the stratified and historical movements of the individual across psychic, social and geographic space, the method of 'multi-sensory cartography' applies a more participatory and relational means of mapping

communities and environments. This artistic process attempts to provide audiences with direct, multi-sensorial access to the 'polyphonic voices, experiences, and stories embedded in places' (Powell 2010, p. 539). Powell describes multisensory cartography as an emergent interdisciplinary method for exploring 'the ways that self and place are mutually constitutive and relational' (p. 553). Drawing on the work of McLuhan in media studies, she explains how the 'sensory ratios' of creative media serve to extend the human sensorium into new forms and spaces for expression (p. 541). Awareness of different ways of creating sensory experience is essential to the method of multisensory cartography, as this allows the artist to combine different media intentionally rather than arbitrarily. This means that experiences can be represented for audiences in ways that intentionally emphasise certain senses, emotions, or aesthetic qualities as they are rendered through the cartography.

Since the 1960s, the artists Helen and Newton Harrison have used cartography to respond to the fragility of ecological environments through artistic experimentation, improvisation and collaboration. Their methodology combines multisensory mapping with poetic storytelling, the outcomes of which they exhibit in public gallery spaces to generate new discourses around environmental issues. Garoian (2012) describes the Harrisons' methodology as essentially viral, in that their practice involves visiting particular environments and developing social-ecological conversations and practices in collaboration with the local community. Expanding on Joseph Beuys' paradigm of 'social sculpture', the Harrisons contend that 'the human species should treat the planet as sculpture' (cited in Garoian 2012, p. 294). Their methods transcend the institutional boundaries of art, science and philosophy, by integrating contemporary art and environmental politics into dynamic and participatory cartographies. Through the Harrisons' ongoing, improvised dialogue between human culture and the world at large, they endeavor to accommodate the 'complexities and contradictions

of an environment's narrative', rather than 'condemning or censuring' the anomalies that emerge between studies of nature and culture (p. 298). This profound integration of ecological and artistic practices has defined the Harrisons' oeuvre over forty years, throughout projects such as *Sacramento Meditations* (1977), *Devil's Gate: A Refuge for Pasadena* (1986), *Peninsula Europe I, II, and III* (2000-2008), and *Force Majeure* (2009-present).

#### **4. CONCEPTUALISING THE METHODOLOGY**

In developing the methodology of 'immersive cartography' over the course of the *Cubic Reflections* project, I also drew from theoretical perspectives on cartography in philosophy (Deleuze & Guattari 1987), anthropology (Ingold 2000; Latour 2013), geography (Massey 2005; Bonta & Protevi 2004) and educational research (Martin & Kamberelis 2013). This was driven by my intention to conceptualise a cartography that participants could actually walk into, become a part of, and also contribute to. From the beginning I envisioned this cartography as a non-linear network that could be continuously extended, rather than a 'story walk' or 'sculpture trail' with a clearly defined beginning and ending. I wanted participants to become immersed in the cartography and also to materialise this immersion through their own creative responses. These intentions were realised as the project increasingly became a collective endeavor of mapping the university's cultural landscape, drawing engagement from staff and students working across the sciences, arts and humanities.

Throughout this process of experimental fieldwork, I kept notes in a field journal to develop my philosophical orientation to the inquiry. Often I would reflect on my experiences in the field in relation to the theories and methods I had been reading at the time. For example, on August 6, 2013 I noted the following in my field journal:

*I'm beginning to embody the perspective of the cube itself, and this sense becomes increasingly pronounced as I take more photos from the cube's perspective. In another way, the cubes are becoming surrogates for my perception of the space as a multisensory place. I'm becoming aware of the smells, sounds and light that fill the sensorium surrounding each of the cubes' sites. I now realise that this is what I want the participants to experience as well: to enter a sphere of sound, vision, touch and smell and become immersed in an eco-aesthetic learning environment.*

These reflexive field notes were essential in guiding me to the next iteration of the project as it unfolded over the coming weeks and months. It was also through these notes that the practical and theoretical elements of the project began to coalesce into an immersive cartography.

## IMMERSIVE CARTOGRAPHY

Immersive cartography took conceptual form over the course of this project as a methodology that integrates three different kinds of cartographic practice (Ingold 2000, p. 230): *mapping* as a performative gesture of moving across the landscape and developing embodied knowledge through experience; *mapmaking* as the artistic creation of images, objects, texts and other artifacts which inscribe those gestures into a cartography; and *map-using*, in which participants are given direct access to navigate and modify the cartography through their own creative gestures. For Ingold, these three modes of cartography are all founded on the movement of bodies across the landscape, which he refers to as 'wayfaring'. These movements are also the crux of what Rundstrom (cited in Ingold 2000, p. 231) refers to as 'process cartography', in which mapping is taken as an open-ended, iterative and embodied process which is always 'leading to the next instance of mapping, to the next map.'

In developing the three practices of mapping, map-making and map-using within an immersive cartography, I have drawn

extensively from Deleuze and Guattari's (1987) concept of the map in *A Thousand Plateaus*. This begins with their distinction between the 'tracing' as a self-enclosed representation of the world, and the map that is 'entirely orientated toward an experimentation with the real...' (p. 12). In immersive cartography, this 'experimentation with the real' takes place across three domains of practice: the scientific, the philosophical and the artistic. The cartography, in this sense, composes an intricate rhizome that stretches between the domains of the *actual* (material reality), the *virtual* (conceptual reality) and the *possible* (aesthetic reality) (Bogue 2003, p. 178). These domains are defined by Deleuze and Guattari (1994) as the *plane of reference* (science), the *plane of immanence* (philosophy) and the *plane of composition* (art). Immersive cartography is a methodology that works across all three of these planes, each of which renders different possibilities for mapping, mapmaking and map-using.

A map created through immersive cartography is a multi-layered and interconnected network of people, places and things which is 'open and connectable in all of its dimensions; it is detachable, reversible, susceptible to constant modification' (Deleuze & Guattari 1987, p. 12). The map operates on the plane of composition as an artwork, opening onto worlds which 'are neither virtual nor actual; they are possible, the possible as aesthetic category...' (Deleuze & Guattari 1994, p. 168). In the aesthetic dimension the map always offers multiple entryways for the improvised performance of possible worlds, rather than for the predetermined demonstration of competence offered by the tracing. This is not to say that tracings, such as photographs or illustrations, are to be patently avoided in immersive cartography, but rather that '*the tracing should always be put back on the map*' to preserve the integrity of the rhizome (Deleuze & Guattari 1987, p. 13, emphasis in original). In the *Cubic Reflections* project, the tracings rendered through photographic representation are always placed back onto the map, rather than being used to reproduce or represent the cartography itself.

Instead of trying to represent the research findings, this paper is itself a way of extending the project's cartography into new existential territories (Guattari 2008).

## THE CARTOGRAPHIC NETWORK

In his recent book *An Inquiry into Modes of Existence*, Latour (2013) provides a techno-scientific model of cartography that is compatible with Deleuze and Guattari's (1987) more aesthetic conceptualisation of the process. Latour's model is important to the formulation of immersive cartography because it illuminates the functionality of the methodology without reducing its components to representations of one another. The most fundamental concept that Latour contributes is that of the network which is formed by the relations between people, places and things in a collective. Latour (2013) describes the function of a network as a series of conduits through which heterogeneous domains of knowledge and phenomena are 'supplied'. For example, the series of associations formed by scientists, their equipment, methods, and materials take the form of a network that supplies the 'values, services and distinct products' of Science (p. 36). Similarly, networks of artists in their studios working with materials and exhibiting in galleries serve to supply the world with Art. When the network of Art is in place and running smoothly, a particular fluid that can be called 'artistic' circulates through it (p. 39). The fluid basically flows through the network like gas in a gasline, except that the network is not fixed in its positioning or capacity for expansion. Latour's suggestion here is that there is an open network specific to each domain or situation of theory and practice, which 'can in principle associate any element with any other' because there is no boundary to limit its extension (p. 41).

In assembling connections between Latour's network and Deleuze and Guattari's concept of the map, I have developed the concept of the *cartographic network* to describe the type of network specific to an immersive cartography. The

cartographic network is equivalent to the rhizome as described above, which stretched across the three planes of reference (science), immanence (philosophy) and composition (art). Accordingly, the movements of a cartographic network on each of these planes consists of fluctuating patterns of association between the people, places and things which compose it. The cartographic network is a network of situations or events that are never fixed or stabilised but in a state of constant movement and transformation.

Latour (2013, p. 75) provides a detailed example of how a cartographic network functions in his account of climbing to the plateau of Mt. Aiguille in Southeast France. He describes how the cartographic network connected him with the mountain he was climbing, the map he held of its topography, and the markers that denoted its pathways, through what he refers to as *chains of reference*. Latour (p. 76) explains how the very continuity achieved by the cartographic network (which enabled him to reach the mountain's summit) is predicated on the ontological differences and discontinuities between the map, the mountain, the pathways, and the markers. None of these things bears any physical resemblance to the other. Yet when they are assembled into a particular arrangement that is effectively connected by chains of reference, they grant him safe passage to the mountain's summit. While it may seem obvious that the map does not actually look like the mountain, Latour's primary argument is that one can never be reduced to the other because it is their differences that allow them to refer to one another in the first place (p. 76). Furthermore, in order to understand the qualities of a chain of reference we can't limit ourselves to two extreme points of reference, such as the map and Mt Aiguille. Rather, it is necessary to follow the transformative trajectories of the chains that compose a cartographic network as they pass through 'the whole series of points along the way' (p. 79).

Latour (2013) is suggesting that mountains and maps are created and sustained by different *modes of existence*, and that using a map to reach the summit of a mountain means honouring the ontological differences between modes rather than collapsing them into one another. Latour wants to make transparent the process of translation between different modes of existence, challenging the shadowy displacement of one thing for another that characterises many Modern claims to scientific rationality. So even though they consist of different modes of existence, the map, the mountain and the hiker can share certain ‘constants’ or ‘geometrical liaisons’ with one another (p. 76). In *Cubic Reflections*, for example, the map extracts such aspects of the campus as have been surveyed and transformed into a two-dimensional figure. The campus, for its part, has been inscribed with trails leading to locations as identified on the map. The cubes serve as coordinates, signposts and place-markers within and between locations. Even the university students and staff share such parts of the map and the campus as have been schematically encoded into their embodied minds. These shared connections between modes of existence are links in the chains of reference that render the cartographic network into a functional (or machinic) assemblage.

## ARCHITECTURE OF A NETWORK

The cartographic network allows for any number of passages from one form, space, idea or experience to another through chains of reference that are infinitely extendable. But this can only happen through a series of transformations in which an embodied mind ‘activates’ or ‘charges’ the network itself, essentially actualising the virtual potential held by the network. As Latour explains, ‘as soon as I unfold my map and *relate* to it... the signs on the waterproof paper are gradually *charged* with certain properties of Mt. Aiguille and allow me to come closer to it’ (2013, p. 78, emphasis in original). This also means that to activate a cartographic network the human must be immersed

within a field of engagement: ‘Although I was unquestioningly enjoying the privilege of being “outdoors”...I was definitely *inside* a network... whose walls, though materialised, [were] not made of materials as continuous as, for example, the walls of a labyrinth or those of a gallery...’ (p. 75, emphasis in original). These walls, as Latour describes them, delineated the bounded pathways created between the map he held in his hands, the signposts marking the trail, the trampled grass of the path itself, and the landmarks he recognised along the way.

Latour clearly describes how the cartographic network forms the walls and frames that structure human access and mobility on the scientific plane of reference. And yet the frames of the cartographic network are also what form the foundational structures for the aesthetic plane of composition. As Grosz (2008, p. 11) explains, ‘with no frame or boundary there can be no territory, and without territory there may be objects and things but not qualities that can become expressive, that can intensify and transform bodies’. For Deleuze and Guattari (1994, p. 179), the territory is always framed architecturally by the ‘walls, but also doors, floors, windows, French windows, and mirrors which give sensation the power to stand on its own within autonomous frames’. The architectural features of an artwork thus enframe the natural landscape within territorial houses, ‘ever approaching the form of the cube even as they eventually come to deform it’ (Grosz 2008, p. 14). In *Cubic Reflections*, the cube presents a figure for the artwork as a material encounter, and also as a framework for the sensations and forces operating within the artwork itself (Bogue 2003, p. 168). Art becomes a process of framing the earth, in which the ‘cutting of the space of the earth through the fabrication of the frame is the very gesture that composes both house and territory, inside and outside, interior and landscape at once’ (Grosz 2008, p. 13).

## 5. ANALYSIS

Deleuze and Guattari's (1987) concept of the map has so far informed a process of immersive cartography that enables people, places and things to enter into aesthetic arrangements (assemblages) within a plane of composition (possibility). Immersive cartography has further drawn from the work of Latour (2013) to situate the map, the territory, the place-markers, the mapmakers, the map-users and their creative artifacts within a cartographic network that is bounded, yet always open to extension and modification. Immersive cartography, to this point, provides a broad framework for creating artistic maps that can extend their chains of reference in any direction and frame nearly any expanse of space within the territory of a plane of composition. The caveat being, of course, that these networks and aesthetic territories of possibility must be accessible to human experience. The analytic question becomes one of *how* aesthetic experience of the environment is rendered through immersive cartography, and what this process actually *entails*.

### ENVIRONMENTAL AESTHETICS

This question has been addressed within a growing body of literature in the field of environmental aesthetics (Stecker 2010). This branch of philosophy studies the ways that humans experience and value the aesthetics of everyday environments such as rural landscapes, urban precincts, villages, neighborhoods, campuses, industrial complexes and wilderness areas. The field of environmental aesthetics has its roots in the Eighteenth-century aesthetics of 'nature' and the landscape as influenced by Kantian philosophy, and which figured in Romantic notions of the sublime and the picturesque (Carlson 2011). As Modern art moved towards abstraction and conceptual forms in the early 20th century, much of the work in environmental aesthetics gave way to the philosophy of art. This shift was predicated on Hegel's notion that art, rather than

nature, was the proper object of aesthetic philosophy (Brady 2009). By the late twentieth century, environmental aesthetics had shifted to a central concern with the relationship between the aesthetics of everyday environments and the more discrete aesthetic experiences afforded by works of art (Carlson 2011). This has continued to be the case, as the field has gained a resurgence through its capacity to address hybridised forms of art and environment, such as those found in landscape architecture and ecological artworks (Morton 2007). In this context, environmental aesthetics is specially suited to analysing environmental artworks such as *Cubic Reflections*, which plays off the juxtaposition and enfolding of the everyday learning environment and the installation artwork.

Environmental aesthetics is generally divided into two distinct categories of approach: (1) scientific cognitive approaches which emphasise the schematic framing of knowledge and information involved in aesthetic appreciation; and (2) noncognitive approaches which emphasise immersive engagement within multisensory and ambient environments (Carlson 2011, p. 5). This second approach is addressed in this paper, specifically in terms of a noncognitive approach referred to as *the aesthetics of engagement* (Berleant 1992). The engagement approach holds that participants can move beyond binary positions such as those of the subject/object, the knower/known and the map/territory through their immersion in an eco-aesthetic environment. While immersed in a multi-sensory environment, the distance between the participant and the environment is diminished or even erased. This kind of close encounter provides an intimacy with nonhuman beings and materials through direct sensory engagement (Carlson 2011, p. 5). For Berleant (1992, p. 162) this is about 'perceiving environments from within', from a vantage point in which we are 'looking not at it, but being in it.' In *Cubic Reflections*, this is the immersive sensation of being not *on* the campus, but *in* the campus as part of an interactive artwork. The upshot of the engagement approach to environmental aesthetics

is that there is no hierarchy of aesthetic responses, in which one can be more informed, rarefied or valid than another. Rather, as Carlson (2011, p. 6) explains, ‘it is more a matter of appreciators opening themselves to being immersed, responding as they will, and enjoying what they can’.

While Carlson’s (2011) description of radical openness to aesthetic experience resonates strongly with the aims of the *Cubic Reflections* project, it doesn’t sufficiently account for the ways that a work of art enables aesthetic engagement. Here I return to Deleuze and Guattari’s (1994) exegesis on aesthetics, in which they position the artwork as an autonomous ‘bloc of sensations... a compound of percepts and affects’ (p. 164). Percepts are distinct from ‘perceptions’, referring instead to the forces and sensations extracted from the ‘nonhuman landscapes of nature’ (p. 169). Accordingly, affects are not feelings that arise from human subjects, but rather the nonhuman sensations and becomings that pass through human bodies, altering their capacities to affect and be affected (Bogue 2003, p. 164). Artists extract percepts and affects from the natural environment to create blocs of sensation, ‘at which point they are able to render palpable in the work of art the impalpable forces of the world’ (p. 165).

In modifying aesthetic engagement as the bloc of sensation rendered by percepts and affects, audiences do not simply perceive the artwork, nor are they granted access to the artwork because they are emotionally ‘open’ to it. Rather, participants enter into a sensory becoming in relation to the percepts and affects assembled within the artwork. This becoming constitutes a double movement in which things are ‘becoming-other’ while also continuing to become what they are (Deleuze & Guattari 1994, p. 177). For Deleuze and Guattari (1987, p. 145), this process of becoming takes form in two different articulations: the form of aesthetic *expression*, in which the participant becomes part of a ‘collective assemblage of enunciation’; and the form of ecological *content*, in which the participant becomes part of a ‘machinic

assemblage of bodies'. This double articulation of becoming thus describes the learning environment, in *Cubic Reflections*, as fundamentally ecological and aesthetic (eco-aesthetic).

## AMBIENT POETICS

So far I have described immersive cartography in terms of cartographic networks that are activated through eco-aesthetic engagement as a fundamental process of becoming. Morton (2007) offers a way of drilling further down into the mechanics and analytics of eco-aesthetic engagement through a framework called ambient poetics. In positioning 'nature' as a Romantic concept that has lost its relevance in the 21st century, Morton suggests that 'ambience' might be a more useful description of the properties shared by art and the ecological environment. Ambience occurs at the eco-aesthetic interface between human beings and immersive environments, whether this interface takes the form of a landscape, building, installation, novel or film. For Morton (2007), ambience is exemplified in such contemporary forms as the ecological artwork, the experimental soundscape or the multimedia installation, forms in which 'natural' and 'cultural' materials are inextricably entangled. Morton (p. 81) explains how contemporary art, through a relentless experimentation with bodies, spaces and environments, 'retroactively reconfigures all previous art, revealing its ambient qualities.' As a result Morton claims that 'all art can now be assessed for its environmental qualities, and in general, for ambient poetic effects' (p. 81).

Morton's work is essentially a reversal of the environmental aesthetics described by Carlson (2011) and Brady (2009), which has foregrounded the aesthetics of everyday environments over the art object. Morton (2007) is rather concerned with how environmental ambience is evoked through aesthetic forms of the imagination, such as those found in Romantic literature and contemporary art. Yet this juxtaposition of approaches in many ways reveals a radical reversibility of the field of environmental

aesthetics itself. Whether we are walking into a rainforest or into an installation artwork, our capacity for eco-aesthetic engagement is what crystallises the very experience of that space into ‘a rainforest’ or ‘an installation artwork’. These coeval possibilities of environmental aesthetics are indeed exemplified in the *Cubic Reflections* project, in which participants walked into a rainforest *and* into an installation artwork at the same time (see Figure 3).

*Figure 3*  
*A participant's*  
*photograph*



The mutual enfolding of art and environment that took place in *Cubic Reflections* can be attributed, following Morton (2007), to the deployment of ecomimetic devices associated with ambient poetics. Ecomimesis refers to the human capacity to echo, inscribe, evoke or render environmental spaces and their effects through literature, art, music, film or multimedia. According to Morton (p. 34), there are six ecomimetic devices that comprise an ambient poetics: *rendering, the medial, the timbral, the Aeolian, tone and the re-mark*. Each of these analytic terms is developed from various artistic forms: film (rendering), music (the timbral), poetry (the Aeolian), painting (the re-mark) and writing (tone, the medial). Together these terms form a framework for analysing how an immersive cartography operates, and

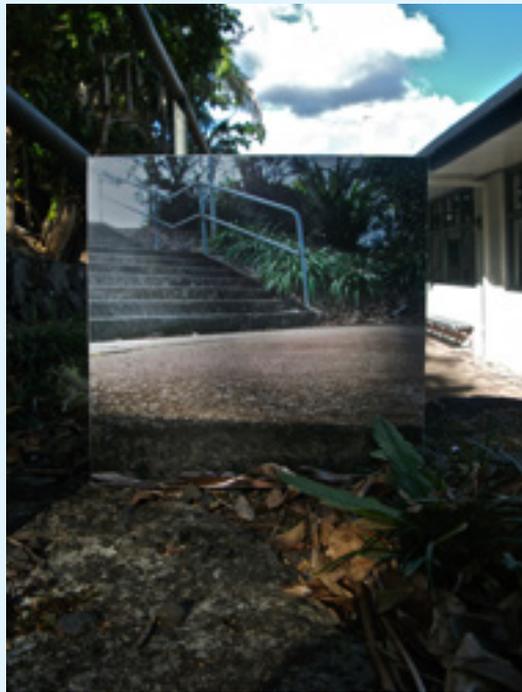
understanding more specifically the ways that such artworks create their aesthetic effects.

While all six devices of ambient poetics are of relevance to immersive cartography as a methodology, the most germane to this paper are rendering, the medial, and the re-mark. *Rendering* refers to the simulation of reality, as exemplified through the suspended disbelief of audience-members when they are immersed in a film. The goal of rendering is to remove any evidence of an aesthetic framework, such that ‘we obtain an immediate world, a directly perceived reality beyond our understanding’ (Morton 2007, p. 35). Even though we know we are being deceived as audience-members, rendering convinces us to ‘switch off our aesthetic vigilance’. This reading of the rendering process has much in common with Berleant’s (1992) aesthetics of engagement, in which the participant opens up affectively to an immersive environment without questioning the realism of that environment. Yet Morton (2007) also applies the term to the direct rendering of unconscious processes associated with surrealism and automatic writing, or the spontaneous canvases of the abstract expressionists. In Morton’s sense, it is not only the natural world that can be rendered, but also the imaginative realms of dreams, fantasies, myths, speculations, and subconscious impulses. Each of the cubes in the *Cubic Reflections* project can be understood as a rendering of a particular learning environment, which also re-imagines that environment within a mythopoeic realm of speculation and fantasy.

The role of *the medial* in ambient poetics is to bring awareness to the point of contact in which communication takes place, the specific medium which enables that interface, and the ambient atmosphere within which the message is transmitted (Morton 2007, p. 37). ‘As I write this paper I am sitting at my kitchen table,’ is a medial statement drawing attention to the actual mode of communication that is taking place, and also to the medium that affords this transmission. In the *Cubic Reflections*

project, participants were instructed to ‘trace the pathways you take to reach the cubes on the campus map provided’. This medial statement brings the participants’ awareness to the map as the medium for their discovery of the cubes, and also the medium by which they record their movements and contribute to the cartography. Looking at the photographs of the cubes as emplaced in their environments reveals a medial effect in another sense: you are looking at photographs of environments that contain photographs of those same environments. Here the effect of the medial collapses the perception of foreground and background into a single ‘medium’ that is indistinguishable from its environmental context (see Figure 4).

*Figure 4*  
*Cube located*  
*outside Visual*  
*Arts (left) and*  
*International*  
*school (right)*



As Morton (2007, p. 48) describes it, the re-mark is the most fundamental property of ambient poetics, and its most basic gesture. Morton sources the concept of the re-mark from Derrida’s writing about painting, and describes it as a device that produces the split between background and foreground in an artwork. The re-mark is essentially a special kind of mark that designates other surrounding, included or adjacent marks as being meaningful. In this way, the re-mark establishes the

differences between space and place, art and environment, inside and outside, map and territory (p. 49). Yet at the same time, the re-mark points to a space in which ‘figure and ground entail each other’, by indicating an amalgam of the inside and outside which constitutes ambience (p. 50). Ambience, in this sense, describes the space created by the architectural framing of the earth as described by Grosz (2008). In the *Cubic Reflections* project, each cube took the form of a re-mark inscribed upon its site of installation. The cubes were special, ecomimetic marks that rendered everyday learning environments into creative spaces for eco-aesthetic engagement.

## 6. SELECTED ARTIFACTS

In this section of the paper, a selection of artifacts created by participants in the *Cubic Reflections* project are briefly discussed in relation to the methods and concepts outlined above. Each of these two participants came to the project from very different backgrounds, and their responses illustrate the depth and diversity of the artifacts that were generated over the course of the *Cubic Reflections* project.

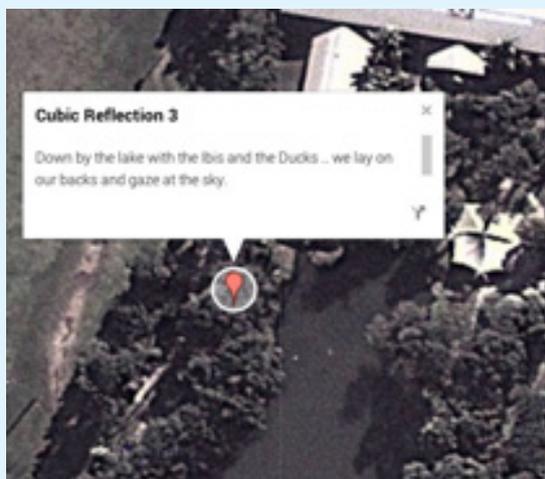
### Participant 1

*Figure 5*  
The participant's map showing a constellation of cube locations via GPS



This participant was a permanent staff member of the university with a background in the environmental sciences. Her response was to create her own virtual map of the project by using the GPS function on her smartphone to pinpoint the locations of all twelve cubes (see Figure 5). She then inscribed each of these virtual locations with text and a photograph of the cube at that particular site. Her map reterritorialises the cartographic network within a digital space, extending the immersive cartography into new existential territories on the plane of reference. In many ways, it appears that the participant wanted to render the experience of the project from her own perspective, even though the purpose of this was to share that experience with others. As the participant was creating her map, she was also posting her locations, movements, texts and photographs onto social media networks. Other staff members on the campus saw these posts and left their offices to track her movements, and hence became immersed in the cartography themselves. In this way, the cubes functioned as touchstones for an intersubjective phenomenon that expanded very quickly after the initial aesthetic engagement of this single participant. Her activation of the cartographic network was enough to set off a whole chain of responses and interactions that were then folded back into the immersive cartography. In this way, the network's chains of reference became thicker, longer, stronger, more equipped and reticulated while still retaining its formal topology: that of the cubes in their fixed and determinate positions in space and time (Latour 2013, p. 80). Yet at each of these fixed points, the participant constructed her own territorial dwelling places that opened out onto new vistas of the 'self in environment' (see Figure 6).

*Figure 6*  
*Text inscribed*  
*on the cube*  
*location (left);*  
*image inscribed*  
*on the cube*  
*location (right)*



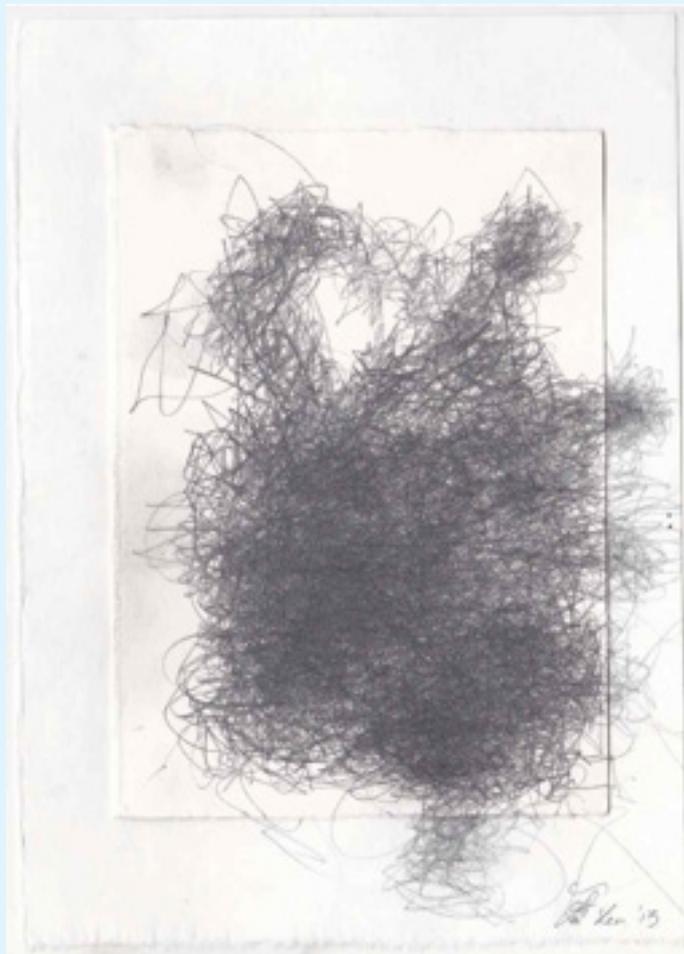
The two images above show how the participant inscribed each GPS cube location with text and a photograph of the cube in that environment. Taken together, the text and image reflect the ambient poetics of that particular learning environment as experienced by the participant. She writes first of being ‘down by the lake with the ibis and the ducks...’, offering an ecomimetic rendering of the nonhuman environment through the evocation of its ambient qualities in the present tense. After noticing the way the sky was reflected on the top face of the cube, the participant was then inspired to lie down on the ground and gaze at the sky with the friend who accompanied her. She later described how this experience gave her a fundamentally different perspective on the environment as extending into space beyond the earth’s biosphere. I am thinking again, with Grosz (2008), of the artwork as a house that frames the environment into blocs of sensation. The participant was able to walk into this house, lie down on a bed of pine needles and grass, and look up through a skylight into the cosmos (see Figure 7).

*Figure 7*  
*Top face of*  
*the cube near*  
*the lake.*



Participant 2:

*Figure 8*  
*Map of participant*  
*2's movements*  
*between cubes*



This participant was an undergraduate visual arts student who was specialising in drawing and painting. Her response to the project was to map her own movements as she traversed across the campus and located each of the cubes. She did this by drawing continuously without lifting her pencil from the paper. The result is a drawing that is also a map, but it is a map of embodied movement and sensation rather than one that connects fixed points and locations (see Figure 8). The line that composes the drawing is one of complex entanglement that builds up form by recursively weaving, looping and knotting its threads together. It's nearly impossible to distinguish which layer of threads came first and which one came last. Neither, presumably, would the participant be able to 'read' specific locations in her drawing because she wasn't looking at the paper as she navigated the topography of the campus.

Ingold (2011) describes how the line of a drawing is like the line of a life, that which Deleuze and Guattari (1987) call the 'line of flight' or the 'line of becoming'. 'The line of a drawing has little or nothing to do with the projection of images and everything to do with wayfaring- with breaking a path through a terrain and leaving a trace, at once in the imagination and on the ground, in a manner very similar to what happens as one walks along in a world of earth and sky' (Ingold 2011, p.178). As the creative life-line is continuously improvised, the points encountered along the way 'are not joined so much as swept aside and rendered indiscernible by the current as it sweeps through' (Ingold 2010, p. 10). The artist follows the line of becoming through a process of wayfaring, by which her work becomes consubstantial with the trajectory of her own life (Deleuze & Guattari 1987, p. 323).

Ingold (2011) has asked the question: what would a life look like as an abstract line? He suggests that it might look something like this participant's drawing, a rhizomatic web of entanglement. While the drawing was created using the most concrete of methods (feet on the earth, hands on materials), it presents us with nothing more (or less) than an abstraction. The drawing is

a map of the embodied mind moving through the environment as a living abstraction. When the thought of the artist abstracts experience it is ‘exhibiting itself as an element of nature’, as an abstract line which traces the arc of an event’s unfolding (Massumi 2011, p. 27-28). The participant’s drawing speaks to the contiguity of art and nature as ‘compositional realities’, in which the composition of either involves the cartographic experience of becoming (p. 25). More than this, it speaks to the cartographic experience of becoming in art, as well as in nature, as being eco-aesthetic across all of its dimensions.

## 7. CONCLUDING REMARKS

Many threads of the *Cubic Reflections* project remain to be teased out, and others have already been developed in a number of different directions. Specifically, the project’s connections with the disciplines of arts education and environmental education were left unexplored in this paper, in order to focus on the project as an artwork rather than a curriculum and pedagogy. The project did later evolve into a distinct curricular form in which high school students were invited to engage with learning activities specific to each cube, and this development will be explored in subsequent papers.

I’d like to conclude with a reflection on the day when I arrived on campus with the cubes and first placed them into their sites of installation. This was the point at which the cartographic network became immersive, ‘went live’ as it were, and began to be charged with the aesthetic engagement of the participants. It was a subtropical winter’s day in which the contrast between light and shadow was heightened by the movements of dense cloudbanks across the sky. I spent the day traversing the network myself, taking photos of the cubes as the light played out different patterns across their surfaces. To my surprise, the surfaces of the cubes reflected the colours of the environments in which they

were immersed, such that the blue of the sky became teal in its reflection of the dark greens of the surrounding plants. The cubes were reflecting the very light which they had originally captured, and I was retracing the steps which I had originally taken. The participants were also retracing my steps, following me, and then I was following them. Every time I came back to one of the cubes it had been moved slightly by someone who had encountered it. I could feel the network growing, the rhizome spreading its tendrils across the landscape. We were mapping, mapmaking and map-using all at the same time, separately and together, weaving an immersive cartography out of the lines of becoming.

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