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The Artwork Remembers: designing a methodology for community-based urban design

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Abstract

The 'artwork that remembers' is an amorphous 'other' that inhabits a city of care. It absorbs the gestures of the community and seeks ways to express the memories it has built by interacting with that community. This conceptual other was conceived in 2016 by an RMIT University and City of Casey collaboration to create a public artwork in the North Clyde Community Centre plaza. The collaboration is a unique example of two interdisciplinary teams comprising of landscape architects, artists and designers to create a work that promotes community engagement. The first phase of the project saw the development of a robust conceptual framework that puts community needs at the centre of the creative process. The results of this design process was an amorphous and abstract 'other' that can inhabit any civic space with the goal of weaving community into place. The process began with the consideration of memory in relation to newly developed fringe suburbs that have had its 'spatial memory' deleted by the destructive impact of new developments. Memory is conceived by the university-council team as something that is built over time by a community's relationship with place. The relationship of memory and place, so considered, gave rise to the concept of an 'other' who remembers. The memory-place connective is manifested by an embedded interactive systems design that uses technology to interweave community interaction with spatial and temporal expression. This initial conceptual phase is to be followed by separate design and installation phases, which will be reported on in future papers.

INTRODUCTION

Creative-practice research is an increasingly recognised mode of scholarly research in which knowledge production occurs through the process of making (Peter Downton, RMIT Publishing, 2003.). Rather than theoretical development produced by the desk-bound thinking academic, the creative-practice researcher is immersed in the world and responds to real-world conditions with interventions emerging through material design. That is, the research is conducted in the medium of design, via the design project. It was this methodology that the City of Casey public art program courageously agreed to engage in with a group of innovative researchers from RMIT University, with expertise in 'ephemeral material' design understood here as the mediums of sound, light, air and time. The suggestion was made to council that rather than commissioning a piece of 'plonk art' to be installed posthumously upon the community centre's completion, that they embark on a design process in which the artwork would be integrated *into* the design and planning process of the community centre. The research team successfully argued that there is a much better chance of creating integration between artwork and built environment, and of generating real community engagement, if the artwork *feels* like a part of place, or indeed actively contributes to a space becoming a place - to the building of community, rather than decorative afterthought. In this way the outcome is a seamless integration between landscape and artwork. One in which each element successfully augments the other – allowing the artwork to become a 'living' expression of the land, a presence which calls out to the community for its own growth and evolution.

The artwork itself appears as a small outcrop of rock or standing stones emerging from the plaza adjacent to the entrance of the Selandra Rise Community Centre. Concealed beneath this rock formation is an electronic

infrastructure, enabling a range of evolving and open ended interactions between matter, environment, and people. This interactive system produces what could be called expressive materialities manifesting as a diversity of spatio-temporal affective experiences: transducers vibrate large steel plates embedded in the ground, the local sounds of community emanate from speakers and lighting plays upon the landscape, all in relation to capacitance sensors embedded in sculpted rocks that afford a range of interactive behaviours. A reciprocal relationship of care is formed through the landscape's acknowledgement of the presence of community, which is invited to intuitively participate in the development and creation of the artwork's possible expressions via an interactive system that connects infrastructure, sonic/light expressions, and human activity. It is yet to be seen if this intention will be successfully realised. However, the proposed methodology is suggestive of new approaches to the fostering of more resilient communities in new urban developments; approaches in which landscape architecture, design and art are combined to accompany the planning process in new community developments. This project also exists as a case study for how councils, their various stakeholders, and universities might collaborate successfully on joint research ventures through the design of 'real world' projects in the public realm.

The design process began with the consideration of memory in relation to Selandra Rise, a newly developed suburb on the outer fringe of Melbourne. In most instances the development of new housing estates treats their 'site' as a tabula rasa. This of course is never the case but this initial act of design and its subsequent outcomes certainly produce a tabular rasa. For new developments systematically empty out places always already 'full' of meaning, story, and environmental richness, they delete its spatial memory and reduce places to disenchanting, vacated and alienating spaces. Having thus effectively deleted the spatial memory of a place the development process then tries to retro-fit some kind of sense of community through the ubiquitous public art objects, works with which the new residents, arguably, have no connection and indeed have no desire to connect with.

Against this background, this project, recognising the erasure of memory instituted by the act of commercial development, attempts to work with the new residents in the creation of spatial memory and with this, hopefully contribute to the communities evolving attachment with their suburb, and by so doing help them turn space in place through the interconnections formed between people and environment.

CONTEXTUAL BEGINNINGS

The artwork commission was part of the design of the Clyde North Integrated Community Centre and Town Square in Selandra Rise, a new residential community located in the south-east growth corridor, 52km from Melbourne CBD. Selandra Rise is the result of a collaborative partnership between the developers Stockland, the Metropolitan Planning Authority, the City of Casey, the Planning Institute of Australia (Victorian division) and VicHealth. A key focus of the new development was to implement best practice planning for health and wellbeing and to assess its impact in order to inform the design and development of future residential

communities. As a result the development was planned to assure easy access to parks, pathways and bikeways. However Selandra Rise's physical isolation from the CBD and major shopping centres and the provision of a limited bus service means that the majority of residents have long commutes to work and often require two cars to service the household.

Selandra Rise's demographic is a rich multi-cultural mix. Dr Cecily Maller's Vic Health report on the suburb notes that in 2013, 42% of its population had lived in Australia for five years or less, 29% had lived in Australia for 6 to 10 years. The main countries of origin were India (24%), Sri Lanka (19%) and Mauritius (9%). A large proportion of these households are young couples with children who are living outside the family home for the first time. The other major component of the local population are retirees, with the Selandra Rise retirement village adjacent to the community centre site, one of over 14 such facilities in the Clyde North area. As Selandra Rise is one of a number of planned developments within the area, which will see the population grow by 100,000 people over the next 10 years, the addressing of the physical isolation and cultural diversity of its inhabitants is a key challenge for local council and community organisations.

With these issues in mind the Clyde North's Community Centre intended to provide space for community service organisations to deliver key services and for community groups to come together to participate and connect. The design of the community centre incorporates halls and meeting rooms of varying sizes, exhibition space, and a commercial kitchen. The adjoining town square provides residents with an accessible community precinct, creating connectivity between facilities and providing for a range of community activities, events and programs. Central to the vision for the Community Centre and adjoining plaza was the desire for a site specific interactive artwork that would engender a sense of community engagement within the town square. The brief from Simon Doyle, the Arts Development Officer at the City of Casey, called for the design, fabrication and installation of an artwork that would play with the notion of poetics in public space and express public interaction in a physically experiential way.

The council's plan for the development of the artwork was to break away from the usual tendering process and instead employ a collaborative approach in which the architecture and landscape architecture team from the council would work closely with an art and design based research team to establish a fruitful exchange of ideas. Serendipitously, the Augmented Landscape Laboratory (ALL) an interdisciplinary team of artists and designers at RMIT University's School of Architecture and Design had been recently established. At the time, ALL was prototyping strategies towards the development of interactive systems that could generate affective environments in public spaces. The ALL team members were proficient in designing with a range of ephemeral materials including sound and light; and their interconnection through interactive data-based systems.

The Augmented Landscape Laboratory's response to the council's brief was to propose a series of collaborative design sessions between the design-based researchers at RMIT and the design team within Casey Council. The goal of these workshops was to establish a research framework around the project that could manifest the

parameters of a creative methodology through which design decisions could be made. Rather than presenting finished design proposals for consideration by the council, the process involved a lengthy period of familiarisation with the issues surrounding the community, the site and the nature of interactive design by all parties. This process ensured that the artists, designers, landscape architects and the community engagement staff at the council had a common language through which to discuss the development of the artworks design.

THE OTHER

In order to develop a robust conceptual framework that put community needs at the centre of the creative process the RMIT University team engaged in a series of design development workshops in which the general issues informing the design of interactive public art were discussed, debated and organised into a legible structure. In formulating a methodology in which memory and community interaction can be manifest, the idea of a conceptual “other” emerged.

The analogy of the artwork as a sentient entity, that perceives the world around it, stores these perceptions within its memory, and expresses these memories through ephemeral media became the ordering principle through which the artworks component parts were conceived. In this way we recognised that the “other” would be constituted of a body (site), mind (memory), nervous system (interactive system) and a heart (community interaction). It would function in a temporal as well as spatial way and celebrate its existence each day. Through its interaction with the community and through the nature of its expressive output it would provide a link between the community and place, as the two would become intertwined through the artworks capacities.

In this incarnation of “the other”, the site was seen as the “body”. In its most simple terms the “body” was understood through its physical attributes (ground surfaces, decks, stages, seating and trees) as well as its spatial qualities (visual connections, zoning, access and flow and lighting).

The concept of memory suggested that there exists a “mind” in which the trace of actions and interactions are stored. In an interactive artwork, the “mind” is constituted by a digital repository which can store the direct recordings of interactions with the physical body. At its simplest level it would need to possess a short-term memory, directly remembering the physical interactions of the community. It also needed to possess the qualities of long-term memory; to recall, reminisce, reflect and dream. In this way the “mind’s” role was to both collect the memory of the community and engender an enduring memory of place.

The next corporeal analogy that the team adopted was that of the “nervous system”. This related specifically to how the artwork sensed the interaction with the community in relation to its environmental affordances, as discussed, for instance, in James J. Gibson ‘The Theory of Affordances’ and Donald Norman in ‘The Design of Everyday Things’. Current technology provides a wide range of input mechanics for interactive systems; these include wind, rain, humidity, temperature, touch, proximity and acoustic sensors. These sensors collect data

that can then be programmed to generate specific physical outputs to the stimuli they perceive. The establishment of an appropriate “nervous system” for the artwork and the coding of response protocols in its “mind” that trigger light, sound and physical responses presented a Pandora’s box of possibilities and relationships between the input and output of the system.

ECOLOGY OF PLACE

The conception of public artwork as an interactive and mnemonic entity, rather than being solely an object or sensorial field brought to the surface the philosophical issue of the relationship between the body and the mind. While it was useful to make distinctions between the physical aspects (body) and the interactive aspects (mind, nervous system, heart) of the artwork, in order to conceptualise a logical design methodology, the intent was never to hold on to this dualism. Rather we sought through design development and collaboration to attain a synthesis of concerns in the final design. This integration of conditions also extended into the relationship between the artwork and the landscape design and ultimately between the artwork and the community itself. In this sense the artwork was considered to be a “being of care”, an embedded and reassuring presence within the community whose character would develop and evolve over time. We imagined how children would grow up with this community presence, how they would interact with it as they grew and how it would both collect and foster memory for the community. In this case the “other’s” configuration could be thought of as a constantly shifting assemblage, whose identity was constructed through community interaction. Ultimately we wished the artwork to dissolve both into the landscape and into the community and in doing so manifest a complex ecology of place.

In order to extend the artwork’s scope beyond ideas on the nature of memory and connect it wholly with the physical world the team began to interrogate ideas pertaining to the temporal, the durational and the event. We considered the solar, lunar and annual cycles as an enduring rhythmic pulse that defines daily life. We then considered the seasonal and meteorological cycles of nature that are constantly altering atmospheric conditions. The effect of these natural phenomena were counterpointed by a consideration of the cycles of human existence, the daily rituals and routines, the paths and journeys we make each day, the constants and fluctuations in our habits and the accretion of knowledge and experience that we build over time.

While the input stimuli into an interactive artwork’s sensor system would be ongoing it was recognised that its output characteristics should be focussed and concentrated, as a way of giving the artwork a distinct identity. A system was envisaged in which the artwork would gather information over specific time periods and store this input into its memory. These memories could then be called upon to create unique compositions of light, sound and physical sensation at specific times of the day. In this model, the artwork would be constantly offering a different interpretation of its interactions with the outside world and in doing so would imbue a site with different moods and atmospheric qualities each hour of the day and each day of the year.

To manifest these unique atmospheres the team began to identify the specific nature of the physical outputs that the artwork could generate and appreciated their potential to create mood and expression. The integration of programmable lighting with the artworks interactive system promised the ability to add definition and drama to the qualities of a physical form; to subtly shift and pulse, swell, flicker and dissipate; and to create immersive fields that alter our perception of the larger environment. The use of sound offered the potential to capture, through field recordings, the recognisable soundscapes that imperceptibly define the aural characteristics of place. Sound and vibration also have the potential to operate in purely physical ways, to create tonal and frequency based interactions with the human body and to manifest spatial dynamics through the use of multi-speaker arrays. Ultimately the synesthetic union of light, sound and vibration was seen to have the ability to coalesce and create immersive sensorial experiences that intensify our connection to a time and place in sublime and profound ways.

A major consideration in manifesting an interactive public artwork was the nature of its physical form, its sculptural presence and its relationship to the landscape in which it resides. Through a review of precedent works and the developmental design proposals that the undergraduate students generated, the team identified three different typologies of form that defined different approaches to the design of interactive art in public space. These were the singular, the arrayed and the integrated. Each of these approaches were defined in terms of the potential characteristics of their physical attributes, space making qualities, perceived affordances and the nature of their interactive feedback systems:

- In terms of an interactive framework the **singular** artwork suggests an intimate relationship between the human body and a singular object that invites a haptic interaction from the audience through the direct engagement. The works of Rafael Lozana-Hemmer were referenced in establishing an understanding of these relationships.
- Typically, an **array** is an ordered arrangement of poles embedded with lighting and/or speakers. Unlike the singular object, the arrays promote movement through a given space and engender a sense of immersion. Christian Moeller's Audio Grove is considered one of the seminal works in this approach to interactive spatial engagement.
- The **integrated** artwork is defined by the lack of distinction between the art and the design of the landscape. The overall effect would be one of shifting ambience and definition of the physical conditions of the site, a system that constantly reconstitutes the spatial perception of the constructed landscape. Nikola Basics symbiotic artwork, s Sea Organ and Sun Salutation, are good example of this approach, in which wave phenomena of the sea is transformed into an immersive aural and visual sensory landscape.

Using the formal definitions established in the design development phase the final design was seen as a combination of a "singular" and an "integrated" – an approach favoured by both council and the RMIT-based team. In this schema a large basalt sculptural element is sited amongst a decked area close to the entrance to the community centre. The carved stone form, inlaid with aluminium sensing strips, invites haptic interaction

and engagement from the community. The artwork then expresses itself through a system of integrated sound and vibration that emanates discretely from the ground plane surrounding the sculptural element.

SONIC APPROACHES

Sound as affective medium is a particularly potent way to draw emotive responses from listeners. Music is an obvious example of such possibilities; the translation of this into environmental sound design is still a relatively recent phenomenon initially foregrounded by the composer Murray Schafer (1977) and since expanded in multiple domains (Cobussen 2016). There are many sound art installations that successfully transform urban space for the benefit of the community using sounding objects and electroacoustic devices (Ouzonian 2008; Lacey 2016). The artwork discussed here takes three broad approaches to sound production. The first, already discussed, is the use of transducers to vibrate two large metal plates. The second is the use of a stereo pair of electroacoustic speakers to generate sounds in the space. Thirdly, it is hoped in combination that these sounds will create a soundmark (Schafer 1977) that can produce meaning for the community. The soundmark term is a useful way to think of the possibility of sounds to create sites of community significance. The obvious example is the church bell that summons the community to significant events. In our secular times, finding a soundmark in new suburban environments is a significant challenge.

The soundmark in the case of the discussed artwork is embedded in the two main events expressed by the 'other' at dawn and dusk. These will be short-lived sonic events that will play sound in relation to the memories collected by the artwork via its accumulated memories. Designing a soundmark is arguably impossible, given that meaning cannot be imposed on a community; rather, it should emerge in some way through community processes. To achieve this the design team turned to ethnography as a means to gather sonic material with which the artwork might create an *evolving* soundmark. Sarah Pink (2015), a pioneer in the development of sensory ethnography, provides a useful overview of the relationship between ethnography and soundscape (173-6) concluding that 'there would be a need of both composers and listeners to facilitate means of communicating about sonic knowing that can accommodate both scholarly and experiential understandings' (176). The design teams response was to use a Facebook community page to ask the community directly for their favourite sounds. The collaborative team were impressed by the passion the respondents showed for their community. What emerged was a unique urban fringe community transitioning from a rural landscape to a suburban landscape, who were particularly proud of their multicultural makeup. See table 1 for an overview.

Social	Infrastructure	Domestic animals	Natural
Basketball * 4 Balls kicked in park Kids playing * 5 (children's center) Kids on play equipment Flying kites Youth park Couple arguing in foreign language & Mum yelling at kids (at same time!) Interaction & banter Boot camp instructors at Hilltop Park (sat morn) Chit-chat retirement residents Live worship (Sat & Sun) Loud music BBQ (see Smells) Cracking a can Launching cork	Screeching tires Main roads surrounding suburb * 2 Friendly car horns V8s & turbo cars Planes flying * 2 Helicopter * 2 Sirens Waste disposal trucks Trampoline springs Lawn mowers Bikes ridden on paths Construction Music from school (bell) Espresso – volt café	Cows * 3 Sheep Horses on roadside Horses neighing Horses galloping across the paddock (late at night) Dogs barking * 5 Walking dogs Dogs playing	Crows Crows on street lights Bird * 6 Magpies * 2 Flocks of galahs Cockatoos * 2 Magpies swooping Rainbow lorikeets Frogs (creek)*2 Crickets at night*2 Wind blowing empty can Wind * 2 Whistle of the wind between houses Silence Lakes and walking parks – Cascades on Clyde

The next stage saw the recruitment of two new sound artists to the team, Camilla Hannan and Nat Grant, to collaborate with Jordan Lacey in the collection of community sounds. Over three weeks the sound artists individually combed the suburb collecting the community-reported sounds with field recording equipment. The following stage was the editing of these sounds into short event-based recordings that will be added to a number of folders stored in the artworks programming. These sounds will form the collective memory of the artwork; literally, given that the recordings will be an *historical artefact* expressed by the artwork for its duration. In combination with the transducers, the sounds will be released into the atmosphere in varying configurations in relationship to the types of interactions expressed by the community. It is hoped that in this process, a community soundmark might be revealed.

DATA INTERACTIONS

From an empirical perspective, the collected data driving the sound, vibration and light output, comprises the 'intensity' of touches laid upon the stone by people over time. However, we wanted to transform this data by 'softening' the ways it is interpreted, focussing on the phenomenology of a stone that remembers, and not one that is an agent of surveillance. This sensed data becomes a dynamic curatorial tool; an instrument of memory, if you will, that shapes the expressions of the stone during its Dawn, Dusk and Night phases. Thinking about data as 'soft' and malleable, in the same way we might reminisce and channel our memories, led us to use the data recordings of the haptic touches to express rich tapestries of community sounds.

Technological aspects of large-scale capacitance sensing had to be taken into account as part of the creative process. This ultimately shaped the interaction design of the stone. The proxemics of interaction, insofar as electrical capacitance sensing allows, became a creative mini-brief within the project. Four haptic, near-field and almost intimate gestures – hovering, pensive taps, touching and embrace – emerged as the means with which one could activate the stone. The poetry and semiotics of physical action in connection to the feedback presented by the *Other* is meant to provide an easily-learned, yet hopefully complex, emergent interface – a goal common in good HCI practice. The interactivity reveals complex audio and vibration tracks depending on how the stone is being touched. Community sounds are analysed and tagged with key properties – nominal tempo, average amplitude, frequency, affect. Hovering interactions are linked to community sounds and vibrations that are atmospheric, distant. Pensive taps ring out bright, percolating sounds and perhaps distant, tentative ones. Touching activates swelling responses in vibration texture and near-field community sounds, while embracing the stone or fully engaging the conductive strips bring the *Other* into a state of saturation, where a strong vibrational pattern and immediate sounds of life and living in the community are delivered.

To avoid simplistic didactics of expressing vibration and sound samples according to a single, fixed particular affect or property, each element of the library of community sounds possess multiple properties, each manually tagged, much in the same way our memories are subject to our own interpretation in a moment in time. As a key part of the nervous system of the *Other*, a base algorithm is developed to pick random samples from this library. Prior to the randomisation of samples, the algorithm pre-selects a smaller pool of community sounds based on their proximity, similarity (and dissimilarity) to one another, guided through the type of interactive gesture being detected. Here, we identify possible avenues for the nervous system to grow, by incorporating data analytics and machine learning as a means of upgrading the ‘personality’ of the *Other*. Ultimately, the interactions project an experience where participants get drawn in, sense, learn, and possibly teach others about the *Other*.

Upon visiting the site, as the community centre was being constructed, the design team were struck, as they had been before, by the vastness of the sky and landscape in which the Selandra Rise community sits. From this reflective moment, a discovery made in a previous laboratory experiment, was revisited. In an earlier council presentation the concept of sympathetic frequencies was explored. A steel plate was vibrated with a transducer with low frequencies, the higher harmonics of which were played electro-acoustically through a tone-generated sounding object placed on top of the plate (photo?.) Upon standing on the plate, the body both vibrated and heard sounds at consistent frequencies. In combination, all participants reported a strong sense of harmony between the haptic and the aural. It was decided that the emergent soundmark should include a tonal expression at sympathetic frequencies with the vibrating plates, as explored in these prior experimentations. The sonic ethnography will be interspersed within this expressive moment: a crescendo of tones and vibrations that carry the memories of site as played back by the interactive artwork. It is difficult to explain why the team’s experience of the stretching scope of sky and landscape elicited the decision to include

the tonal aspect, except to say that there was a feeling of consistency between expansiveness of the combined vibration-tonal listening experience, and the landscape in which the artwork will sit.

CONCLUSION

This paper presents a methodology for integrating artworks with the public realm through interactive design, with the intention of creating a sense of place made emergent through community interaction. The methodology conceives of these works as new pieces of public real infrastructure and considers them as expressions or gestures of care, rather than the imposition of preconceived architectural solutions that determine and constrict behaviours. A caring artwork is one that reaches out to the community for its own evolution; it remembers the community and expresses this through unique expressive behaviours. A future paper by the design team will report on the actual building process of the artwork, which has been initiated at the time of writing this paper. It is expected that this future paper will present the work as developed and refined through the various phases of its fabrication, testing, installation and onsite calibration. Consequently we anticipate that the work will have developed in unexpected ways due to the iterative methodology of the creative-practice research process. As creative-practice researchers our primary mode of knowledge production is through the process of making in which iterative experimentations drive changes that aim to integrate artwork with landscape, and interaction with sonic expression. This process is one of testing, discussion and affective investigation: our own bodies must be responsive to the suggestive landscape integration before we can hope to have equivalent impacts on the community. Furthermore, once the artwork finds itself woven into the landscape, the design team will be involved in an extended period of 'tuning' ensuring the artwork fits appropriately with its surroundings, bringing, as such, the 'Other' to life.

We also hope that the methodology proposed in this paper will play a part in a necessary conversation that seeks to dissolve those barriers separating normative building processes and artistic practices. For creative practitioners to be involved in the beginning of the building process, is to encourage the possibility of resulting infrastructures expressing creativity; creativity being the creation of new experiences, in an ongoing process of interaction, memory and expression. In the case of the discussed artwork this will manifest as an open-ended set of experiences seemingly expressed by a landscape that acknowledges the presence of the local community. This is a consequence of the integrated approach that seeks to return to the land the possibility for memories that have been eradicated by development processes. A landscape that has transitioned from indigenous inhabitation, through rural production and industrialised farming, to suburban housing is asked to not only retrieve its memories but to co-constitute new memories with the community. It should be noted that by its very 'nature' the artwork is open-ended and has the potential for ongoing growth. New memories could be collected by future sound-artists that inhabit the landscape with new expressive possibilities. Memories could stretch back to indigenous habitation (past and present), perhaps even further to its geological histories and of course those memories yet to be made. In its present manifestation memories are somewhat constrained due to the relatively modest budget. However, as suggested, the possibilities are far more expansive and suggest other possible directions. This collaborative project points to new ways artworks might

become placemaking agents, a means through which people and environment co-create meaningful community. An artwork that remembers institutes relationships of care between people and environment, encourages community interaction, and consequently becomes an expression of community.