# Scone por ary Research Topics

art & design 9: Crossing Disciplines November 2014 **Scope: Contemporary Research Topics (Art & Design)** is peer-reviewed and published annually in November by Otago Polytechnic/Te Kura Matatini ki Otago, Dunedin, New Zealand. Within the the series this issue has "Crossing Disciplines" as a sub-title and focus for the selected material. Leoni Schmidt and Pam McKinlay are the editors.

The series Scope (Art & Design) aims to engage discussion on contemporary research in the visual arts and design. It is concerned with views and critical debates surrounding issues of practice, theory, history and their relationships as manifested through the visual and related arts and activities, such as sound, performance, curation, tactile and immersive environments, digital scapes and methodological considerations. With New Zealand and its Pacific neighbours as a backdrop, but not its only stage, Scope (Art & Design) seeks to address the matters which concern contemporary artists and arts enquirers in their environments of practice.

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#### Editorial

#### **CROSSING DISCIPLINES**

#### Leoni Schmidt

This issue of *Scope: Art & Design* focuses on the crossing of disciplines. Where disciplines function alongside one another, the term 'multi-disciplinary' is appropriate. Where they integrate to such an extent that their boundaries become indistinct, 'interdisciplinary' is more apt. Perhaps our era will become known as the time of cross-disciplinary approaches (including both multi- and inter- possibilities). Toshiko Mori writes: "The age of...the strict division of labor is collapsing around us'". In any event, the corollaries of a crossing of disciplines are wide-ranging as is evident across the contributions in this issue of the journal. What are clearly recognisable are the willingness to collaborate and the urge for collective action. Energy is released in the process. The reader becomes aware of a sense of freedom experienced by the participants in communal endeavours. There is support for one another and a sense of joint achievement.

Cross-disciplinary work tends to break down barriers and extend limitations. The power of a single authorial voice is side-stepped or problematised. Participants seem less inhibited and less protective of their own terrain in projects that invite group work and sharing of ideas, new understandings and new possibilities. Crossing disciplines also leads to other kinds of crossovers: cross-cultures, cross-geographies, cross-generations, cross-chronologies. Such crossovers are also evident from the material included in this issue of the journal.

Some contributions to the issue stem from writing or making between domains. An example is where Rekha Rana and Simon Swale are positioning their creative drapery between fashion design and a sculptural understanding of materials. Other contributors seek out topics which lend themselves to cross-disciplinary thinking, such as where Leoni Schmidt examines an architectural practice which is characterised by integrative design principles. Cross-cultural understandings emerge from Steev Peyroux's report on a working visit to Rarotonga. Sue Taylor bases her making and writing on psychoanalysis and feminist theory. Johanna Zellmer investigates ways in which jewellery and photography can speak together about experiences of migration. David Green reflects his thinking processes as an artist engaging with philosophy and the sciences. Many other examples of thinking, making and writing outside the limits of a specific discipline abound in this issue.

Perhaps art lends itself *par* excellence to crossovers. This speaks clearly from the statements made by artists quoted by Sunkita Howard and Jenny Rock in their perspective of the 2013 Art and Neuroscience Project undertaken by a group of artists centred around the Dunedin School of Art at Otago Polytechnic and a group of scientists in the Brain Research Centre at the University of Otago. Many small contributions to this issue of the journal represent extended participation and considered creative responses to the work undertaken by the scientists. Added up, these contributions become more than the sum of their parts as they provide valuable insights into the ways in which art and science can productively cross over.

This is also the case with contributions from the 2014 Art and Anatomy Project, for which another group of scientists – this time from the Department of Anatomy at the University of Otago – worked with a group of artists again centred around the Dunedin School of Art. Interestingly, this project enabled artists to work inside some of the university facilities, for example in the Anatomy Museum and the Medical Library. New avenues were opened up and continuing partnerships set up. The project in mind for 2015 will focus on artists and scientists working together on *light*, this being the focus of the UNESCO Year of Light next year. Again, the Dunedin School of Art will be involved, this time partnering with the Dodd-Walls Centre for Photonic and Quantum Technologies, a National Centre of Research Excellence at the University of Otago.

There is something tenacious about cross-disciplinary workers. They rise to the challenge and hold onto the task. Perhaps this is because they feel confident in their home territory and can venture out from that with a mind open to new possibilities. Disciplines bring with them particular histories, theoretical frameworks, methodologies and vocabularies. Becoming immersed is like learning a new language – hard to do if you have no language to start off with. William H Newell wrote a 1983 paper – reprinted many times since then – entitled "The Case for Interdisciplinary Studies"<sup>2</sup> (as a response to Thomas C Benson's article "Five Arguments against Interdisciplinary Studies" (1982).<sup>3</sup> The arguments go that interdisciplinary study can lead to confusion **or** new insights; requires a secure base in a specific discipline before **or** during their deployment; impedes **or** enhances disciplinary competence; leads to shallowness **or** breadth of scope; and that they are expensive to maintain in the shorter term **or** more sustainable than disciplinary approaches in the longer term.

A concise summary of the virtues of crossing disciplines is provided early on in Newell's paper where he states: "Interdisciplinary study should be understood to start with the confrontation of the interdisciplinarian with the world, be it a problem, an event, or even a painting. Out of that phenomenological confrontation comes a question, one which is too broad to be answered by any single discipline. The strategy of the interdisciplinarian is to bring the relevant disciplines...to bear upon the question, one at a time, letting each illuminate that aspect of the question which is amenable to treatment by the characteristic concepts, theories, and methods of the respective disciplines."<sup>4</sup> Disciplines are crucial as they provide the "amenable treatment"; crossovers seek the bigger picture, an extension of the field of enquiry; they look for ingenuity and the multi-facetted.

Sometimes, it's a matter of communication as scientists are increasingly expected to articulate the relevance of their endeavours to those who fund their work. What better way than a public exhibition that visualises their processes. Artists strive for agency in the world. What better way than engaging with real life issues like Alzheimer's and Parkinson's and the anatomy of the human body?

This issue of *Scope: Art & Design* is compiled to surprise and enlighten the reader about the many ways in which artists and designers can interface with a wide range of fields of endeavour and cultural contexts here in Dunedin: philosophy, psychology, anatomy, architecture, neuroscience, art + design, traditional island culture in the Pacific, pattern-making codes from India, Islamic ornamentation, identity and immigration, the politics of memory...and many more. I hope that this issue will contribute in a small way to inspiring readers to enter the discourses around crossing disciplines in our exciting times during which "the strict division of labor...[is] collapsing around us."<sup>5</sup>

Mori's statement also rang true at the recent Art + Book Symposium held at the Dunedin School of Art in conjunction with the University of Otago and the Dunedin City Council. This was the sixth in our Art + series; there have been Art + Science (with scientists from the University of Otago), Art + Law (with the Faculty of Law), Art + Medicine (with the Faculty of Medicine), Art + Food, (with our Bachelor of Culinary Arts programme and the Centre for Sustainability at the University), and Art + Money (with Brandbach at the Business School of the University). Taken as a whole, these symposia and the projects mentioned earlier provide our students and communities with a rich vein of crossover thinking and fertile soil for their creative endeavours.

**Leoni Schmidt** is the Head of the Dunedin School of Art at Otago Polytechnic. She holds an MA (Fine Arts) and a DLitt et Phil in Art History; and since working in an art school has consistently engaged in research about contemporary visual arts practices and their crossing of media and disciplinary boundaries.

- 1 Toshiko Mori, Immaterial/Ultramaterial: Architecture, Design, and Materials (New York: George Braziller, 2002: xv).
- 2 William H Newell, "The Case for Interdisciplinary Studies: Response to Professor Benson's Five Arguments", Issues in Integrative Studies, 2 (1983), I-19.
- 3 Thomas C Benson, "Five Arguments against Interdisciplinary Studies", Issues in Integrative Studies, I (1982), 38-48.
- 4 See endnote 2: I.
- 5 See endnote 1.



Figure 1: People interact with Rowan Holt's work, *Hopes*, at the Art and Neuroscience Exhibition, 2013 at the Hunter Centre, University of Otago, Dunedin.

### ART, DESIGN & ARCHITECTURE

**Residency Report** 

#### YOU ARE NOT HERE: THE DARK LIGHT ART COLLECTIVE'S EXPERIENCE OF THE HONE TUWHARE WRITERS' RESIDENCY, JULY 2014

Rachel Hope Allan



Figure I.

Figure 2.

In 1992, Hone Tuwhare (1922-2008; Nga Puhi iwi; hapu Ngati Korokoro, Ngati Tautahi, Te Popoto and Te Uri-O-Hau), aka 'the travelling bard' and 'people's poet,' moved to the small South Otago seaside settlement of Kaka Point. There in a modest crib he lived out the remainder of his life, concentrating on his writing. He was a New Zealand poet laureate, held two honorary doctorates in literature and was widely acclaimed, nationally and internationally. The Hone Tuwhare Trust was established in 2010 "to inspire people through the preservation, promotion and celebration of Hone's legacy."

Dark Light Art Collective's beginnings hark back to a lively discussion over a morning coffee in the beautiful but bleak Gibbston Valley in Central Otago. Four established artists, who all attended Dunedin School of Art for postgraduate studies and who choose to live in the South Island, set up this new collaborative enterprise to support and foster relationships built while studying at the DSA. The collective's art practices encompass – but are not limited – to electronic art, new media, the archive, sculptural forms, playwriting, photographic practices, painting and performance.



Figure 3.

DLAC sought to be the first recipients of the Hone Tuwhare writers' residency program and, if possible, the only visual artists. The collective proposed to "augment and reposition the space and sense of place by engaging with the original written works of Hone Tuwhare, the local environs and the community at large in a visual format." Once our proposal had been accepted by the trust (headed by Hone's son Rob), we thought it would be a good idea to experience the place without the burden of our gear in order to familiarise ourselves with the surroundings and make ourselves known to the locals.

Our reconnaissance visit to Kaka Point left me feeling numb. He wasn't there – any trace of the man that was had been removed. Except for a hand-knitted blanket, suspiciously placed in a chair by the wood-burning fire. There was nothing. I had gone with expectations of walls covered with newspaper clippings and photographs, but



Figure 4.



Figure 5.

that was all gone. Even the floor coverings had been lifted, leaving hints of the fibre at odd spots where the nails hadn't been retrieved. We ate a picnic pie at his table, sweeping rat poison and crumbs onto the floor, listening to the sea as the breeze nipped at our ankles. We were visual artists on a writers' residency, the first residency without a residence.

We sought refuge in a deconsecrated church a few doors down. As we stepped through the kicked-in door and turned our backs to the sea we revelled in the bleak abandoned pageantry that greeted us. Sitting in front of the red sanctuary curtains, upon a stage once graced by holy men and women, Kristin, in farm boots and German leather couture, read an unpublished poem by Hone. From the dyslexic's mouth flowed his words. We stopped, we sat and we listened. At 4pm, after refreshment at the local establishment, in the dead of winter three inappropriately dressed artists toddled off to marvel at the rocky islets and wildlife at Nugget Point. We reached the lighthouse as the light finally faded.

The crib we stayed at during our weeklong residency in July had threadbare bright yellow carpet and matching twin beds (and Asterix books). It was a refuge from the cold and from the silence, the absence. At breakfast we would read Hone's poetry and plan our day.

Drive–Lunch–Crib–Dinner–Sleep–Breakfast–Crib– Lunch–Walk–Edit–Dinner–Sleep–Breakfast–Walk– Lunch–Crib–Edit–Dinner–Sleep–Breakfast–Crib– Lunch–Drive–Walk–Dinner–Sleep–Breakfast–Drive– Lunch–Drive–Dinner–Sleep–Walk–Crib–Lunch– Drive. Insert surf-, star- and moon-gazing and snooze at random intervals.

Early mornings were spent crawling amongst the mould and concrete dust at the crib, looking for clues, artifacts to archive. We were forensic foragers searching for answers to questions not fully formulated. We were just collecting and collating data. As the week wore on, not one of us felt closer to unearthing what we were truly looking for until one morning over coffee (in borrowed china from the church) we realised that we were looking at his life backwards, from where it ended. There is a peace to Kaka Point; there is nothing but the sea and the bush. Hone Tuwhare spent the last 16 years of his life in two rooms. In a crib in a seaside hamlet surrounded by locals who would stack your wood, find you some kai moana when you were past collecting it yourself, but understanding that they should leave you alone to concentrate on your work, your words.

I stoked the fire and relished the company of the dog, calling her into bed for cuddles, and each night as I drifted into that in-between place Ted would read to me.





Figure 6.

Figure 7.



Figure 8.



Figure 9.

On the last day, after listening intently to stories from locals – but mostly utterances on the legend and secondhand stories from those who will never be locals – we decided to send him a postcard. Addressed to Hone Tuwhare, care of The Kaka Point Tea Rooms Postal Service, "You are not here." We are still waiting for a reply. A 'return to sender.' A 'not at this address.'

It wasn't until we had returned from the residency, unpacked and downloaded that K.O.P and I went looking for the man and found him in a handwritten letter that was held at Dunedin's Hocken Library and only brought out at the discretion of the head librarian. In a room with perfectly controlled temperature, equipped with only a pencil and an iPhone, we sat at tables that could not be moved and fingered through his personal correspondence. There in a museum grey manila folder we found him. One letter in particular, penned in both Maori and English, moved us beyond words. We sat and we smiled at each other. We had found the poet in the archive.



Figure 10

There in a completely controlled environment, devoid of visual decoration or distraction bar the building itself, I had found what I had been seeking through my lens. Art did not belong here in this chamber of fluorescent light – it was restricted to the stairwell and the upstairs area – but here in Hone's beautiful prose, the linked script, we had at last found the reason for crawling around in the dust and the mould of Kaka Point.

#### THE DARK LIGHT ART COLLECTIVE

**Ted Whitaker** is a new media artist based in Dunedin, Aotearoa. He holds a BFA and is an MFA candidate at the Dunedin School of Art where he also teaches in the Photography and Electronic Arts Studio. His research and current art practice involves augmented reality technology and combining 'new' and 'old' media, with emphasis on the device/object and screen interface. Ted exhibits locally and internationally in cinema, project galleries and mobile

phone apps. He is the curator of two Dunedin art galleries, BRUCE and V-Space. He is also the curator of DARt Collective (Dunedin Augmented Reality Arts) and editor of Black Wax surf culture zine. Ted has been a member of the Aotearoa Digital Arts Board since 2013.

**Kristin O'Sullivan Peren** is a multi-media artist whose practice responds to extremities of land, language and object. Her work has developed from her background as a printmaker; the materials and processes of which are evident in her methodology. Recent large-scale projects have embraced photographic, sculptural and electronic media, utilising both digital and analogue technologies. She exhibits locally and internationally in public spaces, contemporary project galleries and at artist residency communities here and overseas. Recent large-scale exhibitions have integrated innovative technology pioneered by O'Sullivan Peren using LED lighting and cast resin. Her work reflects a search for the Modern Sublime through technology, for a contemporary response to ecological concerns, and for identity in postcolonial New Zealand.

**Rachel Hope Allan** holds an MFA from the Dunedin School of Art, where she now lectures in the Photography and Electronic Arts Studio. Her research and current art practice extends through a weighted photographic history with an emphasis on contemporary outputs in chemical and digital processes. Allan's MFA exhibition, "Shall I Knit You One?," showcased a body of work encompassing a unique survey of photographic techniques including tintypes, large-format Polaroids and Appography. Allan exhibits locally and internationally in public museums, project galleries and artist-run spaces.

A resident of Hawea Flat since 1996, **Robyn Bardas** is currently studying towards an MFA at the Dunedin School of Art. Originally from Melbourne, she gained a Bachelor of Fine Art (Painting) from RMIT in 1989, and has regularly exhibited in painting, video, performance, theatre, photography and mixed media.

I http://honetuwhare.org.nz/hone-tuwhare-charitable-trust.

#### PLACE·MENT: PRECIOUS OBJECTS, GLOBAL EXCHANGE AND HUMAN ENCOUNTER<sup>1</sup>

#### Johanna Zellmer

To most of you it won't come as a surprise that I am German. Nevertheless, my second statement might be slightly more unexpected: the fact that I have not become a New Zealand citizen yet.



Figure 1. Eagles from coins - embodiments of hybrid identities.

I have been wondering about the reasons for this myself. Germany belongs to the many countries which don't allow dual citizenship; one can apply to be considered as an exemption to the rule.

I have been interested in national representation and national symbols for a while now and, as a jeweller, have found coins to be a natural material with which to explore questions of national representation and identity. For some time now I have been working with German eagles that I physically cut out of Deutsche Mark coins. My more recent interest in passports as identification made me question if the many hybrid identities of our contemporary culture can in fact be embodied in a single object?

Germany as a country does of course come with a very particular history, one which has stifled national pride for a long time. It shares the eagle with other countries as a national symbol, and I am of course not the first to explore this iconic animal from the viewpoint of German history and identity. The above is a painting, below forged coin eagles. The dimensions in this juxtaposition are of course not representational of the real objects.

I find myself frequently talking about my particular take on Germany, both here and back in Europe. Conversations with colleague jewellers about work and life led to the recognition of shared experiences and interests; the collaborative project *place-ment* began to take shape. Three women, three histories and three artistic signatures temporarily merge in this joint venture. Our practices all explore work that can be carried on or transported by the body, yet the objects themselves consciously traverse both fine and applied arts. Intersecting conversations pertain to topical issues of identity, cultural representation and personal narrative in contemporary jewellery.

Our collaborative project was launched in October at Alchimia, a school of contemporary jewellery and design in Italy. This institution is situated in an historical building in Oltrarno, the old artisan quarter of Florence. The placing of this collaborative work within such an environment serves to highlight the inseparability of past and present, a theme which is central to the work of all three artists. The aim of this collaboration is to generate a 'conversation' at the intersection of these individual but related perspectives.

Our countries of residence and origin – Germany, Italy and New Zealand – continue to shape our individual practices and identities as contemporary makers. Let me briefly introduce the three participants.

Beate Eismann was born in East Germany and exhibits internationally. Her work investigates the potential of reproduction and its relationship to the object of origin. The traditional processes of printmaking have always fascinated her because they represent a very simple way to repeat an image. Principles of copying, mentally or physically, render our process of perception visible.

Playing with this notion, Beate scans analogue printing masters (metal clichés) and uses the digital data as the basis for generating a three-dimensional 're-materialisation' which is then used along with the original to create jewellery and form objects. Clichés are printed on plant material, which is then scanned to be re-interpreted through digital technology.

When printed in 3D, the motif to be printed leaves the second dimension and reaches into the third; it creates space. The light weight of the material allows large-scale jewellery pieces to be comfortably transported by the body when worn. Coloured and hand-painted, they raise complex questions concerning the status of original and copy, original form and reproduction, and even the place of copyright.

Beate's practice repeatedly crosses and displaces boundaries between high-tech industrial printing, graphic design and contemporary jewellery. Using these technologies, Beate generates a three-dimensional transformation, a 'rematerialision' of the original cliché; she then reworks and finishes the pieces by hand. Their final shapes not only reflect multiple print technologies, but also carry an embedded reference to the long history of printmaking.

By blurring the boundaries between the hand- and machine-made (or mass-produced), and by replacing and juxtaposing the original with a copy, this work unsettles the hierarchies that privilege the one over the other and embraces the creative possibilities of contemporary hybridity.

Alessandra Pizzini was born in northern Italy and works as a freelance designer and jewellery artist in Germany and abroad. She investigates the significance of intimate objects determined by their 'place-ment' in our lives. These include souvenirs, found objects, photos, heirlooms and, in particular, jewellery.

In order to reflect on the specific circumstances that tie us to such items, Pizzini bases her work on evocative sets of objects gathered in her own home:

In my living room: 1) Several objects on a shelf. 2) Found piece of iron, which I titled *a girl's dreams*. 3) A small wearable reliquary altar, which I discovered in my grandad's old house. 4) Red figure with hat printed on foil. 5) A brooch I made and titled *house*. Two brooches by Jutta Klingebil, titled *cloud7*.

The longing for such objects becomes more prevalent in those moments of transition that denote significant changes in our lives, moments frequently marked by ritual, celebration and, of course, by the object itself. With their unique symbolic and fetishistic character, such objects seem to have accompanied our human evolution as an anthropological constant.



Figure 2. Beate Eastmann, printed and scanned plant material.



Figure 3. Alessandra Pizzini, personal items which can function as talismans.

Forms, materials and processes are chosen in an attempt to capture the affective tone of these transitional moments. Alessandra's methodology draws the audience into the experiences and emotions embedded in these objects without decoding their secrets completely. In doing so, she explores the way in which belongings can become spiritual, emotional and almost bodily habitats. By de-contextualising these objects and 're-placing' them within the exhibition space, she invites the formation of new relationships and alternative interpretations, simultaneously affirming and subverting their semantic power.

As one of the three participants, I myself contribute an investigation of migrancy to the project, addressing experienced realities of identity and location. This contribution to the larger framework of *placement* 

has come about as a direct outcome of my work with 10DM commemorative coins, during which the German eagle as heraldic sign emerged as the key player. In the process of working with these coins, I became very interested in the question of national representation. Responses from New Zealand and German audiences to this work led me to question how individuals identify with the iconographic symbols of their nations.



Figure 4. Eagles from coins - embodiments of hybrid identities.



Figure 4. Eagles from coins - embodiments of hybrid identities.

New Zealand, as a former colony with obligations under the Treaty of Waitangi, is very attentive to the particular issues of a bicultural nation; a fact that confronts newly arrived immigrants with some interesting questions. As a German citizen with permanent residence in New Zealand, I am regularly confronted with the complexities of my own cultural 'place-ment.' With my work I wish to address the idea of nationhood and the relationship one has with one's country of origin, as well as the politics that regulate citizenship and national borders.

Immigrants to New Zealand, who are unable to obtain dual citizenship, are interviewed and photographed as part of my project. Jewellery 'aids' materialized from cut and forged coin emblems, are fitted with hearing aid material. They emerged as a response to the interviewee's situation and are specifically made for



Figure 4. Eagles from coins - embodiments of hybrid identities.

each participant, to whom they will be returned. The pieces are contextualized by portraits of the immigrants and 'passport' booklets presenting their transcribed interviews. Selected drawings from participants will form part of the imagery for the passports I am constructing to make the transcribed interviews available.

The physical use of currency, passport imagery and hearing aid parts provides a direct link to relationships between national identity, capitalist economies and the sense of impairment experienced when engaging with an unfamiliar culture. By altering the metal coin and thus subverting its monetary value, I am retaining its status as a familiar 'precious' object of our everyday experience.

Immigrants represent an often marginalised voice and add to the cultural richness of any nation. They come from a wide range of cultural and ethnic communities. This engagement not only provides them with a voice in the arts and invites active participation on this level, but also interrogates connectivity and hybridity across the board. It has its roots in shared dialogue, which is at the core of cultural diversity in contemporary society. Within the conception of this project my contribution has moved from object-maker towards mediator, giving voice to an audience that is imperative in shaping the work. This removes the controllable safety of the studio environment and shifts the making away from the bench into the community.



Figure 5. Johanna Zellmer, a selection of portraits from a jeweller's point of view.

By de-contextualising, re-working and re-placing existing materials, all three of us have used our work to challenge traditional readings of place, significance and value. Our work raises questions about the idea of origin and, at the same time, explores issues of cultural and personal identity in today's increasingly complex world. The associated publication, which includes academic essays by Dr Petra Hölscher, Dr Pravu Mazumdar and Mònica Gaspar, is intended to further extend the parameters of the conversation to include philosophical and art historical enquiries alongside contemporary studio practice.

All interpretations of our work have evolved through ongoing dialogue, both in person and online, so that the conceptual framework of the project is appropriately hybrid in both its origins and outcomes. This year's conference theme (see endnote I) was chosen to reflect the changing focus of contemporary practice, from sole practitioner to collective participation and crossing boundaries. My practice has moved from object-maker towards mediator and the nature of international collaboration has moved the controllable safety of the studio environment away from the bench and into the process of participation and exchange. While this process is not uncomplicated, nor product-driven, it is however highly productive, as it results in an original outcome that surpasses its inevitable compromises; it opens up the opportunity for a sum total which is greater than its individual parts.

The intercontinental communication and exchange marathon that the three of us undertook over the past couple of years is now nearing completion. In conclusion, I am wondering about the specific nature of participation that our globally networked, virtual and speeded-up environment enables. For some years contemporary jewellery practitioners have been returning to objects that provide a haptic experience and involve a physical sensation, not necessarily visibly detectable. This mutual return to the tangible object might indeed reflect current social tendencies to seek out smaller and more tangible communities to set against our globalised and widely shared collectives; matters of 'location' – in terms of place – and lived circumstance appear to have become increasingly relevant.

Particular experiences mediate reality; and with this in mind Sheridan Kennedy writes: "The history of jewellery is inextricably a social history, but at the same time is oriented towards one body."<sup>2</sup> Specifically relevant contributions to the immediate social environment and its inhabitants – by this I mean the return to and revaluing of the 'local' – will become more and more important. It is therefore surely the physical human encounter and the experienced understanding of a specific place, its cultural characteristics and community, which most importantly ought to shape our individual practices and identities in this globally networked world.

**Johanna Zellmer** completed a Masters degree at the Australian National University's Canberra School of Art and a formal apprenticeship as a goldsmith in Germany. As senior lecturer in jewellery and metalsmithing, she also coordinates the artist-in-residence programme at the Dunedin School of Art. Her research interests are the construction of national identities and cross-cultural themes within contemporary jewellery and metalsmithing. She calls a small farm in Dunedin 'home.' Her most recent research project has been included in the TV1 series *Neighbourhood*, on North Dunedin.

- I A paper delivered as part of Participation + Exchange, the 15th Biennial Jewellers and Metalsmiths Group of Australia Conference, 2013 held in Brisbane.
- 2 Sheridan Kennedy, "Mapping the field of experience," a paper delivered as part of On Location, Making Stories: Siting, Citing, Sighting, the 12th Biennial Jewellers and Metalsmiths Group of Australia Conference, 2007, 80. See also Juliet Steyn, "The Cultural Politics of Friendship," *Third Text*, 21:2 (March 2007), 189-98; Zanini and Sicuro, Senza Confini (Udine:VV.AA., 2008); Sacha McMeeking, "Māori Intellectual Property," talk at Dunedin School of Art Research Seminar series, Thursday 29 April 2010; Nikos Paperstergiadis, "'Everything that Surrounds' Theories of the Everyday, Art and Politics," *Third Text*, 57 (Winter 2001-02); Kamal Boullata, ed., *Belonging and Globilisation: Critical Essays in Contemporary Art and Culture* (London: Saqi, 2008).

#### Artist's Page

#### **DIE AUSGRABUNG**

#### Karl Fritsch and Gavin Hipkins

Bright fine gold, Bright fine gold. One a pecker,Tuapeka, Bright red gold.

Chorus from the New Zealand folk song, Bright Fine Gold

Excavation is a prominent association of the Otago landscape, and in particular, Central Otago. Historically, the land has been shifted, shafted and sluiced – dug out and mined in search of that elusive precious metal. Prospectors fought the brutal weather (and each other) for a few ounces of gold and claims from the 1860s on. Mining towns and communities appeared out of nowhere, and were deserted at the same extraordinary rate, leaving evidence of once-settlements, cottages, terraces, waterways, and dam remains.

The Otago landscape was the starting point for *Die Ausgrabung* – our latest collaborative exhibition of new work made while we were in residence at the Dunedin School of Art. The German term *Die Ausgrabung* translates literally as The Excavation, but this translation feels a little too awkward, and we prefer to think of the title as connoting a broader 'dig'. The plurality of this (cultural) dig is multi-layered.

To start, the photographer was out there in the field making trips to sites as far apart as Middlemarch and Cromwell, gathering material to leave in the cottage studio for the jeweller to dig into and embellish. In this sense, the photographer's role is one akin to visual archaeology, drawing the landscape, rocks, and surface details with a mechanical tool used in this capacity since the nineteenth century. Yet the photographer also ventured into other sites. Specifically, the commodity landscape that is the late-twentieth century phenomenon called the 'Two Dollar Shop'. In this site, objects were gathered not for their function, but for their aesthetic interest, their commodity form, for their contemporary status as signifiers of globalisation and late capitalism: evidence of another passing cultural moment in historic decline. Supplementing these analogue and digital images are photographs taken from the WD Trotter Anatomy Museum at the University of Otago of nineteenth-century wax and porcelain models, as well as twentieth-century plastic models: bones and skeleton parts – what you'd expect to discover from a generic, and imagined, excavation.

On arriving at the studio, the jeweller discovered piles of photographs waiting to be attacked. How to treat these new forms? How to commence this ausgrabung? This was the first time colour prints had entered the collaborative project — now in its fourth year. The material included the regular silver gelatin analogue prints (as with the ongoing *Der Tiefenglanz* project), but also included new surfaces: plastic billboard prints, and ultra-flimsy newsprint photos. Recognising the later fragile prints needed a more substantive structure, the jeweller started his own object collecting in junk shops, sourcing all manner of bric-à-brac, forming collections of curios including decorated wooden bowls and serving trays, to kitsch porcelain and plastic figurines. Closer to home, the site of the art school itself also became a place for collecting source material. From the sculpture and jewelry departments, argillite rocks with extracted cores, aluminum moldings, and remnants of student and staff bronze castings, were gathered. Actual rocks



Figure 1. Die Ausgrabung, installation.

and shells were found from local Dunedin beaches and became support for prints wrapped around, and glued to, these three dimensional surfaces – gift wrapping gone wrong. A final layer of digging unfolded when the drill, and other workshop tools, met these humble objects – the shrill piercing of glass and jagged slicing of plastic.

From these multiple digs, hybrid artefacts have been created and finally put on display in the faux neutral exhibition space of the art gallery. The gallery site is the last vestige of pretend authority for the altered readymade. The piles of prints, isolated artefacts, and clustered displays are testament to one more pseudo-scientific and idiosyncratic presentation of an imagined civilization.

German born, **Karl Fritsch**, studied at the Goldsmiths' College in Pforzheim and at the Academy of Fine Arts in Munich. He was the recipient of the Herbert Hoffman Prize from the International Craftsmen Trade Fair in Munich and the Most Promising Award for Applied Art from the City of Munich. Fritsch's work is included in several important European museums such as the Stedelijk Museum in Amsterdam and the Museum fur Kunst und Gewerbe (Museum of Art and Crafts) in Hamburg. His work is also collected by Museum of New Zealand Te Papa Tongarewa and MOMA New York. Karl currently lives and works in Island Bay, Wellington, New Zealand.

**Gavin Hipkins** is an Auckland-based artist who works with photography and film. He has exhibited widely in New Zealand and Australia and his works have been included in major curated exhibitions in the USA, UK, Germany, Brazil, and Italy. He represented New Zealand at the 1998 Sydney Biennale and the 2002 Sao Paulo Biennale. In 2010 his 80-part photography work *The Homely* featured in the exhibition *Unnerved:The New Zealand Project* at the Gallery of Modern Art, Brisbane. He lives and works in Auckland, New Zealand where he is Senior Lecturer and Associate Head of School at Elam School of Fine Arts, University of Auckland.



Figure 2 and 3. Die Ausgrabung, installation.

#### DRAPING AS A DESIGNING AND MAKING PROCESS, WITH POTENTIAL FOR THE UNEXPECTED

#### Rekha Rana and Simon Swale

This article reflects on our experiences of team teaching in the Fashion Design 2 (FD2) course as part of the Bachelor of Design (Fashion) programme. This was the beginning of a new project called "drape." Rekha Rana, one of the course lecturers, was working with drape in her own practice while completing her Masters study in Fine Arts. We had identified a need to introduce alternative approaches to the designing process that differed from Year I, where students approach design with the target market as the focus – a ready-to-wear (RTW) product-focused approach directed at a specific fashion audience. Students were not free to experiment beyond the restrictions imposed by conventional garments in the commercial fashion system.

The drape project allowed them to work with a product or garment, but one which was not pre-defined. Indeed, students were encouraged to unlearn the conventions relating to Western garments and investigate the ethnographic clothing traditions of other cultures. Students undertook a process-driven method aimed at exploring interactions between body, form, materials and space. The results demonstrated to them the potential in hidden, liminal spaces and allowed them to create new and unconventional designs which were dificult to conceive through traditional processes such as drawing. This exercise required students to design by making. It involved the exploration of geometric shapes in the creation of three-dimensional forms on mannequins. These explorations led to the completion of a designed garment.

This process has affinities with learning approaches within fashion design discussed by Drew, Bailey and Shreeve.<sup>1</sup> These authors outline four approaches to learning, including focusing on developing technical competence and developing students' concepts. However, we identified in particular with two approaches that are intended to develop the design process, adopting product-focused and process-focused strategies respectively. Both employ experimentation in the process of making as a key strategy in design development.<sup>2</sup> It is hoped that this article will contribute to an ongoing discussion of the role of draping as a fashion design tool.

The existing literature shows that there are many approaches to the design process. We as educators are in the process of testing and developing these approaches. There seems to be a dominant process – one that is favoured in the literature – that is targeted towards fashion students and educators. This approach privileges a research platform that is utilised to inform conceptual development, which in turn underpins the design process. Leach epitomises this approach when he suggests that "increasingly, these days, designers are looking for new and personal research bases, as research has come to involve much more than just a theme, and thoughts and ideas have become more conceptual and abstract."<sup>3</sup> Evidence for the dominance of this approach is seen in several other recently published examples.<sup>4</sup>

As well as focusing on conceptual development, these writers also share a focus on drawing/sketching as the normative way of developing designs in response to their research. According to Seivewright, "drawing is a fundamental process and skill that you must explore and perfect."<sup>5</sup> While a range of design attributes such as colour, texture and proportion are discussed in these texts, the designs themselves are predominantly understood through fashion sketching as part of workbook practice. These processes embody the conventions of fashion education and reflect the structural framework of design practice as suggested by Williams.<sup>6</sup>

Many of these texts and the processes they discuss are directed towards commercial outcomes that are userfocused and compatible with the ready-to-wear system of fashion. Central to all these discussions is the sequential progression followed by the design process towards a commercial outcome. These features are representative of the formal elements and design conventions that contribute to Williams's structural framework. Atkinson, for example, lists five specific target markets which fashion students should aspire to pitch to: haute couture, pret-aporter, designer wear, intermediate and high street.<sup>7</sup>

As part of developing a contemporary fashion programme, the present authors sought to introduce new design processes that can supplement existing methods as well as foster new design knowledge. In this way, the authors identify with Williams's postmodern framework which stresses the questioning of conventional ideas, the search for new directions and the use of non-traditional materials and techniques.<sup>8</sup>

However, a number of obstacles lay in our path from the outset. As Griffiths has pointed out, very little has been written about fashion by designer practitioners.<sup>9</sup> One notable exception is Timo Rissanen, who has become well known for embracing sustainability in his practice through unusual design processes. Interestingly, Rissanen is one of very few practicing designers who contextualise their work through academic enquiry. He outlines eight design methodologies which can be broadly subdivided into three categories.<sup>10</sup> First comes the sketching, draping and patternmaking of an original idea. Second is the replication of existing designs through sketching or patternmaking. Rissanen's third approach is more conceptual, perhaps involving visual cues or using paper to drape the dress form. He suggests this last technique be used to integrate the print into the design.

Rissanen's own practice is defined by the conceptual process whereby he draws exclusive inspiration from the interaction of body and cloth.<sup>11</sup> His approach allows him to develop new forms that sit outside the traditions represented by Western fashion garments. His design process exemplifies a practice-based approach as outlined by Gray and Malins.<sup>12</sup> These authors define practice as a research methodology involving action and reflection that provides a means of "discovering new practices or methods/processes/techniques and materials by experimentation; re-discovering/revitalising/revising traditional practices in new/contemporary contexts; reconstructing artwork/ artefacts to bring about new understanding/insight through the experience of making/re-making."<sup>13</sup>

These definitions of practice correspond to the critical making methodology with which Rissanen identifies in his own practice. Rissanen is part of The Cutting Circle, a patterncutting collective that seeks "new ways [of] thinking about making, uncovered through the act of making,"<sup>14</sup> an approach suggested by Matt Ratto's framework of critical making. For Ratto, critical making is "a mode of materially productive engagement that is intended to bridge the gap between creative, physical and conceptual exploration. Although they share much in common with forms of design and art practice, the goal of these events is primarily focused on using material production – making things – as part of an explicit practice of concept elaboration."<sup>15</sup> Commensurate with the postmodern framework of Williams and the practice-based methodology of Gray and Malins, critical making embodies a process that explores "the various configurations and alternative possibilities, and using them to express, critique, and extend relevant concepts, theories, and models."<sup>16</sup>

In this article, the authors seek to discover how an exploration of a making process involving the FD2 drape exercise reflects the processes identified in recently published commentary and research. This approach presents students with an opportunity to develop their existing skills as well as to question preconceived notions of Western fashion and the very conception of the garment. Making produces results that cannot be achieved through the conventional structuralist approach of workbook practice. We seek to identify this new approach through the contemporary design practices of designers such as Timo Rissanen and Julian Robert, and avant-garde designers like Rei Kawakubo and Yohji Yamamoto. This discussion will be supplemented by reflection on student work that embodies unconventional practices of making to realise garment designs.

#### INTRODUCING THE DRAPE COMPONENT

In 2010, all courses within the Bachelor of Design were restructured to create a new 15-credit model. These changes proved significant and prompted a major content review. Fashion Design was introduced as a dedicated course for both first and second year students: Fashion Design 1 and Fashion Design 2. A new teaching team was put in place to deliver these courses, which continue to evolve. One of the lecturers, Simon Swale, drew on content from previous courses while the second team member; Rekha Rana, brought additional concepts and knowledge, drawing on a diverse cultural background and experiences gained through studying for her Masters in Fine Arts.

Various factors came together to create the first drape exercise. Firstly, drape was largely missing from the fashion programme, being offered only to third-year students at an introductory level. A need was identified to introduce drape as a technique from both a technical and design perspective throughout the programme. Secondly, Rekha Rana was already exploring alternative drape methods through her study of ethnographic clothing. This body of work was now ready to be introduced into the teaching program as a new design process. The third factor was our recognition that some students face difficulties utilising drawing as a design tool.

The introduction of the drape exercise in 2010 was largely formulated on the basis of previous design exercises – for example, the requirement for students to design a five-piece collection which was assessed as a major component of the course. Although the designs produced were expected to be developed from the physical process of draping, the expectation of drawing such designs continued from past practice. The preliminary exercise was specifically focused on ethnographic garments which were composed of simple geometric shapes. This was introduced to demonstrate an alternative aesthetics to what students were accustomed, and was also an attempt to bring Eastern and Western approaches together as exemplified by designer Sherin Guild, whose practice was reflected on by the students. Over time, and with continuing assessment of student engagement and outcomes, the drape exercise changed focus to encourage greater levels of experimentation and exploration. Students were now being asked to question their understanding of what a garment is.

In 2013, reflecting these enhanced expectations, the brief for the drape component was expanded. It now included the following questions and directives:

#### EXPERIMENTATIONS:

Students will embark on the experimentation work to trigger design possibilities. For this process please consider these 3 aspects to develop and extend upon.

I - Fabric: explore the potential for your designs in various fabrics: cotton, knit, vinyl, voile ... combine fabric types to explore the different ways your designs behave.

2- Shapes: potential for rectangles and circles. Transform these and combine. A rectangle becomes trapezium, a circle becomes an oval. What happens when the body must pass through these shapes?

3- Garments: contest preconceived notions of dress; what is a skirt, a top, a bodice? What happens when you displace opening for head, arm, leg? Why must we distinguish between front-back? Why do we distinguish between body and sleeve?

This exercise took place over a four-week period and students' progress was monitored through informal discussions in the studio on a weekly basis. The making process occurred within the timetabled studio sessions as well as during self-directed time. Distinct from a design process in which drawing is the dominant tool (and with which students often struggle), this exercise facilitates learning that grows out of a practice-based methodology. This approach is consistent with that outlined by Shreeve, Wareing and Drew for education in the creative arts. These authors discuss traditions within visual arts education such as studio-based practice and the giving of formative feedback through

informal 'crit' sessions on work-in-progress – approaches that encourage "open-ended solutions and many possible ways of undertaking practice."<sup>17</sup> As noted above, this approach differs from that taken in many recent publications targeted at fashion students which privilege the development of a thematic framework. In a studio-making setting, design concepts are developed organically through the interaction of cloth, hand and dress form.

In addition to recognising the need to introduce alternative design methodologies to enrich students' experience of learning, a second and equally important concern was for students to 'unlearn' previously acquired knowledge. As mentioned above, previous design exercises had focused exclusively on the development of ideas within a commercial context, and reflected Western technical processes such as patternmaking and construction. In effect, such knowledge serves to re-inscribe students' conceptions of what a garment can be: a trouser, a jacket, a skirt, etc. Once introduced to ethnographic clothing traditions, however, students began to question this knowledge, and when draping was introduced these boundaries could be fully tested, as they were permitted to use only simple geometric shapes and their derivatives: circle (or oval), square and rectangle (or other trapezium) and triangles. These are shapes that bear little resemblance to Western-derived fashion patterns.

In Figure 1, the student has collaged geometric shapes with obvious reference to ethnographic garments. Note the absence of traditional armholes as well as the flat, unfitted sleeve silhouette.



In 2014, the first class included a demonstration of how these shapes could be moved around the body (Fig. 2a-d). In

Figure I. Laura Sanders, drape exercise explorations (2014).

previous years, it had become apparent just how difficult some students found 'forgetting' the principles of Western clothing, especially fitting garments to the body through the use of darts, pleats, etc. This demonstration helped them visualise alternative silhouettes than those to which they were accustomed. These forms were unlikely to occur to students through a process of drawing alone.

Following this demonstration, each student was allocated a mannequin (half size) and two pieces of fabric with different properties: one soft and 'fluid' knit, another more rigid and structural. Students were encouraged to cut simple geometric shapes in multiple, moving them around the body and cutting openings for the head or arms to pass through. This immersive process was at once both design and making (both patternmaking and construction), combining workstations that are usually separated in the chain of fashion practice. Here is an iterative and reflective process that creates a holistic work environment and design model.



Figure 2a-d. Simon Swale, demonstration of draping different geometric shapes around the body (2014).

In combining design development with making, this exploratory drape exercise provides much deeper experiential learning than merely sitting and drawing. The practice-based studio model allows students to engage in a process of action research where design problems and solutions are directly presented to them and their peers. Unlike drawing – which exposes the many insecurities students face about their capabilities – this drape exercise privileges an exploratory and experimental approach where there are no wrong answers. "Why should I bother with back and front, with symmetry? What happens if I sew a square shape to a circle shape with the same perimeter? What happens

to its form when I cut two holes for the body to pass through?" These are the kinds of questions students are faced with and, as the answers are not self-evident, they become genuinely curious, much less inhibited and protective of their work, and are more engaged with what their peers are creating.

In the design shown in figure 3, the student has displaced the usual neck opening towards the hems of the garment. She is also playing with the idea of multiple neck openings as we can clearly identify two options for the head to pass through. This creates an unusual silhouette, resulting in a garment which can be transformed and worn in multiple ways.



Figure 3. Sharlee Ghent, final design for drape exercise (2014).

Unlike traditional patternmaking, the focus on unconventional shapes and silhouettes means it is often difficult to tell how exactly something has been produced. This prompts dialogue, a dialectical examination of shape, form and space. These 'live' explorations create the opportunity for dialogue between student and lecturer. As with drawing, some students also struggle with conventional concepts of patternmaking and construction. However, in undertaking a drape methodology, students are involved in a hermeneutic circle where making informs the design, which in turn informs the understanding of patternmaking and construction in new ways. Along with the process of making goes new knowledge creation, as well as the reinforcement of prior knowledge. The studio setting has now become a hotbed of innovation and excitement! Draping returns the concept of a garment to its fundamental truth that it is simply a covering for the body (or parts of it) - and students feel liberated in the knowledge that, with each exploration, their designs become unique.

While making is part of design development and learning, it is also part of larger learning strategies including being able to produce a resolved garment. This became the second part of the drape design exercise once significant exploration of a range of geometric shapes, in combination and in a range of fabrics, had been undertaken. To create a 'resolved' garment, students had to refine their design and make it up as a completed toile. In fashion parlance, a toile is a marguette or sample - in this case, one that demonstrates the final finishings and closure details. How will the seams and edges be finished? Does the design require a collar, or pockets? Many of these questions are being asked, and answered, in the developmental stages, where it is always about making and any problem confronts one immediately. Unlike drawing - where aspects such as fastenings are frequently left out, un-thought of or forgotten, and details such as pockets are represented

disproportionately – using drape, students can see and must immediately address any shortcomings they perceive. There can be no simple turning of the page.

In Figure 4, while the outcome appears conventional, the student's workbook demonstrates an unorthodox process of using multiple triangular patterns which only become apparent on closer inspection of the garment. (Figs.4, 5). The geometric aspect of design has been considered, with connections made to broader design fields.



Figure 4. Joseph Hollebon, page from student workbook for drape exercise (2014).



Figure 5. Joseph Hollebon, student wearing final design for drape exercise (2014).

Having conducted this drape exercise over the past five years (2010-14), we are now in a position to evaluate its effects on the students' subsequent design practice. It must be said that not all students have responded favourably to this exploration of the new and unfamiliar, or the plain 'weird'. Some students' preconceptions of fashion run deep, and it has proven difficult for some to forgo their love of 'pretty' dresses and a predilection for the femininity of the fashion stereotypes of the 1950s. For these students the impact of the drape exercise remains marginal.

For others however, the exploratory and experimental approach to fashion design offers a way of disrupting or contesting traditional fashion codes of masculinity and femininity in a Western sense. Some third-year students find themselves developing an aesthetic influenced by the East and by the ethnographic garments they had considered merely as part of their drape exercise in year two. The most talented among them fuse the two into new hybrid forms that reflect the continuing collapse of cultural distinctions. Other students have used the process of transforming geometric shapes to consider more abstract forms reflecting architectural influences.

The first example in Figure 6 demonstrates student Emily Scott's newfound passion for ethnographic garments and Eastern culture which led her to travel to India after graduation to experience the Holi festival. This collection is immersed in the vibrant colours of the festival which she had researched as part of her study journey and which was to turn into real travel. This collection won acclaim among her peers as well as the top prize at the inaugural Australian Graduates Fashion Week in Sydney.



Figure 6. Emily Scott, Bachelor of Design (Fashion) final year collection (2012).

The second example (Figure 7) highlights the student's engagement with the project and ability to develop unconventional materials and silhouettes in a Western fashion context. Sam Ralph has cleverly drawn on a range of alternative processes in the creation of a collection that is a cultural hybrid of East and West, masculinity and femininity. This collection resulted in him being selected for the prestigious Mittelmoda graduate fashion competition in Europe.



Figure 7. Sam Ralph, Bachelor of Design (Fashion) final year collection (2012).

Our final example illustrates the extent to which students learn to contest the practicality and function of traditional dress and what constitutes a garment. Here the structures of origami have been used to suggest the spatial qualities of architecture and explore the relationship between body and space. Although the connections are not obvious, the process evident here would not have been possible without the experience gained during the FD2 drape exercise.



Figure 8. Carolyn Taylor, Bachelor of Design (Fashion) final year collection (2012).

After five years in operation, this is an opportune moment to reflect on both how the Fashion Design 2 course has developed in response to its initial objectives, and on the subsequent careers of students who have benefitted from it. From the outset, the drape exercise filled a gap in the fashion program; as a practice, drape has a long history within the Western fashion system but has been largely absent from the classroom. Besides offering an alternative way of working, what has developed through this exercise is that drape can be understood as an alternative way of *thinking*, both about design and making and as a way of exploring the boundaries of the fashion garment. These advances in understanding have been largely the result of Rekha Rana bringing her experiences of art practice, rather than design, into the teaching environment.

As time has gone on, the authors have recognised the importance of this exercise as a tool to push students to move beyond their own fashion preconceptions into more sculptural and abstract forms. The overwhelmingly favourable response from students – especially those who are uncomfortable with other design processes, such as

drawing – led the authors to recognise that drape should be introduced much earlier in the fashion program. As a result, they now also teach drape as a module to year one students, albeit within the traditions of Western fashion.

However, what has been most rewarding for us are the phenomenal accolades many of our students have received and the clear connections between much of their work and the FD2 drape exercise. What we are witnessing is the reality that our graduates are capable of producing work at the cutting edge of international design, footing it with the very best fashion students from around the world.

**Rekha Rana Shailaj** graduated with a Diploma in Design (Fashion) from Otago Polytechnic in 1997. Her two main areas of interest – designing fashion and teaching – landed her an educator's job at Otago Polytechnic. For the past 12 years she has worked as a lecturer in fashion design, digital patternmaking and textiles. She completed a Master of Fine Arts (Design) with distinction in 2011 from the Dunedin School of Art at Otago Polytechnic. As a conceptual designer, Rekha practices design in a multicultural environment, working with subjectivities and identities created through different fashion systems. She pursues new methods of working with creative processes, drawing on both Eastern and Western sensibilities. Ethnographic clothing is a special interest, especially from India where she was born and raised. The similarities shown in the simple shapes of these garments from various cultures have focused her attention on the kimono from Japan and the kurta from India.

**Simon Swale** is a fashion lecturer in the School of Design at Otago Polytechnic. He studied fashion at Otago Polytechnic before working extensively within the Dunedin fashion industry. Simon now enjoys researching and writing on various aspects of fashion, often through the lens of media studies and popular culture.

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- 15 Matt Ratto, "Critical Making: Conceptual and Material Studies in Technology and Social Life," The Information Society: An International Journal, 27:4 (2011), 252-260, at 252.
- 16 Ibid., 252.
- 17 Alison Shreeve, Shan Wareing and Linda Drew, "Key Aspects of Teaching and Learning in the Visual Arts," in A Handbook for Teaching and Learning in Higher Education, eds Heather Fry, Steve Ketteridge and Stephanie Marshall (New York: Routledge, 2009), 345-62, at 349.

<sup>11</sup> Ibid., 41.

<sup>13</sup> Ibid., 105.
### Artist's Page

## PINKY'S DREAM #I

### Ted Whitaker

*Pinky's Dream #1* is a multimedia artwork first exhibited within a boatshed at Back Beach, Port Chalmers, as part of "Waterlines III." The work was part of an annual site-specific exhibition curated by The Anteroom Project Space and featuring new works by Michael Morley, Morgan Oliver, Daniel Roberts, Hana Aoake, Motoko Kikkawa, Kristy Pearson, Jesse-James Pickery, Louise Potiki Bryant, Rob Thorne, Duke McDirkson and John White. The event started at dusk and finished that evening in darkness. The exhibition was part of Matariki Festival, an annual midwinter full moon and celestial celebration.

All the works in the exhibition were situated around the water's edge, with some works on boats in collaboration with the local sea cadets. *Pinky's Dream #1* was placed deep within a large boatshed with multiple rooms, tucked out the back, accessible through a small passage that opened onto a room left bare except for two 1960s hairdrying chairs and a digital projection across the length of the 4-metre room. The projection spanned the width of the wall, yet was cropped enough to allow the faded presence of the decaying yellow and green painted walls to blend with the images of the pink hair salon. The projected video features an empty, quiet and lonely salon, captured in an almost still moment apart from the reflections of cars passing on the street-side window. The camera is missing from the image of the mirror reflection, caught between the pathways of the two mirrors, emphasising the absence of humans. Audience members were invited to sit in the hairdrying chairs to view the work, which would be accompanied by an integral binaural soundtrack. Hidden within each hairdrying dome were small sets of speakers whispering the intimate and personal details of getting a haircut. The voice of a female with an American accent takes the listener from greetings through to a hair wash, scalp massage and hair-cutting experience.

The experience of *Pinky's Dream #1* passes through layers of time and place, virtual and real. The visual component depicts a place with a décor redolent of the 1960s, with few clues to bring it into the contemporary era. Beyond the soft pink wallpaper and '60s hairdryers mirrored in the video, the viewer is given clues to the technical makeup of the work. The video itself is shot in High Definition, a contemporary video format, yet the image contains little to reference the modern era. To experience the work the viewer is placed in a specific place, in the hairdrying chair; the chair itself is not comfortable, it is slightly stiff, awkward and foreign due to the placement of a dated technology within a gallery context. Although the work is not situated in a gallery, it is read as if it were. Curated by The Anteroom, this work was assigned a space over water, adding another layer site-specific to the work. The water beneath and the dated décor of the boatshed enhanced the obscurity of the work, allowing the surreal perspective to become easily accessible.

The process of making the video of the salon interior created its own challenges that enhance the mysterious element present in the work. I personally visited the salon for regular haircuts and, simultaneously, as a location scout for future film projects. The salon was a space that held many alluring properties demanding further investigation. The formal properties of the salon were initially the most captivating, through the crossing and blending of time periods. The sense of being in a time capsule is reinforced by Fatima, the owner and sole operator of the salon. Fatima sits very quietly in the space six days a week, waiting for cash-only customers who arrive on a drop-in basis only – no bookings. She does not play music, talk much or charge more than \$10 for a haircut. She is careful, gentle and polite. When I first enquired about filming inside her accredited salon, a strong resistance and lack of enthusiasm



Figure 1. Ted Whitaker; Pinky's Dream #1 (2014), HD video, binaural sound, mixed-media installation. Photos: Angela Lyon.

were apparent. With further persistence, including offers of payments for renting the space along with help with promoting the business, I was still met with disinterest. This left me even more perplexed and inquisitive about the salon as a location, business and a phenomenon in itself.

After my third visit to the salon, I arrived with two takeaway cups of coffee and a pink lamington to share with Fatima and talk about life and her business and to follow up my earlier enquiries about filming there. Fatima was again very stand-offish, but following a series of gentle questions about the placement of my images and whether any money would be made, she became comfortable with the idea.

*Pinky's Dream #1* is a work that blends realities and time periods. The work does not intend to trick or fool the viewer by its use of technology, but in its simplicity creates a sense of displacement. The title is derived from a David Lynch film that aptly combines the formal attributes of the salon with a reference to the modern surrealist filmmaking that Lynch is known for. The work pays tribute to the adjective 'Lynchian' while simultaneously exisiting as a 'fan' video and playing to the cult following of Lynchian themes. This is an obsessive trait that I deem ironic due the iconic nature of the surrealist and 'meta' themes present in Lynch's work, notably *Mulholland Drive* and *Inland Empire* where film sets are present within the film, creating a layered narrative. *Pinky's Dream #1* uses the set, and the sense of suspense that suggests that something might happen that never does. The soundtrack holds the viewer captive through the near-static video that in turn drives the narrative.

**Ted Whitaker** is a new media artist based in Dunedin, Aotearoa. He holds a BFA and is a current MFA candidate at the Dunedin School of Art, where he also teaches within the Photography and Electronic Arts Studio. His research and art practice involve augmented reality technology and combining 'new' and 'old' media, with emphasis on the device/object and screen interface. Ted exhibits locally and internationally in cinema, project galleries and mobile phone apps. He is the curator of two Dunedin art galleries, BRUCE and V-Space. He is also the curator of DARt Collective (Dunedin Augmented Reality Arts) and editor of *Black Wax*, a surf culture zine. Ted has been a member of the Aotearoa Digital Arts Board since 2013.

Travel Report

# THE LANGUAGE OF PATTERNS IN THE COOK ISLANDS

# **Steev Peyroux**

I'm in a workshop with no walls, carving an ancient Polynesian pattern into a wooden figure. Chickens occasionally strut by A dog belonging to nobody lounges nearby. It is languidly warm, so my shirt is off as I work and the radio is playing back-to-back ukulele music.

It feels like what I imagined being an artist on the tiny South Pacific island of Rarotonga would be like, and I feel deeply satisfied. This is a world away from my own studio environment in the mid-winter depths of Dunedin.

I have been taken under the wing of Mike Tavioni, Rarotonga's most senior artist and ta'unga (traditional master carver). Poet, painter, tattoo artist, stone, wood and bone carver, author and social commentator, Tavioni's role within the Pacific art community is acknowledged from Aotearoa through to Hawaii.



Figure 1. Mike Tavioni in workshop.



Figure 2. Steev Peyroux in Tavioni's workshop.



Figure 3. Steev Peyroux and David Teata.

Tavioni's inclination to work across many art disciplines seems typical of Polynesian artists; as a student at the Dunedin School of Art (DSA) in the mid-1980s I shared a studio with the now renowned Polynesian artist, Michel Tuffery. Like Tavioni, Tuffery works across a myriad of mediums. Perhaps a holistic, interdisciplinary approach is characteristic of cultures such as Polynesia where art is intertwined with life, rather than specialised or compartmentalised.

Over the years since then I have taught printmaking techniques to many Pasifika students. Nearly all of them were drawn to relief printmaking, made by carving into a woodblock. So my intention in going to Rarotonga was to study traditional Polynesian printmaking, in order to discover where this affinity with woodcut printing came from. To my surprise, what I discovered is that there is very little traditional printmaking in Polynesia. The art of tapa uses some stamp and stencil printing, and the more recent tivaevae traditions involve stencil printing, but that is all.

Instead, the imagery drawn on by the students I taught originated in traditional carving and tatatau (tattoo). It would seem that these art students were attracted to disciplines which involved carving as a means for self-expression in the context of their cultural identity. As I observed their progress through art school, I became more and more curious to know the deeper significance of the distinctive motifs and patterns they used. These patterns strongly identified their work as Polynesian, but beyond their surface appearance they meant nothing to me, making me aware that I had little direct experience in the Pacific neighbourhood I am part of.

A 2014 Otago Polytechnic Staff Award provided me with the opportunity to study in the Pacific. Rarotonga was an obvious choice – an ex-student, Dave Teata, was building a studio there; my old art school friend, Michel Tuffery, provided me with an introduction to his uncle, Mike Tavioni; and my father-in-law is Rarotongan, meaning I would be accepted as puna (family) on the island, helping to immerse me in the local culture.

When I met Mike Tavioni he was in the process of writing a book on the language of symbols and



Figure 4.Tangaroa. "Wooden carving of a 'fisherman's god,' 18th-19th century," British Museum. Reproduced with permission © Trustees of the British Museum. This figure is cited in Te Rangi Hiroa, Arts and Crafts of the Cook Islands, Bernice Pauahi Bishop Museum, Bulletin 179 (Honolulu: Bernice Pauahi Bishop Museum, 1944), 312, fig. 191.



FIGURE 27.—Carving patterns on coremonial addess. a, double K-motif. b, double K-motif separated by grooves. c, funcer K with vertical limbs of hack-to-back KT, combined in more, showing two panels separated by a farthy wide groover. d, three panels with fused K-motif separated by narrow inclued line, s, laccauge pattern obtained by eliminating insoverse grower between panels and vertical elements, of K-motif i, common multiple losenge pattern in which limbs at K-motif are arranged in line marrow hand pattern in which turns of K are horizontal and limbs by not mycen. h, triangular mutifs with apec touching base of used triangle. 4, triangular motifs in which apies are cuj of by nucceeding base.

Figure 5. The repeating 'K-motif,' reproduced from Te Rangi Hiroa, *Arts and Crafts of the Cook Islands*, Bernice Pauahi Bishop Museum, Bulletin 179 (Honolulu: Bernice Pauahi Bishop Museum, 1944), 388, fig. 247. patterns in the Cook Islands. Along with his wife, Awhitia, also a highly respected carver, Tavioni is making work based on traditional knowledge, preserving the craft and the meanings behind it, and the local art community is encouraging him to record what he knows as a valuable resource for future generations. Shortly before meeting Tavioni I visited the director of Rarotonga's University of the South Pacific, Rod Dixon. When I told Dixon why I was here, he suggested I assist Tavioni to organise the material for his book. I could not suppress my wide grin, as there seemed no better way to conduct my planned study. And that is how I found myself in Tavioni's workshop with the chickens and the dog.

Tavioni is keeping traditional art practices alive by teaching children their cultural roots, and feels this is vital for the islands' wellbeing and sense of identity. Polynesians passed cultural and historical knowledge down from generation to generation by oral tradition. Sadly, much of this traditional knowledge was lost during the European missionary era when Cook Islanders enthusiastically embraced Christianity and were convinced to abolish many traditional art forms, particularly carving and tatatau. The few carvings that the missionaries did not burn were taken back to England.



Figure 6. Tattooing motifs from Rarotonga, reproduced from Te Rangi Hiroa, *Arts and Crafts of the Cook Islands*, Bernice Pauahi Bishop Museum, Bulletin 179 (Honolulu: Bernice Pauahi Bishop Museum, 1944), 132, fig. 72.

The flow of knowledge is kept alive when traditions are copied by descendants, but modified and handed on. For Tavioni, the question for Pasifika's contemporary artists is not, has he or she used traditional motifs? Rather it is, what have they done with them? What have they added of their own to make it theirs? Culture is a population's response to a particular time and a particular place and evolves through continuous adaptation and appropriation. Like many islands in the South Pacific, Rarotonga has a migratory population which is in a symbiotic relationship with the daily foreign influences of rampant tourism. Hopefully Rarotonga's culture can be enriched by the tensions and challenges of this environment.

Tavioni had me assist him in organising his material on traditional motifs and on the structure of his book, from the first god, Io, who has no parents and was never depicted, to the speed and sophistication of Polynesian vaka (waka). He tells the story from Captain Cook's journal of Cook meeting several Polynesian vaka in open ocean. While Cook sailed on at full speed these vaka, from standstill, sailed easy circles around his ship. Tavioni told me that the speed and navigational skill of Polynesian sailors has been slow to be acknowledged by Western historians. Many were cynical about claims the ancient navigator Kupe from Tahiti was the first to discover Aotearoa, and then sailed back to Tahiti to report his discovery. This incredible level of mobility suggests there was a lot of movement and exchange of ideas between the Pacific Islands, particularly Tonga, Tahiti, Cook Islands and Aotearoa, which all share many language, genealogical and cultural similarities. The name of Tavioni's book refers to this natural impulse for travel; it is called "Nuketere," meaning "People on the Move."

In his book Tavioni explains that in Polynesian art, symbols were created which came to have specific meaning and social and religious significance. Like language, they connected people and times and helped to transmit values and beliefs. Patterns and motifs have a hierarchy of their own. Designs were chosen for their importance in the belief



Figure 7. Michel Tuffery, Pili Saipo, (1988).



Figure 8. David Teata, Vaka Fere, (2006), woodblock on handmade paper.

system, for their significance to the wearer and for their aesthetic qualities. The designs reserved for the decoration of items used in important rituals assumed great mana.

These patterns were the work of skilled ta'unga on skin, wood or tapa. Ta'unga created their own repertoire of patterns largely drawn from natural forms: plants, animals, fish and the physical environment. Motifs were strongly influenced by personal experience and religious belief.

Cook Islands patterns are rhythmic, mostly geometric and repetitive in style. The ni'o mango or shark's tooth motif is one of the most common motifs; a simple triangle, it is repeated to form dynamic patterns. Some islands in the Cooks developed patterns using more elliptical shapes, such as the tikitikei-tangata motif in Aitutaki and the elliptical eye motif from Rarotonga.

Certain motifs were well known throughout much of Polynesia, such as the 'image of man' motif, known in the Cook Islands as tikitiki-tangata. Across the Pacific it was represented by various tiki forms, the embodiment of gods or supernatural beings.

Contemporary Pasifika artists like Dunedin School of Art graduates Michel Tuffery, David Teata, Bridget Inder, Tere Moeroa and currently Anasaunoa Teofilo, are investigating these traditional symbols and exploring how they might manifest in their own work. Teata graduated from DSA in 2006 and is in the process of building a house and art studio on Rarotonga's eastern coastline which he plans to equip with one of the few printmaking presses on the island. He is part Mangaian (one of the Cook Islands), part Rarotongan, and is researching how the motifs that held so much significance for his ancestors revealed a person's history, tribal and social affiliations, religion, achievements and lineage..The repeating 'K' pattern



Figure 9. Bridget Inder, *Running in the Rain*, (2004), woodblock over monoprint, 760 × 565 mm.

from Mangaia occurs often in his work and originally represented the human figure. Teata often dreams in patterns, which interests his elders greatly. When he wakes he records these images and uses them in his work, tying the designs back into his genealogy. Teata says that when one's ancestry gets traced back a certain distance it takes on a mythological quality. At this point, one finds that the same mythological figures start occurring on different islands. He likes the way this leads his work into ideas on spirituality.

In Aotearoa, Pasifika artists contribute to a thriving culture. Their work often examines ideas of identity, hybridity and place within the intercultural challenges posed by being an artist in Aotearoa. Creative energy is created by rubbing shoulders against the other cultures with which they co-exist. One of the distinctive things about Aotearoa is that everybody either comes here from somewhere else, or has ancestors who did. Everybody who arrived, whether a millennium ago or last year, brought stuff with them and then adapted to or rejected what the next arrivals introduced.

The national obsession with family lineage on this small island was a delight for me. I changed my family name to Peyroux when I got married so as to be different and found it useful for my profile as an artist. But in Rarotonga it held a whole new significance; I made a point of telling my name to the locals I met and they invariably talked at great length about the Peyroux genealogy, from the woman selling us tropical smoothies who said to my daughter, "Oh, you look like Alex," to Awhitia Tavioni spending an afternoon telling me stories about the many Peyroux ancestors. She told me of the French naval engineer, Jean Dominique Peyroux, who in the late nineteenth century was on a stopover in Rarotonga. The island had no engineer so locals plied him with so much alcohol that he missed his ship the next morning. Now Rarotonga is full of his descendants. This was Awhitia's way of placing me in the context of her community. In Māori culture this is known as He taura tangata, the cord that binds people.

It intrigued me to imagine what an un-colonised Aotearoa might look like today. Cook Island Māori have a similar genealogy and language to Māori in Aotearoa, but remain self-governed, speak their own language and remain the majority of the population. The third great migration of Māori to Aotearoa is said to have departed from Rarotonga: "the arrival of a 'great fleet' of seven canoes and some of the most illustrious Māori chiefs and most noble genealogies in Aotearoa. When the chiefs landed, they spread out across the two islands, carving out territories for themselves. Eventually, their descendants organised themselves into loose associations of tribes named after the ... waka that their founding ancestor had arrived in."<sup>1</sup> Te Arawa and Tainui are the names of two of the waka still familiar to us today.

Māori in Aotearoa evolved in their own unique way. However, while I was in Rarotonga it fascinated me how many connections have survived the centuries; in the early twentieth century, my wife's great uncle John could communicate with Taranaki Māori because their dialect was so similar to that of his native island of Mangaia. However, when he married a Ngā Puhi woman from Northland, he could not understand her family's Te Reo as it was more similar to the Rarotongan dialect, which he didn't know as well.

While in Tavioni's workshop, I spent time carving my own work using the patterns I had been learning about. The carving came naturally to me because of my experience in relief printmaking. The designs I used related to Rarotonga and to the ancestry of the family I married into. My work will eventually help to make up the posts of a school Tavioni is building to revive the traditional art practices of the Cook Islands.

Before I left Rarotonga Tavioni and I established an arrangement for a student residency at his school, in collaboration with the University of the South Pacific, and culminating in an exhibition at the main art gallery on the island, BCA Gallery, directed by Ben Bergman. A Pasifika student, or any DSA student, will have the opportunity to immerse themselves in a Pacific Island culture to explore what effect it might have on their art. My own study not only gave me a better understanding of Cook Islands traditions; my study had also opened my eyes to the deeper meaning behind the Māori symbols and motifs of my homeland. In learning more about my neighbours I seem to have learnt more about my own place.



Figure 10. Tere Moeroa, Faces, (2009) mixed media print, 675 x 510 mm.



Figure 11. Anasaunoa Teofilo - work in progress, 2014.

**Steev Peyroux** is the technical teacher in the printmaking studio at the Dunedin School of Art. His drawings, which have print processes layered within them, play with a balance between representation and abstraction. Steev's work questions how real our perception of life is when so much of the world is invisible to us. It refers to the duality of the conscious and the subconscious, or of the real world sitting above the dream world.

Of Samoan, Cook Island and Tahitian descent, **Michel Tuffery** MNZM was born and lives in Wellington. He has been a leading player in raising the profile of contemporary Pacific Island art, both locally and beyond the wider Pacific. Adept in all arts media, he works collaboratively with technicians and other art practitioners to realise his numerous performance and installation projects. His work is focused on the conservation of the environment and shaped by his Pacific Island ancestry. Tuffery graduated with a Diploma in Fine Arts (Honours) from the Dunedin School of Art at Otago Polytechnic in 1989. The early print works shown in the "Pasifika Cool" exhibition at the DSA in 2012 were conceived during a 1987 research trip to Samoa timed to coincide with the 25th anniversary of the treaty of friendship between Samoa and New Zealand in 1962. This research opportunity provided Tuffery with invaluable cultural knowledge of tapa cloth (siapo), tattooing (tatau) and fa'a Samoa.

Born in the Maniototo, Central Otago, **Bridget Inder** is of Samoan and New Zealand descent and lives in Sydney. She received a Bachelor of Fine Arts from the Dunedin School of Art at Otago Polytechnic in 2003 and completed a Master of Fine Arts with Distinction from the DSA in 2010. Her printmaking explores her dual heritage and the conflicting relationships that emerge from the creation of a cultural in-between space. Inder suggests that people of dual heritage inherently challenge the boundaries of cultures and this examination of cultural authenticity plays out in her work. As well as maintaining her strong arts practice, Inder is also a keen sportswoman and plays rugby professionally in Sydney.

**Tere Moeroa** is of Cook Island descent and was born and lives in Dunedin. He received a Bachelor of Fine Arts from the Dunedin School of Art at Otago Polytechnic in 2007, majoring in printmaking. Since graduating, Moeroa has expanded his graphic sensibility and skill with line to incorporate contemporary tattoo, and now practices as a tattooist as well as being a printmaker, musician and graffiti artist. Influenced by traditional Polynesian art, tatau, music and graffiti, Moeroa articulates a distinctive Pasifika attitude in his work. Moeroa participated in the 2010 Tautai Contemporary Pacific Arts Trust's secondary school workshops as an assistant tutor and mentor in the print studio. More recently, in collaboration with Heramahina Eketone and Nexus Dimensions design crew, he designed the new 2012 Otago Polyfest banners, donated by Otago Polytechnic to the Pacific communities of Dunedin.

Born in Mangaia, Cook Islands, and of Cook Island Māori descent, **David Teata** lives between Waimiha, King Country, and Rarotonga. He received a Bachelor of Fine Arts from the Dunedin School of Art at Otago Polytechnic in 2006 and a Postgraduate Diploma in Art and Design from AUT in 2008. As a student Teata became interested in woodblock printmaking, giving him an opportunity to explore his Mangaian artistic heritage, develop his carving skills and give artistic traditions a contemporary expression. These early works, carved from MDF blocks, began Teata's interest in the fusion of traditional and contemporary designs, involving the symbolic use of shapes, patterns and motifs. His work embraces and celebrates the diverse cultures of New Zealand, drawing inspiration from the dynamic process of merging and intersecting that is shaping our multicultural society, and exploring the notion that identity is shaped by our inheritance interacting with our current experience and context. In 2010 Teata was awarded third place in the visual art section at WAM (World Art Market), Vancouver Museum of Anthropology, Canada.

**Anasaunoa Teofilo** graduated with a BVA in painting from the Dunedin School of Art in 2013. She is currently enrolled in postgraduate studies.

I Jennifer Lee, The Great Migration: New Zealand, http://www.postcolonialweb.org/nz/maorijlg2.html (accessed 14 October 2014).

### Artist's Page

# JOURNEY PART 2

## Anasaunoa Teofilo

My practice tells the journey of a Samoan girl who is in search of identity, and was inspired by New Zealand artist Judy Millar, British artist Chris Ofili and Aboriginal art. From here I have found my own language, reusing recycled wooden trays from the now closed down Oamaru lolly factory. I picked up the carving for the first time last year and it became my tool that acts as my paintbrushes. The tatau (tattoo) decorative pattern symbolises the most important people I hold close to my heart – five vital motifs that appear in the carvings. The repetitive makings that are carved are an influence from my father's Samoan tattoo. It was the ancestral symbols and linear geometric motifs within the patterns that caught my attention. It's a similar tattoo mark I carry also, as a reminder for whatever situation I encounter in my own personal journey. In Samoan society, family strength is an important foundation.



Figure 1. Anasaunoa Teofilo, *Journey Part 2* (2013), house paint on recycled wooden trays, hot glue gun, carving tools and varnish, 200 × 328 cm.

Journey Part 2 (2013) is a series of abstract paintings. Dark blue was the colour chosen after creating a mini series of carvings using different colours; the blue stood out more effectively because it brought out the glue-dotted markings. Journey Home (2013) was a set of three vertical wooden panels in orange designed to complement Journey



Figure 2. Anasaunoa Teofilo, 2014, work in progress.

Part 2 by using different shades of dark red, orange to yellow. They give out a sense of happiness and positive vibrations in the spaces that are shown through the carving. The dots are widely used conventional symbols, and for many non-Aboriginal people these are what give Central and Western Desert art its distinctive character. Dots may represent many things, but for me my dots signify the journey of my own storytelling evolving around loved ones, the warmth and love of family and friends and the influence they have on me, especially in my walk with the Heavenly Father.

**Anasaunoa Teofilo** graduated with a BVA in painting from the Dunedin School of Art in 2013. She is currently enrolled in postgraduate studies.

# VAN BRANDENBURG UNFURLED: ARCHITECTURE IN THE EXPANDED FIELD OF CONTEMPORARY PRACTICE

### Leoni Schmidt

#### LOCATING

A fortuitous decision brought Architecture van Brandenburg, of Dutch and South African extraction, to the small creative city of Dunedin<sup>1</sup> on the east coast of the South Island of New Zealand. In this part of the world, spectacular mountains, a profusion of luscious fern varieties, green forests and blue lakes form a perfect fit for an architectural practice inspired by natural forms. Their office adjoins a chic Italian restaurant in downtown Dunedin, with its own interior exuding the ambience of a sculpture studio – it's clearly a place where ideas are made manifest in objects redolent of a particular geographic location. But, typical of our globalised era, Architecture van Brandenburg's current project was commissioned for the Chinese Marisfrolg Apparel Headquarters in Shenzhen. Boris Groys reminds us that postmodernity "enacts a complex play of removing from sites and placing in (new) sites,"<sup>2</sup> and Leslie Sklair analyses how "aspiring global cities use iconic architecture [often from far-away places] as a prime strategy of urban intervention and self-identification."<sup>3</sup>



Figure I.

#### TOUCHING

Marisfrolg is all about fashion; fashion is all about the senses; Architecture Van Brandenburg eschews the rationality of modernist design by foregrounding a tactile epistemology – one can understand the world through the haptic experience of matter. A hand has held and touched a leaf, a frond, a shell, and this shows in the work. An intimate knowledge of the structural particularities of a natural object shines through. This kind of understanding has a long and proud genealogy in phenomenological discourse, stretching back to Henri Bergson on matter and memory and Gaston Bachelard on the imagination of matter. Nearer to our time, Juhani Pallasmaa has brought this thinking into the realm of current architecture with *The Eyes of the Skin:Architecture and the Senses* (2005), *Encounters:Architectural Essays* (2005) and "Hapticity and Time: Notes on Fragile Architecture" (2000), where he quotes Maurice Merleau-Ponty to argue for the primacy of touch in "the task of architecture to make visible 'how the world touches us."<sup>14</sup>

A tactile epistemology is one which acknowledges the fragility and slowness of architecture in a world driven by digital media, speed and a uniformity imposed by dominance of the sense of vision. Instead, Pallasmaa yearns for an architecture which creates existential microcosms and embodied representations of the world; an architecture of opacity and depth, sensory invitation and discovery, mystery and shadow, an architecture of beauty and humility – the qualities one finds in Marisfrolg by Architecture van Brandenburg. This essay contends that these qualities are achieved through strategies of mimicking, integrating, crafting and unfurling, as discussed below.



Figure 2.

#### MIMICKING

Senior partner Fred van Brandenburg has expressed his passionate interest in biomimicry, a practice and related theory of design striving to find alternatives for the uniformity and flatness of surfaces found in modern and modernist architecture. Fred states: "The forms found in nature enthuse us. In our buildings the form change as one moves around them. They are not flat surfaces – a front façade, a side façade, a rear façade and a roof plan, basically two-dimensional objects that do not exist in nature – our designs do not need to struggle with proportions on a façade, or with other man-made rules of aesthetics."

Biomimicry in current architecture critiques the foundations of Western architecture as entrenched from Vitruvius's *De Architectura* in the first century BC to Andrea Palladio's eighteenth-century *Four Books on Architecture*. The principles of *firmitas, utilitas* and *venustas* (solidity, usefulness and beauty) were firmly embedded in this tradition, as was a cosmic order represented by geometric forms and the three orders of Classical architecture: the Doric, lonian and Corinthian, as based on the proportions of the human body. Current biomimicry in twenty-first-century architecture eshews the first of the triad of principles, namely *firmitas* (solidity), the box-like structures resulting from the three proportional orders and also the humanist-centred focus on the body.



Figure 3.

In an era of heightened awareness around issues of sustainablity, researchers at Eindhoven University of Technology write: "Why biomimicry? ... We are already learning from nature, for instance, how to harness energy like a leaf, grow food like a prairie, build ceramics like an abalone ... create color like a peacock, compute like a cell, and run a business like a hickory forest. The conscious emulation of life's genius is a survival strategy for the human race, a path to a sustainable future. The more our world functions like the natural world, the more likely we are to endure in this home that is ours, but not ours alone."<sup>6</sup> Michael Pawlyn concurs where he studies biomimicry as "ways of translating adaptations in biology to solutions in architecture ... mimicking the functional basis of biological forms, processes and systems to produce sustainable solutions."<sup>7</sup>

The term 'biomimicry' was first used around the mid-twentieth-century, with a vastly enhanced interest manifesting in the last decade as scientists, architects, artists and designers increasingly question a humanist model in their search for sustainable and poetic alternatives. Writers like Pawlyn cite examples from the past, such as Swiss engineer George de Mestral's innovative Velcro based on the forms and functions of the Burdock burr, or Eero Saarinen's TVVA terminal at J. F. Kennedy Airport in New York where he used biomorphic forms to capture the poetry of light. And, of course, we remember Le Corbusier's *Notre Dame du Haut* at Ronchamp, with its heavy roof reminiscent of a rock overhang underneath which a mysterious space unfolds.

The discourse of biomimicry is establishing itself in world architecture and it is in this discourse that Architecture van Brandenburg is situating its own practice. There are many dissenting voices, one example being Joe Kaplinsky who "takes issue with 'biomimicry'" and the idea that nature rather than mechanical solutions is the key to unlocking architecture. He argues that biological language and analogies diminish the achievements of designers. He calls for a "humanist sense of what architecture and engineering mean in the world."<sup>8</sup> These tensions play out in many contemporary practices of architecture, and Architecture van Brandenburg's Marisfrolg project contributes to this discourse.

#### INTEGRATING

Alongside biomimicry, another discourse is relevant to Architecture van Brandenburg's practice. 'Integrated design' heals the rifts between the architect and other creative practitioners engaged in a project as they all work towards its materialisation. Rifts created through the separation of architects and artists as against master builders and craftsmen – due to the superior intellectual training of the former – hails from the time of the Renaissance and Leon Battista Alberti's intervention in the relationships between these parties. It is interesting to note that Alberti was also the architect who consoliditated one-point perspective as a single master narrative or point of view, one which would be dominant in creative practice for many centuries.

As demonstrated by Architecture van Brandenburg, many points of view can, however, be integrated into architectural design today. We have not only entered the Ecological Era through our heightened awareness of sustainability pressures, but we also now work as productive ecologies wherein a range of roles are fluidly integrated. Branko Kolarevic and Kevin Klinger write that architects are "becoming more directly involved in the fabrication process from the earliest stages …"<sup>9</sup> Elsewhere, Kolarevic writes that "designers who engage design as a broadly integrative endeavor fluidly navigate across different disciplinary territories, and deploy algorithmic thinking, biomimicry, computation, digital fabrication, material exploration … to discover and create a process, technique, or a product that is qualititatively new."<sup>10</sup> Toshiko Mori states: "The age of mechanical production, of linear processes and the strict division of labor is collapsing around us."<sup>11</sup>

Architecture van Brandenburg works as an ecology wherein they are sculptors, designers, architects, builders, painters, ceramicists – whatever the Marisfrolg project needs is paramount at any given point in their process. In an age of digital fusion in integrative design, they retain the handmade, the tactile epistemology of the crafts and the sculptor's sense of the volume and weight of materials, while embracing the digital in all its aspects. Inspired by the work of Antonio Gaudi, Fred van Brandenburg and his team set out to research geometric codices to enable nature-inspired forms to be built in a practical way.



Figure 4.



Figure 5.

#### CRAFTING

In the Marisfrolg project, the Architecture van Brandenburg way combines soaring lightly, like a bird on the wing, with grounding the building in the material and crafted properties of brick, stone, ceramic tile elements and painted detail. Following on from Rosalind Krauss's seminal article "Sculpture in the Expanded Field" published in 1979, Anthony Vidler responded with his paper on "Architecture's Expanded Field" in 2013. The notion of an "expanded field" critiques traditional boundaries between disciplines and materialities. Sculpture in an expanded field interfaces traditional techniques with the digital, with earthworks, with the filmic and so forth in order to respond to our time and its particular issues. Architecture has been more reticent, maintaining its autonomy far longer and understandably so in the light of its particular socio-economic responsibilities. Even recently, Vidler argued against the conflation of architecture with the other arts.<sup>12</sup>

Another tension thus reverberates around the practice of Architecture van Brandenburg: not only the ecological versus the humanist; but also the expanded versus the autonomous. Their focus on biomimicry places them firmly in the ecological camp; and their interest in the craftedness of their buildings aligns them with the recently expanded field of architecture. In the background one remembers Gaudi's organic forms and his ceramic details, but also Le Corbusier's interest in the crafted details achieved through his use of coffered concrete.

#### UNFURLING

Architecture Van Brandenburg is currently channeling their range of interests and alignments towards the realisation of the Marisfrolg project in Shenzhen, comprising 120,000 square metres of building consisting of a giant catwalk, a research and development area, spaces for manufacturing, warehousing, offices, a boutique hotel, restaurants and

other amenities for workers and visitors, underground parking areas, and project spaces. This ambitious project is made more so through Architecture van Bandenburg's insistence on the creative interplay between the haptic experience of touch and the visual integrity of the complex; between biomorphic inspiration and the practicalities of built forms; between integrative design in the expanded field of architecture and the architecture-specific demands of the project; and between immense scale and the crafted details provided by artists.

Spaces open to the elements, natural forms unfurl like leaves or protect space like a shell, a central space soars in oblique reference to medieval cathedrals created before the rifts between architects and others involved in the building process – Architecture van Brandenburg's work creates the 'qualitatively new,' which is more than the sum of the parts discussed. And: it's not just the product which is qualitatively new, but also the ecologically inspired direction in international architecture to which Architecture van Brandenburg is creatively contributing from New Zealand.

#### EXHIBITING

During 2014, Architecture van Brandenburg shows its handcrafted models for its Marisfrolg project in the rooms of the Museo Diocesano di Venezia Sant' Apollonia in Castello near the Doge's Palace and St Mark's Square. In these spaces, the pieces act as sculptures between which the viewer can draw architectural connections before finding the model of the whole project near the exit. The biomorphic forms incorporated into the models sit inside the elaborately arched interiors of the museo – inspiration from natural forms translated into geometric solutions across centuries: earlier for architectural purposes in a confident era; now performing a new direction for survival in our era of understandings around the fragility of our world.

When asked about his ambitions, architect Rem Koolhaas is quoted as saying:"It is to keep thinking what architecture can be, in whatever form."<sup>13</sup> Architecture van Brandenburg is participating fully in the discourses prevalent in architectural conversations today, adding their own unique voice to international discussions and to how these are being deployed in our time.

**Leoni Schmidt** is head of school and a full professor in the Dunedin School of Art at Otago Polytechnic in Dunedin. She oversees staff research and postgraduate studies, supervises candidates in the postgraduate programmes and oversees academic quality in the School. Her own research focuses on contemporary drawing and its political agency. In 2011 she recieved the Award for Sustained Excellence 2011 by the AKO Aorearoa National Centre for Tertiary Teaching Excellence.

- I In this city, Architecture van Brandenburg interfaces through public seminars with Otago Polytechnic, specifically with its School of Design and its Dunedin School of Art, and a number of Otago Polytechnic alumni are employed by the firm.
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- 3 Leslie Sklair, "The Transnational Capitalist Class and Contemporary Architecture in Globalizing Cities," International Journal of Urban and Regional Research, 29:3 (2005), 485-500.
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### **Residency Report**

# CREATED SPACE

### Woojin Kim

#### DUNEDIN SCHOOL OF ART ASIA:NZ ARTIST IN RESIDENCE

#### MAY - JULY 2014

#### 'NOW AND HERE'

I have travelled and stayed in several cities observing and collecting images of people. After filming scenes of people in their normal daily lives, I try to make unfamiliar images by reassembling and layering images in a series of repeating clichés and patterns. The resulting works reveal commonalities and variation within the layers – an anthropological journey through flickering images and shadows.

#### **'STRANGERS STAGE'**

Before leaving Korea I made a book containing information about Dunedin, with the data recorded while researching in Korea. After arriving in Dunedin I wandered in the city and gathered images without contacting locals, based on the book.

#### 'BEING LOCAL'

I met as many locals as possible and collected stories about Dunedin through interviews. I asked locals which objects, stories or places symbolised their sense of Dunedin. Through the process, I found several ideas and images common to locals in the city. This stage threw up words, locations and objects for the third stage.

#### 'FOUND IN DUNEDIN'

In the last stage, I made films based on the images and words found in Dunedin. Participants in this stage were filmed walking and making gestures, which were sequenced and layered in a new work which compares inhabitants from Goyang, Korea and Dunedin, New Zealand.

#### 'CREATED SPACE'

To involve viewers in the works I try to break the boundary between real space, where viewers stand, and the background of the films, by utilizing frame narratives and less typical materials such as silk or white ink on glass, confusing perceptions between two dimensions and three dimensions, and still and moving images.



Figure 1. Woojin Kim, installation of 'The Waves' in Created Space at the Dunedin School of Art Gallery, 2014.

#### 'DUNEDIN SOUND'

I recorded traffic and other sound around Dunedin which is different from other cities. Background music and sound are key to express the city or situation in the works.

The new work was recently shown in a group show in Korea. Here is a link to the installation view. http://vimeo. com/107594851

**Woojin Kim** has a Masters in Fine Art from Goldsmiths, University of Fine Art, London, and Ewha Womans University, Seoul, Korea. She is the Artist in Residence at Goyang Art Studio, National Museum of Modern and Contemporary Art, Korea in 2014 and 2014 Belt Project Finalist, Korea and has also been a finalist in several UK/ Korean cultural exchange awards. Woojin's current project is taking part in stages. *'Now and Here'* records images of scenes and local background sound from daily life in several international cities; Seoul, London, Nagoya, Hong Kong and Dunedin and use juxtapositions to pose questions about our 'normal' lives.

### Artist's Page

## "WINDOW SHOPPER"

### Christian McNab

The window display has traditionally had a relationship with the arts since the rise of the department store in the mid-nineteenth century. Art has a unique value which exists beyond the quick turnover of fashion. Aligning with this value, department stores sought to lure customers through window displays into physical shopping environments where leisurely consumption could commence. Many American artists including Andy Warhol and Robert Rauschenberg began their careers as window dressers in top American department stores. In earlier periods, the window display was an opulent and extravagant spectacle, whereas today we can see the influence of the 'white cube' in the presentation of objects which are aesthetically elevated through their isolation. The layout of Apple's stores was the forerunner in this approach, with the products presented reflecting their all-in-one purpose and constructed necessity in contemporary life.

The project "Window Shopper – A Fashion Showcase" was presented in the Vitrine or V-Space of the Robertson Library (the joint library of the Dunedin College of Education and the Otago Polytechnic) between 30 June and 11 July 2014. Taking the V-Space's glass display cabinet as the show's starting point, the title "Window Shopper" referred to the mechanisms of display in both digital and physical dimensions. Dissecting themes around art, fashion, and retail within a contemporary framework, "Window Shopper" presented a selection of garments designed in collaboration with artists Nikki Cain, Ted Whitaker, Spencer Hall and Lisandru Grigorut, alongside individual works, and incorporated utilitarian display devices.

The exhibition explored several crossovers from within my recent practice – themes around notions of functionality and the relationship of objects to the body. "Window Shopper" sought to extend these ideas into the digital realm, considering ideas of private and public spheres and the materiality of these spaces.

Originally I conceived "Window Shopper" specifically for the vitrine space. The V-Space is not a traditional gallery in the white cube sense. It is comfortably located within the entrance of the Robertson Library. As a space of exchange and transfer, it was the perfect environment to experiment with a project that pushed conceptual and interdisciplinary boundaries. The V-Space has a large amount of foot traffic from a mostly young student demographic, many of whom are not regular gallery visitors or who have limited exposure to contemporary art. In the installation, it was important to allow the exhibit to be looked at from any angle while playing with the reflective nature of the glass surface. I understood that many people would simply pass by without stopping, so the idea of window shopping quickly with one's eyes became a focus.

As one enters the library, a large video work proclaims "2K14" in a bright font on a white background. Where fashion has a cyclic nature, art supposedly mirrors what is culturally happening at a specific period in time. Will the "Window Shopper" collection look good next year? Or fade away, only to look good in five or ten years time? The date serves as a signature for a body of work fixed to a moment. Fresh now, potentially faded tomorrow.

"Window Shopping" refers to the activity of experiencing goods in a leisurely way without purchasing anything. In both a literal and metaphorical sense this was explored in the installation. Behind the two glass panes sit the garments, displayed in elegant perfection in the communal space of the library foyer. Clothing oneself is a private action. The installation describes an interior space which is held behind the glass screen, accessible with one's eyes but not by body or touch. The works are withheld from their normal use, instead functioning as frames for signs and symbols of digital and material culture. The single wall work presents an architectural draft print of a mirror for sale on Trade Me. Rendered as a thin digital tracing, the decorative frame maps out a private domestic space accessible from the communal space of the Web. Where exposure on the Internet is entirely about projection and the construction of our image through decorative means, the mirror reflects a physical reality enacted by the object's materiality. There are countless examples of these 'still life' works on Trade Me, each revealing an interesting observation of space. It is only through the act of selling that they become images of public spaces.

The garments constructed in "Window Shopper" reflect ideas of screen culture. Situated between casual ready-towear, surf, and comfort, the pieces subtly proclaim "pure heaven" and "2K14" in their branding. The collection could be seen as garments embodying a post-internet approach to dressing and style, where one connects with the world from the comfort of the lounge.

The collaboration process of "Window Shopper" involved sending participating artists a brief description of the project and a series of adjectives. Garments were then designed which related to the images received, with an emphasis on the material and design choices in their overall construction. Graphics were screen-printed, followed by construction in a process emulating a swift sweatshop momentum.

"Window Shopper" was the culmination of multiple interests, some related directly to my art practice, others more to an ongoing interest in design. The decision to include other artists in the project was a new development in my practice. Although I directed the initial concept and constructed the pieces, the conceptual scope of the exhibition was broadened by the inclusion of multiple perspectives. Fashion is a creative process involving many people: a designer may draw a sketch, but it is realised through a cumulative process of fluid exchange and tweaking with multiple parties.

**Christian McNab** is an artist from Dunedin. Having recently completed a certificate in fashion design at the Otago Polytechnic Design School, he is completing a BVA at the Dunedin School of Art.



Figure I. Christian McNab, Window Shopper, (2014), garment prints designed in collaboration with: Lisandru Grigorut, Ted Whitaker, Nikki Cain and Spencer Hall. Photograph by Craig McNab.

Project Report

## SNAP-MAKE-EAT-DRAW-FORM

# CLINK jewellery collaborative



Figure 1.The CLINK logo was based on the LINK bus routes schematic.

CLINK jewellery collaborative's first project was SNAP-MAKE-EAT-DRAW-FORM – an interactive public event bringing new ideas of what jewellery can be to bus stops in the CBD of Auckland. Held on 5 September 2014, it was the culmination of a week-long series of workshops convened by Johanna Zellmer (Dunedin School of Art at Otago Polytechnic) and Shane Hartegen (Hungry Creek Art & Craft School). These sessions created an opportunity to draw together the conceptually and geographically diverse communities of students and staff from Auckland and Dunedin.

The workshops, on exhibition practice and audience connection, also focussed on the changing nature of contemporary jewellery practice, from sole practitioner to collective participation and crossing boundaries. Having





examined alternative ways of presenting and showing work, it was decided that taking work to the public was the group's preferred means of showing work – rather than displaying it in a 'white cube' space – and that the City Link bus stops would provide the perfect venues for interaction.

Five bus stops were involved in the project, with a theme chosen for each one based on the particular stop's immediate environment.

At SNAP – Auckland's waterfront Wynyard stop – participants were invited to insert themselves into a souvenir-style photo by standing in front of the bus shelter pane, which had a 'royal jewels' theme drawn on it. 'Make Your Own Jewellery Kits' were handed out at Britomart for *MAKE*; these kits could be taken home (or to work) to complete. It was all about food at Vulcan Lane (aka *EAT*), where edible jewellery from a delectable array of delicious delights were used to make, wear and later eat. At *FORM* (on K Road), participants were invited to get creative along with the CLINK jewellers to form jewellery out of paper materials. The last stop, *DRAW*, found makers experimenting with chalk as a jewellery medium and jewellery trace.

Jewellery tags showed the project's logo alongside a QR code, allowing the participating public to scan and post their bejewelled selfies to CLINK's facebook page. The Dunedin jewellers who travelled to Auckland were Rose Heenan, Millie Leckie, Antonia Boyle, Amanda Konyn, Natallia Trayan, Alison Wallace and Michael Lamb. Catherine Randall, Kylie Sinkovich, Karolina van Ruiten, Robert Fear and Sarah Beaumont attended from Auckland.

https://www.facebook.com/clinkproject

Travel Report

# ELOÍSA CARTONERA, BUENOS AIRES, ARGENTINA

### Alice McKenzie



Figure 1. Children's book-painting workshops at the 2012 International Book Fair in Buenos Aires, Argentina.

The community orientation and the royalty-free philosophy of Eloísa Cartonera has sparked worldwide interest in this publishing cooperative, enticing writers, artists, filmmakers, travellers, students and academics curious to learn how they operate, and how they can take this model back to their own countries and produce books on similar lines. I travelled to Argentina and worked with the collective for ten months in 2013.

Spanish is a beautiful language. Spoken. Heard. Written. I will never tire of it. An aficionado of magic realism and Latin American poetry, I remember the first time a friend showed me a cartonera book; in our country, where cream and brown and taupe was the new black, this brazen and lustfully colourful book with its hand-painted cover assulted my senses. I was smitten. It was love at first sight.



Figure 2. A young *chica* displays the colourful fruits of her labours at a painting workshop at the 2012 International Book Fair in Buenos Aires.

Who would have imagined that this small publishing house, conceived during Argentina's economic crisis of 2003, would prove to be the inspirational model for more than 50 independiente editorial cooperativas (independent editorial cooperatives) in Latin America?

Eloísa Cartonera<sup>1</sup> was born from the labours of writer Washington Cucurto and artists Javier Barilaro and Fernanda Laguna, with the mandate of publishing inexpensive books whose covers are made from cardboard purchased from local cardboard-pickers or *cartoneros*.

During the crisis, thousands of people became unemployed and many took to the streets, collecting cardboard for sale and recycling it in order to feed and support themselves and their families. The two-wheeled carts (*carros*) of the *cartoneros* became a familiar sight as they were pulled or pushed around the streets of Argentinian towns and cities.

In solidarity with the cardboard pickers and acknowledging the stresses placed on the cultural production of literature, Eloísa Cartonera began publishing books that were affordable and accessable to all.

Established and emerging Latin American writers and poets donated novels, short stories, plays and poems to the collective which, in turn, and armed with an old Multilith 1250 printing press, began to produce and paint their iconic books.



Figure 3.The printing press that started it all, the Multilith 1250.



Figure 5. Aristobullo del Valle 666, La Boca, Buenos Aires. Books for sale out front of the workshop of Eloisa Cartonera.



Figure 4. Cardboard stencils for the book covers.

I arrived in barrio La Boca via the bus (el colectivo) 152, clutching my carefully written and vetted translation of my desire to work with the collective.

#### "Hola."

And I nervously spoke their beautiful language: my name, where I came from, how I was inspired by them ... and ... and Alejandro, smilingly, interupted me: "Please. Speak English!"

So began ten months of working voluntario with these amazing people who took this crazy Kiwi woman under their wing.

Every Wednesday I would spend an hour and a half on the bus, gazing out the window, soaking up the tempestuous streets of Buenos Aires, the beautiful architecture of this city, the Paris of Latin America. Wondering if I would ever master the sing-song chatter of the Porteños, the people of the port.

The production and sale of their books calls into question the Western model for the dissemination of literature; they are printed, collated and painted locally with the aid of people from their community. The books are inexpensive to buy, making them available to people previously ignored by traditional markets, and sold from the workshop or at fairs, outdoor markets, demonstrations and political rallies.

The cooperative's books are printed on regular A4 white printing paper, folded and stapled. The covers are cut from collected boxes, folded with a spine, and the back page is glued onto the back cover of the cardboard. Stencils are cut for the cover title, and white paint or gesso used to block in the letters before the books are individually painted by members of the collective, local kids and parents, neighbours, visitors and volunteers.

The process is simple and elegant. It involves everyone and anyone present in the production.



Figure 6. A *cartonero*'s cart and some massive bags of collected cardboard waiting for pick-up.



Figure 7. Alejandro staffs the Eloisa Cartonera street stall at the enormous Fiesta Patria Popular in December 2012. Hundreds of thousands of people took part in marches at this festival celebrating Argentinian workers and sponsored by the Department of Human Rights and Democracy (Derechos Humanos y Democracia).

I sit in the bathtub, in my clothes with Julian. It's on the road beside the footpath, opposite the corner from the Eloísa Cartonera workshop. It's summer and Buenos Aires is blistering in a 45 degree heatwave. We have been painting book covers for a couple of hours before putting down our paintbrushes and submerging blissfully into the tepid water. We chat and share that typical Argentinian drink ... maté.

A car pulls up beside us and one of the two chicos pokes his head out and laughingly asks for directions. He wants to take a photo. I say "Si, pero cuesta cinco pesos!" (Yes, but it costs five pesos.) Julian thinks that's terribly funny, and hasn't my Spanish improved ... before passing back the maté.

In 2012, the Eloísa Cartonera cooperative was made principal laureate by the Netherland's Prince Claus Awards, an annual prize awarded to individuals or organisations active in the field of culture and development. The fund, set up in 1996, "supports artists, critical thinkers and cultural organisations in spaces where freedom of cultural expression is restricted by conflict, poverty, repression, marginalisation or taboos."<sup>2</sup> The 100,000 Euro prize money has enabled the editorial group to continue to grow and expand their catalogue, and purchase a newsagent's kiosk on Buenos Aires' Avenida Corrientes where they now sell their books, books from other Latin American *cartonera* publishers as well as regular newspapers and magazines.<sup>3</sup>

We take a colectivo to barrio Palermo, two big rucksacks heavy with painted books. Ricci and Julian shoulder the potential. We sit in a cluster, sharing our kilo weight of sweet bread shapes. La Osa (the bear), a former cartonero, points out heritage buildings and warns me about other streets, places, should I be wandering around on my own, to take care. Cuidado. We set up in a back bar area of a swanky restaurant and display the rainbowpainted books. Stylishly dressed Porteños flock around and finger the books. The table beside us holds the newly and traditionally printed books of three poets who wait nervously, ready to read excerpts from their works. I sip my wine and let their words seep into me.

Muchus abrazos y besos por sus amistad. Xxx



Figure 8. Eloisa Cartonera book-painting table at the Fiesta Patria Popular. It was a fabulous day, blisteringly hot and marvelously chaotic. We made lots of new friends and I got to practise selling books in Spanish! (author second from right)



`Figure 9.The workshop, the bookshop, the painting shop, the hangout spot.Two blocks down from the Boca Junior football stadium is the magic place where Eloisa Cartonera brings its philosophy and community to the world.

Alice McKenzie, aka Alice Anonymous, has a BA Creative Arts (Hons) in ceramics, from Griffith University, Queensland, and a Grad Dip Education from the University of Otago. She is a writer and visual artist with a penchant for street theatre and performance art events. Having returned from a year of adventures in South America, she is teaching secondary school art, English, media and fabric technology.

- I http://www.eloisacartonera.com.ar/ENGversion.html (accessed 15 Aug 2014).
- 2 Prince Claus Fund for Culture and Development, Programmes, About, 2012, http://www.youtube.com/watch?v=b2IVI-ai68A (accessed 15 June 2014). See also http://www.princeclausfund.org.
- 3 University of Wisconsin Digital Collections Center, Latin American Cartonera Publishers Database, http://uwdc.library.wisc. edu/collections/Arts/EloisaCart (accessed 5 June 2014).

Article

# LEARNING TO LOVE: RECONSTRUCTING AND EXTENDING NARRATIVES THROUGH THEORETICAL AND ART PRACTICES

Susan Helen Taylor



Figure 1: Susan Helen Taylor, *Learning to Love*, paper, textiles, and glass. Installation view at Dunedin School of Art, Otago Polytechnic, 2010.

The main subject of this article is the conceptual theme on which my 2010 artwork, *Learning to Love*, rests. This theme is an exploration of the human potential to move from a primary negative position of lovelessness towards a mature decision to reject this scenario and take up a self-selected positive position of love towards oneself and others.<sup>1</sup> A position of lovelessness is a negative psychological survival choice made by a child at a very young age. It is the decision to introject<sup>2</sup> the projections<sup>3</sup> that have been pressed upon them by their primary attachment figure

or figures.<sup>4</sup> I have chosen this conceptual theme for my work not only because I find it theoretically interesting, but also because it reflects my own personal process of development. This melding of intellectual and emotional perspectives is important because I believe it to be textually more enriching than a singular approach. Here, I am talking about both this article and the artwork as texts. Correspondingly, as I am strongly influenced by second wave feminism, I am committed to weaving personal perspectives and experiences with academic perspectives and knowledges. I use this as a feminist strategy for subverting the patriarchal division between the public and the private in which the public is seen as masculine, active and dominant and the private as feminine, passive and submissive.<sup>5</sup>

My academic research fields are psychoanalytic, social/cultural and feminist theories and expressions, as well as personal experiences and observations by myself and others. The psychoanalytic and social/cultural theories, usually sourced from feminist or feminist-friendly perspectives, relate to the development of ego states and emotional intelligence<sup>6</sup> in children and often explore how primary attachments and object relations affect development of these states and thus psychic development. Following on from this, they also explore theories and practises related to understanding and healing childhood traumas.<sup>7</sup>

To allow for a comprehensive understanding of *Learning to Love*, I will explain some of the long and dense history from which this artwork was developed. This title is derived from my reading of a trilogy of books, and a follow-up book, by bell hooks on the subject of love.<sup>8</sup> bell hooks, who defines herself as feminist and black, is a writer, academic and activist whose sensitive and positive theoretical approach to socially marginalised people, as expounded in the late 1980s and early 1990s in texts such as "Marginality as a Site of Resistance,"<sup>9</sup> aroused my theoretical interest and personal empathy. Throughout these writings, hooks postulates love as "an ethical construct consisting of tangible elements that need to be learned and practised."<sup>10</sup> hooks partially unpacks this statement, in *All About Love: New Visions,* when she writes: "To truly love we must learn to mix various ingredients – care, affection, recognition, respect, commitment, and trust, as well as honest and open communication" and "responsibility."

Familiar with previous writings by hooks, it did not surprise me that hooks mirrors my own experiences when she opens the preface to All About Love: New Visions with the words: "When I was a child, it was clear to me that life was not worth living if we did not know love. I wish I could testify that I come to this awareness because of the love I felt in my life. But it was love's absence that let me know how much love mattered."

An artistic expression of this sentiment, "Lost, One Blue Rabbit," an episodic short story written by me (1980s, revised 1990s), became the direct inspiration for the artwork *Learning to Love*. "Lost, One Blue Rabbit" is a story about how children project their difficult or painful states of mind onto their play objects – in this instance, a young female child onto an early 1950s rabbit, teddy bear, koala and glamour doll – in attempts to rid themselves of these unwanted ideas and feelings that have become introjected aspects of their personality. The epilogue to "Lost, One Blue Rabbit," however, alludes to the fact that adults need not remain stuck in these primal traumas, which will still be numbing their being and adversely affecting their experiences, especially their relationships. They can use human attributes such as intelligence, awareness and creativity, and human knowledges such as disciplines and their discourses, to resolve and transform these internalised conflicts into life-enhancing paradigms for healthy living.<sup>11</sup>

When deciding to bring this written work into a fine-arts arena by reconstructing it as an artwork, I also decided to shift the emphasis away from the trauma of the episodes and onto the healing potential inherent in the epilogue. With these decisions, I set myself major challenges in how to conceptually and materially achieve these transitions. After trying to reduce all of "Lost, One Blue Rabbit" to a single printed piece, or expand it into a complex diorama, it occurred to me that the rabbit and the teddy bear, being major constructs within the original story, were conceptually strong enough to carry most of the altered and expanded meanings and feelings I wished to portray. And, I concluded that any audiences might well operate as valid stand-ins for the child in the story and the adult in the epilogue as, with their varied perceptions and responses, they would bring many introjections and projections to the artwork. Anything else needed from the story could be minimally expressed within the site in which the toys were eventually contextualised.


Figure 2: Susan Helen Taylor, Learning to Love: Rabbit, 2010. paper and textiles, 1.70 x 260cm.

Once the above underpinnings were satisfactorily formulated, my energy became focused on how to make the two toys in complementary visual forms. My first impulse, as a printmaker, was to stay within the bounds of paper and ink as much as possible. This led me on a long search to find methods, skills and materials through which I could achieve this aim. There were times, however, when I deviated from this aim. I believe that in order for my artwork to be effective, it has to have significance for me. I achieve this through things such as colour choices, material selections and other visual choices, as well as through the range of feelings I go through in the making of an artwork. For example, the bodies of the two toys are made from fabric taken from the lining of curtains that belonged to my mother. My mother shared her choice of these curtains with me with great pleasure, and I responded with equal pleasure. This created a moment of warm intimacy between us. Years later, however, these same curtains became objects onto which my mother projected much pain and distress. By using scraps of these curtains in *Learning About Love*, I hoped to imbue myself, and thus the artwork, with positive meanings and feelings while still retaining echoes from the curtains' previous life. My audiences may not be directly aware of these dynamics, but they are important creative emotional drivers in the construction of this artwork. To quote the Melbourne-based artist, Patricia Piccinini:

I see my work as a series of propositions that relate to theoretical issues, but which also contain an emotional element that complicates things. I like this complication because it is like life. Ideally, these things will disturb you even as they warm you. ... The experience and possibility of empathy are important to me. My work is not dry, cool and rational: it is wet, warm and emotional.<sup>12</sup>

Polonius, in William Shakespeare's play *Hamlet*, counsels Ophelia: "By indirections find directions out."<sup>13</sup> This advice bore fruit when I had to decide how and in what materials to construct the outer coats of the rabbit and the bear. In doing the research for this, I embraced the intense eclecticism to which I am drawn and worked with the belief that if I researched far and wide, I would eventually find 'something' that spoke to me in terms of what I wanted the work to say and the way I wanted the work to look. This 'something' turned out to be the floral aspect of the craft of paper quilling.<sup>14</sup> Paper quilling is a traditional hand-made art/craft form that involves rolling, bending, pinching and sometimes fringing thin strips of paper into various decorative shapes and designs. Within the field of quilling I found inspiration from artists and craftspersons such as Margaret Haigh, a designer who, in 1989, spent six months

of evening work creating, in four shades of blue, a quilled facsimile of a plate from the traditional willow pattern china range.<sup>15</sup> The attention to detail, the intricacy and the beauty of this piece, that paralleled so well my own aesthetic tendencies, made me eager to explore the craft of quilling further. It was through looking at a picture of J Davies's quilled lion's head that I finally decided to use quilling in my artwork. Davies chose quilled motifs that reflected the shaggy look of a lion's head and used a range of colours that gave the lion character. Consequently, out of a wide range of options, I chose several different styles of quilled flowers for the surface of each toy to give that toy its individuality while, at the same time, connecting the toys through the common theme of quilling.



Figure 3: Susan Helen Taylor, *Learning to Love:Teddy Bear*, (detail) 2010.



Figure 4: Susan Helen Taylor, *Learning to Love: Rabbit,* (detail), 2010.

Quilling has other advantages as a material means. The paper strips used in quilling come in a workable range of widths and a multitude of colours, with many shades within each colour. This is very pertinent within my work because I am using colour both as a way of expressing a wide range of meanings and feelings, and as a way of attracting a wide audience. For example, the available quilling paper colour range allowed me to set up a colour palette for the bear that would symbolically represent the full range of human feelings. I created a 19-shade and tone spread ranging from glossy intense black – representing the most painful feelings or the blocking off of feelings by repression – through to radiant light cream, representing the lightest and most enlightened joyful feelings or the releasing of feelings from repression. The fact that quilled pieces are 3D in form allows for textural effects, and when they are clumped together or placed side by side they create surfaces that many viewers want to touch as well as look at.<sup>16</sup> Paper quilling strips also conform to current conservation standards – a factor that I consider to be important in the type of work I am producing, as I intend these objects to last over a long time and to be passed on in some way, just as their prototypes often are in the domestic world where these type of toys are usually found. At the same time, the turned-back fringing on the flowers used for the bear's coat created a flat yet highly textured surface that was a viable substitute for a bear's coat. These fringed flowers also give the bear a spiky look and feel that could well represent left-over painful feelings from his past life of lovelessness.

For *Learning to Love*, I did a lot of research using children's picture books that are created to familiarise children with a full range of feelings and their healthy expression. For, as hooks says in *All About Love: New Visions:* "We learn about love in childhood." As social creatures, in order to lead full and healthy lives and develop into fully functioning adults, children need to learn to develop and maintain varying degrees of relationship. Also, as adults we are able, through a restructuring of our psychological processes, to mediate, unlearn and/or relearn how to live in the world, with ourselves and others, in better, more life-enhancing ways.<sup>17</sup> It was with this purpose in mind, and with the purpose in mind of trying to encapsulate these ideas in an artwork, that I began to look at children's picture books as a form of expression for development away from trauma. It was through researching these texts that I found ways of shifting the toy's subjectivities from a position of trauma, as narrated in four episodes in the original short story, to a more balanced and healthy state of being, as posited in the epilogue to the short story and as represented in my artwork.

The multiple reading I did of these books became a very emotional and visceral experience, which was appropriate as one of the main artistic intents of my artwork is to communicate emotionally and viscerally with my audiences.

When I was a child, few such books existed. We have recently started producing them as we have come to understand the importance of positive feelings in a child's life and the destructive psycho-social effects of the traumatic negative feelings that are, all too often, part of some children's everyday experiences.<sup>18</sup> For me, these powerful representations of childhood function as theory in practice. They give children, at a very early age, a means by which to learn about and identify with a wide range of human feelings and information on how to express and moderate such feelings, especially in relationship to self and others. To exemplify these children's books I have chosen lan Falconer and his "Olivia" series, in which he personifies a piglet.<sup>19</sup> These books appeal to both children and adults and mirror myriad aspects of young children and their behaviour. In one instance, a sequence of pictures shows Olivia looking very assured and pleased with herself as she drags a long-suffering cat from room to room and back again many times (exactly as my 3-year-old friend Misha does with the family cat, Coco). Within Olivia's household there is no patriarchal figure who comes along and "wounds the spirit" with unnecessary stoppers and harsh words or action.<sup>20</sup> Olivia's is a household where children can be fully child-like, and love blossoms because of this.



Figure 5: Susan Helen Taylor, *Learning to Love: Teddy bear*, 2010 Paper and textiles, 2.40 ×1.60cm.

No aspect of young children's behaviour or emotions, however, are glossed over or avoided by Falconer not even the most full-on tantrums or deepest fears. However, each aspect is presented in ways that are endearing, humorous and real. For a child reader, there are two or three main aspects to Falconer's methodology. Firstly, the words and drawings are simple enough for a young child to assimilate and, because of this, they can easily be used by the child as a mirroring technique to help them within a wide range of feelings, circumstances and relationships. And so it was with me, too. I found these deeply insightful and uncluttered books enabled me to reconnect with my child within that still needed and longed for meaningful connections with self and others, and a full range of feelings with which to achieve these connections. These children's books, then, became the main emotional base for the transference of these feelings from me to the toys in Learning About Love.

"Lost, One Blue Rabbit" was written from a position of feelings of lovelessness, as exemplified by the teddy bear's fate: "Teddy ... was a stupid, clumsy, nasty bear of no account .... By way of punishment, Teddy was consigned, once more, to darkness and isolation ....<sup>"21</sup> *Learning to Love*, however, was constructed from an ever-growing and expanding position of feelings of love for self and others. That this new position was being expressed through the physicality of the bear was tested through my own feelings towards bear; feelings such as care, affection, respect and appreciation – responses that were a far cry from the girl's responses to bear in the original story. And, because bear was completed long before he needed to be placed in situ, I was able to introduce him to many people in varied situations and places. An overwhelming number of people expressed feelings similar to my own. Interestingly, there were a few responses that indicated bear triggered feelings of distress and unease. I like to think this meant bear was echoing shadows from his previous existence, as I had intended. But I cannot be sure of this. However, these experiences strengthened in me the idea, inherent in hooks' model of love, that acting from a position of love is more likely to engender loving responses than acting from a position of lovelessness.



Figure 6: Susan Helen Taylor, *Learning to Love*, 2010, paper and textiles and glass. Installation view at Dunedin School of Art, Otago Polytechnic, 2010.

I was unable to get similar audience feedback on rabbit before she/he (the gender of rabbit is still not fully established in my own mind) was placed in situ. My own feelings towards rabbit, though, were far less resolved than with bear. As far as I was concerned, bear was satisfactorily finished but rabbit was not. In the rabbit episode of "Lost, One Blue Rabbit," rabbit became the girl's love object, "and she poured out to it everything she had to give. The giving was immense." So, when "rabbit was lost and could not be found anywhere ... once again, her tiny world became stark and barren as priceless feelings dwindled and seeped away." The potential expressed in the epilogue to recover "the everlasting spirit (the soul, if you must) of blue rabbit" through "the act of creating stories and myths from the material of our life tenancies" has not been achieved to my satisfaction in the materiality of the rabbit in *Learning About Love*. From these personal reactions alone, I have concluded that there is still important work to be done on the psychological and thus the physical transition of rabbit from story to artwork.

This is also true of some of the other elements in the final installation. The glass swing and the glass plinth, with the ambiguity of their fragility and their strength, satisfy my sense of transition. So too does the booklet, on which the

sleeping rabbit leans, as it contains both hooks' ingredients for love and blank pages just waiting to be filled. However, the positioning of all the objects within the installation may need more thought for the work to be fully resolved. Does the positioning of the objects say enough about the relationship between bear and rabbit in terms of the transition? Am I really satisfied with all aspects of the work? Again, I have not yet garnered and considered a diversity of audience feedback on these aspects, let alone, I now realise, completed my own processes here. To do so could be both interesting and productive. Not least because embedded in these thoughts are questions, such as when is a work finished and how do we, as artist and audience, judge this?

The influences of researched artists and their works within a specific artwork, or an oeuvre, can be either explicit or implicit. It has been my experience – and I lean on my eclecticism here – that these many influences, and what they bring with them, may not be immediately (if ever) known. The implicit aspect of research was brought home to me during the making of this artwork when, needing a break, I leafed through *Elizabeth Thomson: My Hi-Fi My Sci-Fi*, a book published in 2006 to coincide with a major survey of this New Zealand artist's relief sculptures and prints.<sup>22</sup> I researched Thomson, then, because I had seen this exhibition in Dunedin and found her work stimulating and aesthetically pleasing. In works such as *Snake River*, 2004, and *Flight Test*, 2005-6, Thomson repeatedly used a green-coloured, stylised spiky form, produced in various sizes of heavy painted metal and placed in relief on a plain flat surface, to draw the viewer toward and into her works. This use of repetition became a major element in my artwork, *Learning About Love*, as a device for carrying states of mind and for showing the variety of feelings within those states. Relooking at photographs of Thomson's two works, I suddenly made a strong connection between her visual strategies and the strategies I had employed to make the outer covering for the bear and the rabbit in my work. I felt no doubt that this connection was an example of an implicit influence that had surfaced while working. Because of this experience, and others like it, I contend that the research on artists and their works that one does is not usually wasted, even if it seems not to be relevant at the time.

The many other artists and theorists I researched for my project, and who have strongly influenced me in my work, tended to fall into strands, with one artist pointing the direction towards other artists. Louise Bourgeois and Tracey Williams theorise, pictorialise and explicate artistically feelings and the formation of identity, especially in women. To quote Hans-Ulrich Obrist: "Bourgeois' words – spoken and written – are less about the meaning of her art than about the emotional forces behind it: namely, her autobiography, past and present experience."<sup>23</sup> Explicit in this quote from Obrist is the fact that Bourgeois brought the force of her emotional life and her understandings of those emotions to bear in many of her artworks. This fact, which includes her feelings about gender, makes her interesting to me as a practising artist involved in a particular project and as a theorist who analyses art, including her own.

Hannah Höch, Paula Rego, Yinka Shonibare and Kara Walker all aroused the political activist in me (and, as a feminist, the private lives of children are very much a political matter to me) through their exploration, in their artworks and their writings, of political and social issues such as slavery, racism and sexism (Walker); violence, abuse and displacement (Rego); colonialism and racism (Shonibare); and sexism and fascism (Höch). Lotte Reiniger, the silhouette animator, was the starting point for looking at 3D shadow work which then became a research quest for paper artists, which lead me to contemporary artists in this field such as Andrea Dezsö, who creates tunnel books for adults and children; Helen Musselwhite and Peter Callesen, both of whom have perfected paper-cuts in 3D forms; and Sam Buxton, who has shifted 3D paper cutting into the realm of miniature and life-size architecture through his use of metals.

In looking at some of the photographic works of Loretta Lux, I got the closest I came in my research to a visual evocation of many of my childhood feelings. In the photograph "Girl with a Teddy Bear," the 1950s-type clothes the girl is wearing echo my school uniform from that time, and the teddy bear she holds evokes "the hard and unyielding" quality that is so traumatic to the child in "Lost, One Blue Rabbit." Lux's photograph "The Green Room" points to extremely uneasy psychological states of mind through the placement of the two children who feature in it, the framing of and type of architecture of the room they are in, and the aesthetic beauty of the soft, muted colours that created a nostalgic feeling of isolation and distance between the girl and the boy. The feeling in the

photograph reflects my relationship with my brother which is at the heart of the teddy-bear episode in "Lost, One Blue Rabbit," and that has been almost fully resolved in *Learning to Love*. Lux's photographs have allowed me to see that other artists are producing works (in other media, too) that resonate with me and allow me to understand that I do not stand alone, either in my childhood experiences or in my creative expressions of them. As Lux said of the children in her photographs in an interview with author, Louise Baring:"I use them as a metaphor for innocence and a lost paradise."<sup>24</sup>

"Lost, One Blue Rabbit" is primarily about such loss and the result this has on a child's development if this loss comes too early and too harshly. By contrast, *Learning to Love* is primarily about giving up childish fantasies, about being unconditionally loved and learning that adult love is about practicing the art of loving. It is not by chance that Eric Fromm ends his book *The Art of Loving* with the words: "To have faith in the possibility of love as a social and not only exceptional-individual phenomenon, is a rational faith based on the insight into the very nature of man."



Figure 7: Susan Helen Taylor, *Learning to Love*, 2010, paper and textiles and glass. Installation view at Dunedin School of Art, Otago Polytechnic, 2010.

So, where does all this theorising, writing and art-making leave me at this point in time? In the end, for me at least, the difference between lovelessness and love lies in our human ability to become integrated beings who are able, much of the time, to be highly functioning individuals and members of society while, at the same time, accepting of our own and others' human limitations. To what degree *Learning to Love* reflects the shift from lovelessness to love that I desire is, perhaps, not for me to judge. Like all human beings, I still adopt introjections and ascribe projections that colour and distort my perceptions. This fact, however, will not stop me from making critical assessments and judgements and from carrying these into how I approach research and construct future projects. What I can say now is that the research and creative work done for *Learning to Love* and this article has been full of feeling, and has given me understandings and clarities that I did not have before. Hopefully, audiences who read this article and see and touch my artwork will gain such rewards, too.

**Susan Helen Taylor** is an artist and writer who completed a Bachelor of Fine Arts at the Dunedin School of Art, Otago Polytechnic/Te Kura Matatini ki Otago, in 2010. Coming from a background in both crafts and the humanities, she seeks to bring these two strands together through the creation of fine art objects.

- Bell hooks, All About Love: New Visions (New York: HarperCollins, 2000).
- 2 The online UK version of the Encarta Dictionary defines 'to introject' as ''the unconscious adoption by someone of the values or attitudes of another person, whom he or she wants to impress or be accepted by.'' In this sense, introjection is a psychological term. There are many people who have theorised introjections. The main source for this essay has been Fritz Perls, who founded the gestalt approach to therapy. See Fritz Perls, *The Gestalt Approach and Eye Witness to Therapy* (Palo Alto, California: Science and Behaviour Books, 1973).
- 3 The online UK version of the Encarta Dictionary defines projection as "the unconscious ascription of a personal thought, feeling, or impulse, especially one considered undesirable, to somebody else."
- 4 Hooks, All About Love.
- 5 Hélène Cixous explores this theme in her essay "Sortie," in which she metaphorically searches for women within institutions structured by patriarchy such as Western religions and philosophy. See Hélène Cixous, "Sortie," in Modern Criticism and Theory: A Reader, ed. David Lodge (London: Longman, 1987).
- 6 Although the term 'emotional intelligence' is being contested in many academic circles, in my opinion, no better term has yet been postulated. See *Emotional Intelligence: An International Handbook*, eds Ralf Schulze and Richard D Roberts (Washington: Hogrefe & Huber, 2005).
- 7 Theorists and practitioners such as Sigmund Freud, Carl Jung and Melanie Klein are some of the traditional starting points for understandings of psycho-social phenomena, human development and therapeutic methodologies. For more recent theorists and practitioners, one might start with people such as John Bowlby, Abraham Maslow, Donald Winnicott, R. D. Laing, Fritz Perls and Eric Berne, from among many possible choices. Contemporarily, Robert Neborsky, Marsha M. Linehan, Peter Fonagy and John Bradshaw are some who have come to the foreground in this ever-expanding field.
- 8 All About Love: New Visions (2000) is the first in hooks' trilogy. Salvation: Black People and Love (2001) is the second and Communion: The Female Search for Love (2002) is the last, with The Will to Change: Men, Masculinity and Love (2003) being the follow-up book.
- 9 bell hooks, "Marginality as a Site of Resistance," in Out There: Marginalization and Contemporary Cultures, eds R Ferguson et al. (Cambridge, MA: MIT, 1990), 241-3.
- 10 In creating this postulation, hooks refers to and builds on Eric Fromm's book The Art of Loving (New York: Harper, 1956). Interestingly, Fromm's book was one of the first philosophical/psychological texts I read, and I have thought about and referenced it many times since my first reading in the 1970s.
- 11 John Bradshaw, in his book Creating Love: The Next Great Stage of Love (New York: Bantam, 1992) gives a moving account and psycho-spiritual analysis of the state of emotional numbness and the processes through which it comes into being. Bradshaw also offers insights into how this state can be overcome. Bradshaw is an expert in the use of family systems psychology alongside other psychoanalytic and therapeutic systems.
- 12 Patricia Piccinini In Another Life (Wellington: City Gallery Wellington, 2006).
- 13 Quote from William Shakespeare's play Hamlet, as given to me by Bridie Lonie in conversation in 2010.
- 14 Quilling was also known, at different times and in different places, as paper-rolling, paper-scrolling, paper fligree and paper mosaic. Although the origins of paper quilling are not clear, they seem to be connected to the invention of paper in China in 105 AD. Entering Europe in the twelfth century, paper quilling was most often used in the decoration of religious artefacts and, later, in furniture decoration. The name quilling originated in England where the quill of a feather was used to roll the paper strips, and by the nineteenth century paper quilling had entered the home as a 'genteel' form of decoration for a wide range of objects as diverse as coats of arms, tea caddies and greeting cards. In the twenty-first century, quilling is experiencing a global resurgence within the art/craft spheres, with major quilling exhibitions being held in the US and England. See Trees Tra and Pieter van der Wolk, *The Art of Quilling* (NSW: Kangaroo, 1993) and Conny Freyer Troika, Eva Rucki and Sebastian Nöel, *Digital by Design: Crafting Technology for Products and Environment* (London: Thames Hudson, 2008).
- 15 Chinese porcelains in blue and white date from ancient times, and in the 1700s China exported tea sets to Britain. These became very popular, and around 1790 Josiah Spode developed a new range based on a Chinese pattern. This complex pattern was named the willow pattern.
- 16 This first became evident during the making of the toys when I passed them around asking for feedback.
- 17 hooks, All About Love.

- 18 See note 7 above.
- 19 Ian Falconer, Olivia Saves the Circus (London: Simon & Schuster, 2001); Olivia and the Missing Toy (New York: Simon & Schuster, 2003); Olivia Helps with Christmas (New York: Simon & Schuster, 2007).
- 20 The quote is from hooks' All About Love.
- 21 From "Lost, One Blue Rabbit." This story, written by me, has never been published.
- 22 Gregory O'Brien, Elizabeth Thomson My Hi-Fi My Sci-Fi (Wellington: City Gallery Wellington, 2006).
- 23 Louise Bourgeois, Destruction of the Father / Reconstruction of the Father: Writings and Interviews, 1923-1997, eds Marie-Laure Bernadac and Hans-Ulrich Obrist (Cambridge, Mass.: MIT Press, 1998).
- 24 Louise Baring's interview with Loretta Lux, 12 March 2005, www.telegraph.co.uk/culture/3638552/l-use-children-as-ametaphor-for-a-lost-paradise.html.

## Artist's Page

## THREE PUBLIC WORKS 2014

## Aroha Novak

### FOREWORD

These three projects undertaken over the past year represent a concentrated effort to move art into more public spaces. The differences between each project have been immense – ranging from the people involved, the audience reached, the location and demographics of the area chosen, as well as the approaches taken by the various organisations involved. The common thread that unites them all is the notion of dialectic; all three projects have created an ongoing dialogue within their particular environments, prompting engagement from a wider audience.

# PROJECT #I: "THE WILKIE ROAD ART PROJECT," A COMMUNITY YOUTH PROJECT FACILITATED BY THE MALCAM CHARITABLE TRUST

For a long time, myself and two other artists had been trying to find a shared studio space where we could house a small wood workshop – a moveable gallery space as well as a place to run art workshops. We had an inkling of an idea to create a community-based project where we would pinpoint a particular spot that needed some attention in our local area and get youth involved to create a large-scale mural. This idea had been percolating for a couple of months when, fortuitously, Michaela Carrington, a youth worker with the Malcam Charitable Trust, put a call out for a local artist to help work on a youth project in South Dunedin. I replied with energetic vigour and brought four



Figure I. Aroha Novak, Wilkie Road Before (2014), digital photograph.

other local artists on board: Anna Perry, Guy Howard-Smith, James Bellaney and Anya Sinclair. This project eventually became "The Wilkie Road Art Project"; it turned into a gargantuan effort involving over 70 young people, twelve different youth organisations, a plethora of sponsors and a wall almost two hundred metres long.

The plan was to get local youth invested in their environment and stop unwanted tagging by allowing them to place their future aspirations and dreams on a stretch of wall running along Wilkie Road. We held two art workshops for each of the youth organisations involved prior to painting the wall, and helped them visualise concepts through drawing and planning their finished pieces. Once these sessions were complete, we had the task of helping these young people paint their pieces over 'Youth Week,' a week-long celebration of youth in New Zealand. Most participants were aged between 16 and 20 and had fallen through the cracks of the school system, instead going on to training and work courses run by a variety of youth organisations.

This project was extremely stressful, fun, rewarding, time-consuming and skill-building. It was a trial run to see if we really could pull off such an epic task, so that there could be potential for more. As individual artists, it was great to build a camaraderie with our peers and help younger people achieve their vision. There were a few challenges – on one occasion, a group of youths stole some spraypaint from the project and went on a tagging spree through South Dunedin. In addition, the transition from the relatively controlled classroom workshop setting to working outside on a public roadway marked a major shift in behaviour and attitudes – a definite learning experience. The project highlighted the importance of communication and the need to appoint a project manager to coordinate the large network of people involved, as well as the importance of creating boundaries within such a project. It was refreshing working collectively as opposed to individually; there was a real sense of achievement at the end of such a mammoth effort.



Figure 2. Aroha Novak, Wilkie Road After (2014), digital photograph.

### PROJECT #2:"HUMAN HUBRIS," ART TARDIS, MOVEABLE GALLERY, NORTH EAST VALLEY, DUNEDIN

The Art Tardis is a project under the auspices of the North East Valley arts and performance collective, Northern ARTery. It is a moveable gallery, designed specifically to house sculptural works. A clear perspex cube measuring 60  $\times$  60  $\times$  60cm, with metal framing, sits on top of a heavy-duty stainless steel plinth and platform. Jasmin Lamorie, who has a BFA from the Dunedin School of Art and is the mastermind behind the gallery, asked me to make a sculptural work for the opening of the Tardis.

After much deliberation about trying to make something specific to North East Valley, I felt I was grasping at grains of sand. Being a democratic citizen, I wanted to create a work that could 'move' around the city and appeal to people living in any of Dunedin's suburbs. The notions of public land or commons, ownership and privatisation and free space or 'nospace' have been a recurring train of thought for me in recent times. Not to mention the seascape and questions of what entity controls it - is the sea public space? Can anyone claim a section of current, or do you need to have a multinational in your handbag? This led to the question of what a gas or oil rig might look like in the southern seascape. Would it be visible from shore, or out of sight, out of mind? After scavenging an unusually large feather cache at St Kilda beach, I decided to use these feathers as the material for a three-dimensional model of a gas rig. This model was based on a (two-dimensional) picture of a rig in the Gulf of Mexico, further removing the actual object from reality.



Figure 3. Aroha Novak, Human Hubris (2014), feathers, glue,  $50 \times 50 \times 50$  cm.

Hubris is the Greek word for 'extreme arrogance,' and an object made from feathers suggests that, in this instance, this arrogance is directed towards the environment. The project questions and examines what a structure like a gas rig might look like in our southern seascape, and the benefits and repercussions it could have on our environments, both natural and manmade. The use of seabird feathers gave a voice to the wildlife, the creatures which would likely be most disrupted by such structures being placed in the South Pacific.

### PROJECT #3:"SWEET CHILD O MINE," REAR WINDOW GALLERY, DUNEDIN PUBLIC ART GALLERY

The 1980s power rock ballad, *Sweet Child O' Mine* by Guns N' Roses, describes the desire to protect childhood innocence. In the 1980s, the oldest department store in Dunedin was the DIC building, built in 1884, while the present Rear Window Gallery was an old advertising and display space situated at the back entrance of the shop. After a hundred years of economic growth, the DIC department store was feeling the effects of the economic bubble of the 1980s. This story of the decline of a once highly profitable business has been told many times over: Access to a cheaper labour force overseas has created major holes in Dunedin's economic pockets, Fisher & Paykel and Hillside Railway Workshops being just two examples.

Presented as a faux advertising campaign in hyperactive colours emitting a jewel-like glow, Sweet Child O Mine aims to entice the viewer. Upon closer inspection, the images are layered, rendered in different mediums and style of execution, mixing nature and machine, the derelict and functional, childhood and 'grown-up.'

This lightbox work conjures up conflicting images of industry, productivity and progress – through powerlines and flying machines – juxtaposed with the rubble and natural 'lakes' that have formed at the demolished site of the Carisbrook sports stadium, along with cars turned upside down and 'exotic' flowers. All these images were taken in and around Dunedin, creating a library of resources that can be selected and edited to conjure new fictions. The historic site of the DIC building has been a place of economic boom and bust, much like the site of the demolished Carisbrook stadium. Both hold many years of memories, and both have entered new phases of their lives.

The children in this image are looking at both past and present, leaving the audience with the question – where do we go now?

### AFTERWORD

Having the freedom – or necessity – to move between many different roles – from facilitator to artist to negotiator to administrator to marketer to accountant to teacher – has been both challenging and rewarding. The challenge faced by any practising artist who seeks to move between fields is that you have to be multi-faceted – and hold down a day job.

This is something that should (hopefully) become easier with practice, so watch this space!



Figure 4. Aroha Novak, *Sweet Child O Mine* (2014), photographic printing, acrylic paint, spray paint, printed vinyl, fluorescent tubes, sound, 3.4 × 3m.



Figure 5. Aroha Novak on Wilkie Road. Photo: Victoria Gillies.

After growing up in Dunedin, **Aroha Novak** graduated from the Dunedin School of Art with a Bachelor of Fine Arts in 2007, and then completed a Master of Fine Arts with Distinction in 2013. Living and working in Dunedin, Novak uses a variety of media to interrogate issues of escapism as well as the social, political and economic inequality prevalent in contemporary society. Her work encompasses sculpture, installation art, painting, sound, drawing and video.

### Artist's Page

## LINK

## **Mutahir Ariff**

My recent studio work has focused solely on Islamic geometrical patterns, with my earlier figurative work in animation taking a back seat. However, I would not be truly sincere in saying that I do not still yearn for animation. My decision to abandon the animation industry also meant leaving the group of friends who were like a family to me, familiar faces who shared the same artistic goals and vision. I still find myself blown away after watching a newly released and sublime piece of animation, astonished at the new heights that the latest technology brings to the craft, while at the same time marvelling at the power of stories to move the human spirit. With each piece I wait, as before, until the end credits roll just so that I can acknowledge the creators of these latest masterpieces.

Three video artworks, completed during the first year of my postgraduate studies, *Kelp*, *Moss* and *Sand* (2013), are proof of my unwillingness to let go of the moving image. Nevertheless, these works unintentionally strayed away from animation and abandoned the depiction of figurative creatures. Unknowingly at this time, I entered a state of introspection in choosing nature as subject matter. Regarding this, I quote Moustafa who says, "conscious reflection upon nature and all its composites is enough to inspire a purity of heart."

A surprise finding resulted in the formation of the pieces eventually chosen for my final studio projects: *Link* (multimedia), *Untitled* (projection) and *Hajib. Link* (2014) was my first foray into the exploration of Islamic geometrical patterns. It consciously referenced popular Hollywood feature animation, in terms of the borrowed colour palette, and acted as a bridge connecting me to my past line of work. *Untitled* (2014) was inspired by Islamic parquet 'deformations' created by Craig Kaplan. Kaplan's work was based on research by William Huff, and was later popularised by Douglas Hofstadter who in turn had been influenced by M. C. Escher's *Metamorphosis* series.<sup>2</sup>

I extended Kaplan's spatial animation work by applying the animation principles, known to most professional animators, to the star forms of Islamic patterns. Although Kaplan was successful in rendering his Islamic star patterns by way of an inference algorithm written as a standalone and executable Java application, he conceded that "(t)he construction of Islamic parquet deformations requires many separate invocations of the inference algorithm, and [was] currently too slow to run interactively."<sup>3</sup> To solve this problem, I adopted a more traditional approach by constructing the parquet deformations animation the old-fashioned way by using a more basic technique, frame-by-frame animation. The drive to realise Kaplan's vision of "a gently changing geometric design that is still recognizably Islamic" was inspired by the fact that nobody had attempted this approach before, owing to the painstaking nature of the undertaking. Changing shapes by hand and then executing the application was very time-consuming.<sup>4</sup> Even in today's digital age, achieving such a result is no mean feat.

In attempting this, I also paid homage to two early abstract animations from the previous century, Hans Richter's *Rhythmus 21* (1923) and the Academy Award-winning short film directed by Chuck Jones, *The Dot and the Line: A Romance in Lower Mathematics* (1965). According to Pixar founder John Lasseteer, "it was such a wonderful cartoon for its minimalism ... so exquisite in its simplicity of design ... character animation in its purest form."<sup>5</sup> Wonderful in execution, *The Dot and the Line* was familiar in the sense that it still had a narrative component to it. Essentially, both movies consist of geometrical design emerging "from the interplay of the circular and the straight tendencies in universal law."<sup>6</sup> My work, *Untitled* (2014), is an oblique reference to Jones' masterpiece, striving to highlight the maxim "To the vector belong the spoils," which appears right at the end of the film.



Figure 1. Mutahir Ariff, Hijab (2014).



Figure 2. Mutahir Ariff, Link (2014), multimedia.



Figure 3. Mutahir Ariff, Untitled (2014), projection.

Mutahir Ariff worked as a commercial animator in his home country of Malaysia. Having abandoned figurative work, he now focuses on Islamic geometrical patterns in his practice. He can be contacted at deartahir@gmail.com.

- N Moustafa, Divine Inspiration: Seven Principles of Islamic Architecture (Kuala Lumpur: Islamic Arts Museum Malaysia Publications, 2008), 70.
- 2 C S Kaplan, "Islamic Star Patterns from Polygons in Contact," p. 180, paper presented at Graphics Interface 2005, Victoria, Canada, 9-11 May 2005, http://www.cgl.uwaterloo.ca/~csk/papers/kaplan\_gi2005.pdf (accessed 29 Oct 2013)
- 3 Ibid., 184.
- 4 Ibid., 181.
- 5 David Yañez, Chuck Jones: Extremes and in Betweens A Life in Animation, 11 August 2012, https://www.youtube.com/ watch?v=vrD0aog7Kts (accessed 5 Aug 2014).
- 6 Moustafa, Divine Inspiration, 17.

### Article

## SCIENTIFIC MISPRISION

### David Green



Figure 1. David Green, Connecticut (2014).

### THE REALITY PRINCIPLE OR MÉCONNAISSANCE

When art engages with science, broadly speaking, there are two types of outcome: one intends to illustrate a specific idea or process generally upheld by the scientific community; the other is a response to, repositioning of, and/or reconfiguration of an accepted scientific proposition.

The first is called 'scientific visualisation' and has as its goal the illustration of complex scientific concepts, potentially through lateral or innovative technique. It attempts to bring the viewer to a heuristic understanding of anything from intricate theory to a complex database through translation into an accessible sensory abstract, be that visual, aural, or any other form that is effective. In this sense it is an expanded mapping or graphing, and in extended forms might involve the use of metaphor or even operate within a narrative or allegory. Great scientific visualisations are aesthetically compelling and very like some artworks in the sense that they serve a body of content and extend a particular discourse. In that they seek to reify a specific theory or database, they are by their very nature the expression of a 'closed' idea. In that sense, if you are a specialist, you either agree with the concept a visualisation illustrates or you don't. If you are less knowledgable, you might simply accept the illustration as fact simply because it looks plausible and is convincingly presented.

On the up side, scientific visualisation can offer the viewer a lightning flash of insight into a complex idea. On the down side, in mass media representations, particularly broadcast media, scientific theories and databases are often distorted to enhance story. Corporate management structures tend to reward thrilling and/or angst-provoking narratives in order to increase audience numbers. At the dark end of the game, exercises in scientific visualisation as popular entertainment deteriorate into a kind of factual and conceptual asset-stripping in order to offer a sensationalistic view that both misrepresents and shuts down thinking.

Having attempted both points of entry I much prefer the response model to scientific proposition, inviting viewer engagement through poetic misprision<sup>1</sup> or artistic conflation of established ideas. By taking this lateral or intuitive approach to the process of devising an artwork, I want to invite an 'open' response to the content with which it engages, through a sort of creative misreading of formal relationships. In this way, I would hope to tease out other questions for the viewer to consider. By posing a familiar idea, somewhat incorrectly, the viewer must process it differently. So if the 'science' in my artwork isn't somehow wrong, then the artwork itself can't be right.

Having cut my teeth on the perfidy of television advertising, the artwork I most enjoy triggers for the viewer a cascade of free thought, perhaps directly related, perhaps fragmentary or even tangential to the apparent subject of the piece at hand. It invites me to reconsider fixed ideas and relationships. It doesn't sell anything; it seeks to resolve nothing; it rewards simply by activating the mind. In this way I agree with Kant<sup>2</sup> that artworks should be 'disinterested' while offering the viewer an opportunity for 'play' or 'free harmony.'

From my point of view, an analogy for an ideal gallery experience is the resonance an empty bottle (the artwork) makes when you (the viewer) blow across its lips. I believe that if an artist has any agency, it is in the action of the artwork as reagent.

With Peter Stupples' and Ruth Napper's first joint University of Otago/Dunedin School of Art Exhibition, "Art and Neuroscience," at the Hunter Centre in July 2013, I found a prompt to play with ideas around mind, identity, and self in the video installation *mindthegap*. In this work I appropriated Carl Jung's 100-word 'association method' list first developed as a clinical diagnostic tool. For the subsequent "Art and Anatomy" exhibition (July 2014) I installed a sculptural work, *Connecticut*. This artwork, prompted by research into the history of anatomy and the complexities that accompany our simple urge to know, comprised the representation of an Ideal Form presented in a hermetically sealed box.

Our consciousness arises from a brain as extension of body that evolved through the adaptive gains from processing threat and opportunity in its immediate environment. From that point of view it follows that much neural and cognitive innovation, not to mention cerebral space, has been devoted to scrutinising and predicting the nuanced behaviour of our own species. Both artworks arose from my interest in the evolution of neural structures and the cognitive structures they enable.

We attend to fragmented reflections of the world we inhabit via complexly networked regions, including those in the thalamus and frontal lobe mediated by the amygdala, while other neural networks process in parallel the lesser fragments our memories retain.

Driven by functionality, our brain's systems for coding, recall, and interpretive processing must necessarily leave any truly objective 'reality' far behind. (Plato and Aristotle both commented on this gap, which I will return to later in this article.) Despite considerable limitations and vulnerabilities, our species somehow evolved to become successfully predictive and flexible enough to survive our earthly spin in ever-exploding numbers.

Similarly, rhizomatic external processes reward us as individuals and collectives to create, identify and then act gainfully upon 'others' (this conceptual boundary extending all the way to the shared environment), first by the early developmental process of abstracting 'self'<sup>3</sup> then 'non-self,' and using this second distinction to further hone 'self.' Like the illusion of colour-banding in a rainbow, through this string of iterative binaries we misperceive discontinuity in the world in which we find ourselves.

It stands to reason that adaptive developments in neural structure are always species-specific. From that point of view, processes for identifying specific affordances like food, and other key resources, are relevant for any heterotroph; but, for example, every sexually dimorphic species would, by necessity, develop complex neural processes dedicated to gender-specific signals for members of its own species; pack-hunting predators must evolve a higher level of species-specific signal processing; and so on. It follows that for any particular species, that which has no relevance is essentially invisible. It would also stand to reason that, if so empowered, any species would completely rehabilitate their found *terra nullius* into a world of structures and objects that are, if not useful, at least readable. One might consider them forgivably oblivious to the fact that the very ground may be – or may have been – already populated with innumerable intertwined others.

We are unable to process everything in the environment so the human mind assuages panic by tessellating fragments of information into a faux gestalt. We process and reproject this assemblage back onto the world using what could be described as a Rube Goldberg/Heath Robinson<sup>4</sup> amalgam of neural processing systems with their associated biomechanical sensors and appendages. Essentially, adaptive processes for survival have bred in us an imprudent certainty through the positive feedback loop of short-term functionality.

How do we as a subspecies manage to maintain such a self-confident swagger while mediating vast information gaps? As we learned in Plato's Cave, our individual and shared views of the world, based on limited sampling, are highly creative, illusory at best, and yet remain absolutely convincing to ourselves and to each other.

Darwin suggests that our highly developed brain has brought us to preeminence within the world of animals through high-level intraspecies collaboration.<sup>5</sup> But at the same time we are rewarded for our ability to enact, sometimes instantly, boundaries of 'self' that exclude the 'other' even within our own species.

Now, we who have prevailed one way, and another, are individually and tribally 'winning' our way to what appears to be the systematic destruction of our own platform for living, while eradicating pretty much every identifiable 'other' enfolded within it.

Through my artwork I am interested in provoking a reconsideration of specialist processes and cognitive gaps that enable perception, mask blindness, and underwrite certainty.

The installations *Connecticut* and *mindthegap* refer to questions about 'othering.' how (and perhaps why) the human brain perceives, processes, identifies, calculates persona, and enacts particular boundaries.

I am interested in exploring anomalies in our thinking that afford us a sense of 'self' in order to colonise (i.e., cannibalise) what we believe to be 'other,' enabling us to succeed so absolutely as the dominant terrestrial species while compulsively painting ourselves into an evolutionary corner.

Our internal experiences as a subspecies feel rich and varied; our actions logical and sensible. The same multifarious neural adaptations that have evolved to make us flexible and responsive as organisms have brought us the remarkable

spandrel of sentience. We (and the bees) are the only ones who can perform for each other rich narratives of the miracle of being here (and where to find the nectar).

And to be fair, diverse cultures abstract diverse and complex borders of 'self'. There is a remarkable plasticity in these boundaries throughout humanity. Certain ideas, like the Moanan<sup>6</sup> concept of the  $v\bar{a}^7$ , offer the opportunity of different ways of relating to the world and the 'other.'

The  $v\bar{a}$  identifies and acknowledges unseen connective 'tissue' in the interstices between us as individuals and everything else. Moanan cultures invest greatly in the care of these spaces. Here the world is not deemed modular, with component parts instantly separable. Great significance is given to the invisible fibre of relationship intricately woven in-between. No action can be taken (or lack of action for that matter) without careful negotiation (i.e., if you cut it, it bleeds; if you ignore it, it dies).

This is a worldview necessarily invisible to the hardline materialist.

In sharp contrast is the traditional Western narrative of the Gordian knot: In order to resolve this knot (a test of wisdom and intelligence for anyone aspiring to rule the Kingdom of Phrygia), Alexander the Great simply applies his sword to this puzzle in an act of violent severance as a sort of mythological one-liner: brute force prevails while the fabric of culture is fed to the pot. This exemplifies the sort of short-term solution that serves well, as long as there is new territory to move onto and exploit, once the current locus has been sectioned, stripped, and shipped.

I am interested in our long-term behaviour as a subspecies. My artwork seeks to investigate and interrogate our neurological and cognitive structures that have served us so well, and so badly. I see in colonisation, for example, a tragic dissonance of 'self' and 'othering' that exploits our brain's remarkable ability to 'not see' for the purposes of short-term individual and tribal profit.

In the last 60 years it has become undeniably clear to us that our entire planet is itself only an island; the extraterrestrial options are looking bad, and we are fresh out of new worlds. What information can we salvage in order to successfully navigate this unanticipated predicament from the hard-won knowledge and critical histories of longsince 'othered' island cultures like those of Moana? What wisdom has survived the tsunami of colonisation?

In its many forms, colonisation contrives to eradicate or marginalise 'othered' cultures by intentionally severing their continuity narratives (precisely in the manner of neurotoxins) while simultaneously boxing up local environments for shipment and distribution to the 'Mother' country (and this is the same *dispositif*<sup>8</sup> that offers us the bitter object lesson of Medea). Colonisation is formulated as an acid bath that systematically unlinks complex bonds (interpersonal and environmental relationships, cultural knowledge) into constituent elements and 'curiosities' for reabsorption elsewhere. It operates with the economic efficiency of a steam train laden with 'Cleopatra's Needles' fueled with mummified cats, bound for Paris, London, and New York.

Even now, in the latter stages of the Anthropocene age<sup>9</sup>, the 'slam dancing' on the deck of the *Titanic*'s construct of 'sustainability' is built on the extended fallacy that a species-specific survival strategy is even plausible. How can we buy into the idea that it is possible or even desirable to discretely preserve our subspecies without extending the boundary to include 'others' as inseparable from a shared environment? This is a perfect example of our dangerous susceptibility to flawed theoretical models. This kind of thinking brought us the proposition of the earth as exclusive platform for one race of human.

### THE TREACHERY OF OBJECTS



Figure 2. David Green, Connecticut (2014).

A square chromium-molybdenum-vanadium steel blade hangs above you, frozen in the motion of a downward arc. Beside two opposing front-silvered mirrors the instrument is seen repeated, fanning out in a neat circle – ready to section the universe into 12 wedges. It is a perfect array of cleavers in a perfect state of suspension. So perfect that it transcends its own materiality as an object to reveal itself as the universal. The interior of the box claims an impossible space. Peering in you catch multiple reflections of yourself facing the blade from multiple angles, each knife positioned to section you vertically in two. It is the Ideal Form of a cleaver floating securely behind a glazed concrete cube on the second floor of the Hunter Centre (a Medical School building at the University of Otago). If only subconsciously, you can't help but imagine the arc of motion complete, and a graphic section view of your own head as if photographed or hand-rendered for an anatomy book. The blade seems remote, unreachable, and yet it is only millimetres away. Our subspecies has a long history of playing with knives. It is arguable that the first human tool was actually a butchering blade ready-made from razor-sharp shards of shattered rock. 'Cleave' is one of those magic words whose list of definitions also makes it its own antonym.<sup>10</sup> It can be used variously to mean split, divide, penetrate, or conversely stick or bind to (in the sense of making a larger whole as opposed to smaller parts). The proposition of a meat cleaver as Ideal Form immediately appealed to me because under its reign you will arguably find most simple and complex devices we are motivated to create as humans. In the context of anatomy, of course we have and continue to invent any number of devices to split, section, peel, and reveal. Rockets, airplanes, submarines, cars and trains cleave air, water, land, space. Clocks and the family of chronometers cleave time. Tribes, cultures and governments cleave human populations and the earth they stand upon. We either cleave to each other or come at each other with a cleaver; and will sometimes do both in no particular order.

For our species it seems there is nothing more tempting than brutally demystifying a magical mechanism that has captured our youthful imagination. It is a rare child who has not, in one way or other, taken a moving thing to bits in order to gain some sense of its inner magic. You could almost say we do it instinctually. One of the first concrete lessons we learn in how things work is through that kind of invasive exploration which, while edifying, tends to involve great sacrifice. By extension, these early forays, and the inevitable adult backlash that follows, reveal to a child that actually gaining deeper understandings through these means, even when possible, is potentially costly on a number of levels.

In order for any investigation of anatomy to be relevant, you have to recognise enough about yourself to identify something in the other that is near enough to merit closer study. At the same time, you must be aware enough of your own boundaries to feel reasonably assured that an aggressive investigation will not also be harmful to self. So it follows that this self must also have limited levels of attachment to its own likeness.

The history of anatomy includes the vivisection of those 'othered' who, through legal process or circumstances of war, had been 'cut' from societal ties. Around 400 BCE Herophilos was given permission to vivisect 600 criminals in Alexandria in order to study anatomy and organ function.<sup>11</sup> In the seventeenth and eighteenth centuries, the demand by medical students for cadavers was so great that bodies were exhumed from fresh graves, and society's disenfranchised were actually murdered for supply. In 1832, in order to slow down the black marketeers, the British parliament passed an act that allowed executed murderers to be gifted to anatomists. In the meantime, some were so keen to get a look in that they dissected their own freshly deceased family members in desperation.<sup>12</sup>

So, in this way, an absolute determination of otherness is two-fold. It exists first on the organismic level of direct physical effect (as in 'ouch!!'), and secondarily on the social continuum. In this way a strategy for aggressive investigation is pre-meditated and 'rightly' calculated. This 'self' must understand that if it walks next door and vivisects its neighbour there will be indirect but concrete consequences, but other ways and means are possible.

'Other' as accessible mirror of 'self' style investigation is certainly not something our species has evolved beyond: National Socialism made space for vicious and arbitrary experiments on living human victims. This behaviour was even more recently enacted by a Western capitalist democracy in a quiet corner of Macon County, Alabama,<sup>13</sup> where for 40 years African-American men infected with syphilis were left to mentally and physically deteriorate until they perished of the easily treatable disease. But the crime didn't stop there: The men had no idea they were carriers and continued to spread the disease in their communities, while at their regularly scheduled visits to the clinic they were led to believe medical professionals were administering them free healthcare provided by the US federal government. The study was only terminated because details were leaked to a newspaper in 1972. Clinical drug studies offer some similar scenarios: As recently as 2006 during the human trial of TGN1412<sup>14</sup> in North London, six healthy young men suffered organ failure, with subjects' heads swelling to twice their normal size. Simple safety protocols that were ignored would have significantly reduced the scale of this disaster. And many mammalian mirrors continue to provide ample clockworks for our inquiring minds to experiment with and disassemble as well.

We have the natural curiosity of the primate – the need to know that marks us as a successful species, forming the first step in our unprecedented ability as animals to manipulate the environment on a hyper scale, along with the seemingly irresistible urge to see the inner workings of our analogous, but disenfranchised, fellow beings.

As sentient beings it is impossible to imagine our lives without a sophisticated knowledge of the internal form and function of the human body, as well as the fundamental workings of the world around us.

### SPLITTING HAIRS



Figure 3. David Green with Connecticut (2014).

Ronald Fairbairn and then Melanie Klein have developed the idea of 'splitting' in object relations theory. It is also known as 'all or none,' or binary thinking. 'Splitting' is seen both as a necessary developmental stage and a regressive position. (I have my own binary tension around our species being a purely disruptive force on the complex fabric of the biosphere – against our equally agreeable tendency towards curiosity and understanding; our empathy and love; our sentience; and our ability to celebrate a world that would go otherwise uncelebrated.)

In my initial design of this installation, a hidden light source illuminated the cleaver, causing it to glow. I experimented with two different approaches to lighting the object invisibly (not easy given all the mirrored surfaces). Once I worked out a methodology, a problem emerged because the fully illuminated cleaver had absolutely no literariness.<sup>15</sup>

It was simply there before you. The viewer didn't have to engage in any process of inquiry in order to discover exactly what they were looking at. The object was immediately visible and conclusive. So I removed the fixtures, allowing the only light to enter through the viewing portal. This meant that looking required a little more time and a certain amount of head repositioning in order to add up.

In retrospect, perhaps I should have taken that obscuring of the object even further. I noticed that viewers tended to look very briefly and move away quickly. (Of course, this makes good sense, since as soon as you orient yourself you discover you are standing under a cleaver.) My attempt to attract with the *blickfang* (or 'eye trap') of the visual multiplicity caused by four reflective planes does not overcome the initial discomfort of the discovered viewing position, nor does it hold the viewer for long enough to engage in any sort of lengthy object contemplation. (On the other hand, my colleague Clive Humphreys describes his encounter with Richard Serra's *Trip Hammer*<sup>16</sup> at the Tate in this way: The proposition was reconsidered in retrospect as a sort of anxious memory rather than contemplated during the moment of viewing in the gallery.)

The artworks *Connecticut* and *mindthegap* contrast the classic views of Plato (as 'being') and Aristotle (as coming into being or 'becoming'). The *Connecticut* cleaver fits comfortably within the World of Ideal Forms. The faces of *mindthegap* embody a formless becoming in the mind of the viewer.

### LIKE A SPIDER OR SPIT



Figure 4. David Green, mindthegap (2013.)

'Then the soul is more like the invisible than the body is, and the body more like the visible.'

'Necessarily, Socrates.'

'Now we have also been saying for a long time, have we not, that, when the soul makes use of the body for any inquiry, either through seeing or hearing or any of the other senses – for inquiry through the body means inquiry through the senses, – then it is dragged by the body to things which never remain the same, and it wanders about and is confused and dizzy like a drunken man because it lays hold upon such things?'

#### 'Certainly.' Plato, Phaedo 17

One hundred years before Plato and Aristotle, a pre-Christian, postmodern Heraclitus held the view that anything we can sense as humans is rocking and roiling, never locked in any particular form, and is uniquely perceived by any particular individual at any particular moment. According to Aristotle, Plato agreed that this was true of the 'sensible' world: that as humans we can only perceive the dancing shadows of Ideal Forms.<sup>18</sup> Plato asserted that only being is really being because becoming never arrives. It is or it isn't. There is no road to being; there are the Ideal Forms and sublunary objects that can only try their best to emulate them, and then there is Heraclitean flux.<sup>19</sup> Aristotle contests these assertions: They don't explain motion or change. How is it that things come into being if not from a more complex set of causations and not simply mimicry of Forms?20

Two and a half thousand years later, in 1929 from the pen of the Surrealists' enemy within, the Heraclitean doctrine of flux returns with George Battaille. In his *Critical Dictionary*, Georges Bataille defines the informe, or formless as

"... not only an adjective having a given meaning, but a term that serves to bring things down in the world, generally requiring that each thing have its form. What it designates has no rights in any sense and gets itself squashed everywhere, like a spider or an earthworm. In fact, for academic men to be happy, the universe would have to take shape. All of philosophy has no other goal: it is a matter of giving a frock coat to what is, a mathematical frock coat. On the other hand, affirming that the universe resembles nothing and is only formless amounts to saying that the universe is something like a spider or spit"...<sup>21</sup>

Twenty years later, another world war under the belt, these formless thoughts coalesced again, inspiring the Fluxus movement.

### STUDY FOR HEAD OF LUCIEN FREUD



Figure 5. David Green, *mindthegap* (2013)

This three-in-one channel digital video installation illustrates the unique rhythm and variation in reaction and response performed by eight individuals; the subtle processing variances through which we as observers intuit personality. The idea for this artwork emerged while I was researching ideas and theories about how the brain synchronises the multiplicity of processes occurring simultaneously in different parts of the brain in such a way as to allow us to perceive, as an example, bodies in motion as discrete and continuous. The 'binding problem' is studied in the fields of neuroscience, cognitive science, and philosophy of mind. Professor Brian Hyland (Department of Physiology, School of Medical Sciences, University of Otago) brought it to my attention while we were discussing sentience and sense of self during our lunch consultations in 2013.

In *mindthegap* a number of friends, colleagues and students at the Dunedin School of Art in New Zealand reacted to a translation of Carl Jung's 100-word 'association method' formulary. Jung developed this method of prompt and response for patient analysis, carefully charting reaction time and noting particular word choices to reveal psychopathological conditions, particularly in repressed patients.<sup>22</sup> In my piece, the subjects are constrained to respond to a single word prompt while looking in one camera and then asked to turn and respond with the delivery of a single word of their own choosing in another, while passing their gaze through a camera in between.

My idea of using Jung's list was not to expose hidden psychological conditions, but rather as a performative device to engage the participants in a simple stimulus and response exercise to see how well the viewer could track and individuate distinct personalities. I further complicated this process by employing multiple camera views composited as triple exposures on digital video with synchronic offset. The result is what could have been an inchoate set of audio and video signals, but as actually experienced remains remarkably discernible to the viewer. As such, we ingest this triple formless overlay of piecemeal expression, gesture, sound, and behaviour, then simultaneously project back onto the screen an emergent persona of our own creation. According to Deleuze and Guattari:

The organization of the face is a strong one. We could say that the face holds within its rectangle or circle a whole set of traits, faciality traits, which it subsumes and places at the service of significance and subjectification. What is a tic? It is precisely the continually refought battle between a faciality trait that tries to escape the sovereign organization of the face and the face itself, which clamps back down on the trait, takes hold of it again, blocks its line of flight and reimposes its organization upon it ...<sup>23</sup>

In a Deleuze and Guattari inspiring moment, Heraclitus posited that as everything is in a constant state of flux it is therefore itself and its opposite simultaneously; a unity of opposites.<sup>24</sup>

In processing the same list of words, each subject responds uniquely to each prompt and their response is often accompanied by a certain amount of leakage or *fuite*. This *fuite* takes place in many forms; it can be in a gesture, a sound, a laugh, a facial expression, a hesitation, and along with this a discernable pattern of movement and delivery develops. The digital video records every subtlety, but then replays it from parallax views overlaid three times on a single image. There is a remarkable volume of information appearing simultaneously formless yet loaded with detail. In opposition with Jung's crisp diagnostic intentions, a sense of persona emerges from this *informe* array, coalescing in the mind of the viewer. The chaotic sound and vision is somehow miraculously netted and processed in the viewer's mind and, despite what appears at first to be a high noise to signal ratio, a distinctive personality emerges.

Three cameras are placed to capture the point of impact, field of trajectory, and point of spillage. The participants are aware of the circumstances and the responses are consciously performed. What we perceive as the viewer are not subliminal readings but projected characters as consciously performed by the participants before unhidden cameras.

For these performances, I was curious to find a simple praxis to document the line of flight (in this case, *fuite*) between stimulus and response; a sort of X-ray machine to capture in mid-air the ineffable moment of mental processing. From the other side, within the abstract motion of shifting pixels tiny artifacts of persona are reconfigured into cohesion within the mind of the viewer. The viewer's sensing of the participant lies somewhere in the realm of qualia, or the "introspectively accessible, phenomenal aspects of our mental lives."<sup>25</sup> This is the electron shell zipping around the hidden nucleus. It is a buzzing noisy thing that coalesces only in the mind of the beholder as each cumulatively distinctive character builds through repetition, rehearsal, revision, response. Here nothing is fixed, all is experiential and *informe*. It is a fly that never lands, seen and yet unseen; a motion blur. Les Joynes again:

The spectator's eye must negotiate unassembled pieces to create a semblance of a whole. The formless reveals a slippage or gap in construction. Its existence reveals a universe onto which we attempt to collage meaning. It may be interpreted as a tear in the fabric of language that reveals language as an imperfect construct (thereby calling attention to itself as a construct). <sup>26</sup>

If we can create experiential wholes from evidential fragments and so make for ourselves patterns and distinctions – let's say to choose to engage or eschew – these are not only assessment but also navigation tools. We use these tools to consider and predict future outcomes, yet to do so our neural and cognitive processes must collate diverse packets of information and by necessity must jump gaps on every scale.

The fragmented participants in *mindthegap* reconstitute themselves as distinct personas in the mind of the viewer. (Think: Seth Brundle's teleportation pod in David Cronenberg's 1986 film *The Fly.*) These intuitive constructions are revealed in the behaviour between the prompt and the response. They reveal themselves through the performance of listening, processing, answering. The third camera that receives the response word is where the subject's gaze is least found. Once the processing is over, the word is deposited there and the gaze returns to the first camera where the consciousness awaits the next prompt. Sometimes the responses are machine-like and regular like a typewriter carriage. These sounds and images capture the lines of flight as the 'self' of the 'other' flows out through a task of processing.

We have been documenting our own struggle with the wonderful predicament of sentience for millennia. Our ideas about this state are rich and varied; our ability to process the world is limited. Despite this, we remain highly confident. In the words of Karl Popper: "The old scientific ideal of episteme – of absolutely certain, demonstrable knowledge – has proved to be an idol. The demand for scientific objectivity makes it inevitable that every scientific statement must remain tentative forever. It may indeed be corroborated, but every corroboration is relative to other statements, which, again, are tentative."<sup>27</sup>

Perhaps in our over-eagerness as a subspecies to act on every 'other,' our only real enemy is certainty.

**David Green** is a lecturer in electronic arts. An acclaimed director, director of photography and visual effects supervisor at RGA graphic film studios in Manhattan, he was represented by Lee Tamahori's Flying Fish Productions in New Zealand where he became known for directing a number of iconic and internationally award-winning television commercials before coming to work at the Dunedin School of Art.

- Harold Bloom, The Anxiety of Influence: A Theory of Poetry (New York: Oxford University Press, 1997), 14-16.
- 2 Hannah Ginsborg, "Kant's Aesthetics and Teleology," *The Stanford Encyclopedia of Philosophy*, ed. Edward N Zalta, summer 2014 ed., http://plato.stanford.edu/archives/sum2014/entries/kant-aesthetics.
- 3 Jacques Lacan, "The Mirror Stage as Formative of the Function of the I as Revealed in Psychoanalytic Experience," in Écrits: A Selection, trans. Alan Sheridan (New York: Norton, 1977), 1-7.
- 4 Popular early-twentieth-century cartoonists in the US and UK respectively who specialised in devising absurd machines that operated through humorously illustrated chain reactions.
- 5 "It must not be forgotten that although a high standard of morality gives but a slight or no advantage to each individual man and his children over other men of the same tribe, yet that an increase in the number of well- endowed men and an advancement in the standard of morality will certainly give an immense advantage to one tribe over another. A tribe including many members who, from possessing in a high degree the spirit of patriotism, fidelity, obedience, courage, and sympathy, were always ready to aid one another, and to sacrifice themselves for the common good, would be victorious over most other tribes; and this would be natural selection." Charles Darwin, *The Descent of Man, and Selection in Relation to Sex*, 2nd ed. (London: John Murray, 1974), 178-9.
- 6 A pre-European term for the Pacific Ocean. See National Museum of Australia, Audio on Demand Transcript, Arts of Tattoos, Lashing, House and Boat Buildings: Mahina's Moanan Theory of Ta And Va (Time and Space), Siosiua FPTofua'ipangai (aka. Lafitani), National Museum of Australia, 16 June 2009, http://www.nma.gov.au/audio/transcripts/vaka/NMA\_Tattoos\_20090616.html (accessed Jan 2014).
- 7 Albert Wendt, 'Tatauing the Post-Colonial Body,' New Zealand Electronic Poetry Centre, http://www.nzepc.auckland.ac.nz/ authors/wendt/tatauing.asp. Originally pub. Span, 42-43 (April-October 1996), 15-29.
- 8 "What I'm trying to pick out with this term is, firstly, a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions in short, the said as much as the unsaid. Such are the elements of the apparatus. The

apparatus itself is the system of relations that can be established between these elements." Michel Foucault, "The Confession of the Flesh" (1977), in *Power/Knowledge: Selected Interviews and Other Writings, 1972-1977*, ed. Colin Gordon (New York: Pantheon, 1980), 194-228.

- 9 Paul J Crutzen, and Christian Schwägerl, "Living in the Anthropocene: Toward a New Global Ethos," Yale Environment 360, 24 January 2011, http://e360.yale.edu/feature/living\_in\_the\_anthropocene\_toward\_a\_new\_global\_ethos\_/2363.
- 10 cleavel

[kleev] /kliv/ IPA Syllables verb (used without object), cleaved or (Archaic) clave; cleaved; cleaving.

I. to adhere closely; stick; cling (usually followed by to).

2. to remain faithful (usually followed by to): to cleave to one's principles in spite of persecution.Origin: before 900; Middle English cleven, Old English cleofian, cognate with Old High German klebēn (German kleben) Related forms: cleavingly, adverb

#### cleave2

[klev] /kliv/ IPA Syllables verb (used with object), cleft or cleaved or clove, cleft or cleaved or cloven, cleaving.

I. to split or divide by or as if by a cutting blow, especially along a natural line of division, as the grain of wood.

2. to make by or as if by cutting: to cleave a path through the wilderness.

3. to penetrate or pass through (air, water, etc.): The bow of the boat cleaved the water cleanly.

4. to cut off; sever: to cleave a branch from a tree. Verb (used without object), cleft or cleaved or clove, cleft or cleaved or cloven, cleaving.

5. to part or split, especially along a natural line of division.

6. to penetrate or advance by or as if by cutting (usually followed by through). Origin: before 950; Middle English cleven, Old English cleofan, cognate with Old High German klioban (German klieben), Old Norse kljūfa; akin to Greek glýphein to carve, Latin glūbere to peel.10

- 11 Charles Singer, A Short History of Anatomy from the Greeks to Harvey: The Evolution of Anatomy (New York: Dover Publications, 1957), 47.
- 12 Mary Roach, Stiff: The Curious Lives of Human Cadavers (London: Viking, 2003), 41.
- 13 Centers for Disease Control and Prevention, "U.S. Public Health Service Syphilis Study at Tuskegee," http://www.cdc.gov/ tuskegee/timeline.htm (accessed 25 Aug 2014).
- 14 Robin McKie and Jo Revill, "Trial and Terror," The Observer, Sunday 19 March 2006, http://www.theguardian.com/society/2006/ mar/19/health.medicineandhealth (accessed 8 Aug 2014).
- 15 Viktor Shklovsky, "Art as Technique," http://www.vahidnab.com/defam.htm (accessed 8 Aug 2014).
- 16 Tate, Richard Sera, *Trip Hammer*, 1988, (image and artwork description) Two sheets of steel are delicately balanced. One stands upright, 2.6 m high and 1.3 m deep, and balances on an edge 5 cm wide. The other rests horizontally on this thin edge, with its only other means of support provided by its minimum contact with the wall. This large, heavy work dominates the space in which in stands, both physically and psychologically through the anxiety it provokes in the viewer.
- 17 Plato, Phaedo in, Plato in Twelve Volumes, trans. Harold North Fowler, vol. 1 (Cambridge, Mass.: Harvard University Press; London: Heinemann, 1966).
- 18 "In his youth Plato first became acquainted with Cratylus and the Heraclitean doctrines that the whole sensible world is always in a state of flux, and that there is no scientific knowledge of it – and in after years he still held these opinions." Aristotle, *Metaphysics*, Aristotle in 23 Volumes, vols.17 and 18, trans. Hugh Tredennick (Cambridge, Mass.: Harvard University Press; London: Heinemann, 1933, 1989).
- 19 "The distinction between being and becoming is common in Plato's middle dialogues. By general agreement, the definitive statement of the distinction occurs near the beginning of the *Timaeus* (27d-28a). There a sharp line is drawn between "that which always is and has no becoming" and "that which is always becoming and never is". "Robert Bolton, "Plato's Distinction between Being and Becoming," *Review of Metaphysics*, 29 (1975), 66-95, at 67.
- 20 "Indeed, one of the most frequent charges that Aristotle makes against Plato's theory of Forms is that it cannot explain motion or change: "In the Phaedo it is stated in this way that the Forms are causes both of being and of becoming. Yet though the Forms exist, still things do not come into being, unless there is something to move them; and many other things come into being (e.g. a house or a ring), of which they say there are no Forms. Clearly therefore even the things of which they say there are ldeas can both be and come into being owing to such causes as produce the things just mentioned, and not owing to the Forms". (Aristotle, *Metaphysics xiii.5*, 1080a2-8). Jiyuan Yu, *The Structure of Being in Aristotle's Metaphysics, The New Synthese Historical Library: Texts and Studies in the History of Philosophy*, vol. 52 (Dordrecht: Kluwer Academic Publishers, 2003), 20.

- 21 Les Joynes, "Positing the Formless and Entropy in Contemporary Visual Art Practice Formless," http://www.artinforme.com/ research.html#\_ftn6.
- 22 Carl G Jung, "The Association Method," American Journal of Psychology, 31 (1910), 219-69, http://psychclassics.yorku.ca/Jung/ Association/lecture1.htm.
- 23 Giles Deleuze and Félix Guattari, A Thousand Plateaus: Capitalism and Schizophrenia, trans. Brian Massumi (London and New York: Continuum, 2004), 208.
- 24 S M Cohen, "Heraclitus," http://faculty.washington.edu/smcohen/320/heracli.htm (accessed 26 Aug 2014).
- 25 Michael Tye, "Qualia," The Stanford Encyclopedia of Philosophy, ed. Edward N Zalta, fall 2013 ed., http://plato.stanford.edu/ archives/fall2013/entries/qualia.
- 26 Joynes, "Positing the Formless."
- 27 Karl Popper, The Logic of Scientific Discovery (London: Routledge, 2002), 280.

## ART & NEUROSCIENCE

## Introduction to Art and Medicine Projects

## ART AND SCIENCE

## Peter Stupples

As a system of visual representation art has a long history of recording human investigations into the world of nature and, even more broadly, into speculating, even fantasising, about what that world might look like – out there in unseen worlds or in there, in the body, underneath the surface of things. An unsatisfied curiosity is a characteristic of humankind. Leonardo da Vinci is the prime example of the artist/scientist forever looking and drawing what he or she has seen and, on the foundation of actuality, proceeding to give visual substance to more speculative ideas.



Figure 1. Drawing by Leonardo Da Vinci

In recent years science/technology has expanded the scope of art's reach – adding photography and computer-driven applications, such as photoshop, to the toolbox.

In order to explore this close association of art, science and technology the Dunedin School of Art organised a symposium in 2009 entitled 'Illustrating the Unseeable: Reconnecting Art and Science', bringing together both artists and those working in the visual presentation of science, such as Paul Trotman with his ground-breaking film *Donated to Science* (2009). This was the first of a subsequent series of symposia dedicated to the way aspects of the visual arts relate to our social world in a constantly changing reflexive symbiosis.

In 2011 Ruth Napper, of the Anatomy Department at the University of Otago, suggested returning to the art and science dyad with a new initiative, a ninemonth project in which artists and scientists of specific disciplines might be encouraged to share ideas and experience, out of which artworks could be created inspired by that mutual interaction. She joined forces with Peter Stupples at the Dunedin School of Art and together they organised the Art and Neuroscience Project, November 2012-August 2013, that resulted in an exhibition and catalogue.

This venture was regarded as such a success by artists and scientists, as well as the University of Otago and the Dunedin School of Art, that another project 'Art and Anatomy' was launched in December 2013 and will have its exhibition in late June 2014 as part of the Dunedin Science Festival.

The aim is creative cooperation – not the illustration of scientific research but the speculative imagery that comes from the mind and hand of the artist in response to a close acquaintance with the actuality of scientific processes and ideas – or even commentary from the left field upon something that scientists take for granted, as part of their unconscious sense of normality and rationality.

It is hoped that not only artists and scientists can gain from this association, extending their respective cognitive and visual worlds, but that they can both offer the public, the community in which the artists and scientists work and live, as well as future artists and scientists – young people of today – windows into their own worlds that they never had an opportunity to look through before.

**Peter Stupples** is senior lecturer in art history and theory at the Dunedin School of Art at the Otago Polytechnic He was formerly associate professor and head of the Department of Art History and Theory at the University of Otago between 1990 and 1998. He has written widely about Russian visual culture, his research speciality, and the social history of art, publishing six books and numerous journal articles. Stupples has also curated art exhibitions at the Dunedin Public Art Gallery including "Sites for the Eyes: European Landscape in the Collection of the Dunedin Public Art Gallery" (April 2006–July 2007). He gave the Abbey College Prestige Lecture for 2011 on "Australian Aboriginal Art as 'Art'" and has been invited to give the William Mathew Hodgkins Lecture at the Dunedin Public Art Gallery in August 2011 on "Kikerino and Russian Art Nouveau Architectural Ceramics."

## SEEING SCIENCE "THROUGH NEW EYES" IN AN ART AND NEUROSCIENCE COLLABORATION

## Sunkita Howard and Jenny Rock

Around the world, art-science collaborations are gaining momentum. They share experimental, exploratory, and knowledge-forming processes that prime reflection, and both aesthetic and social engagement. However, despite this worth, and decades of institutional rhetoric promoting interdisciplinary integrative approaches, structural support is still rare. Collaborations such as the one described here, between a university, a school of art, and privately practising artists, provide meaningful interaction across persisting disciplinary divides. This supports critical changes, shifting universities away from disciplinary fragmentation and academic isolation and allowing them to contribute to critical social dialogue. Out of synch with their growing popularity, assessment of the respective (or collective) impact of art-science collaborations is slow to emerge. And yet, detecting and reflecting on the nature of such collaborative processes is critical to understanding what facilitates or impedes them, and what their more far-reaching impacts are or could be.

Two formal feedback mechanisms were applied during the "Art and Neuroscience" project – a debrief meeting following the final exhibition, and an online survey that programme participants contributed to. Amongst the 15 artists and 17 scientists who took part in the collaborative venture, eight artists attended the debrief, as did nine scientists. Survey participation was lower, with eight artists completing the online survey, along with three of the scientists. In total, almost three-quarters of the artists who took part in the program fed back through one or both of the formal mechanisms, as did over half of the scientists. Of those who offered feedback, recounted experiences and insights shared were diverse and highly individual. This report offers a qualitative discussion of some of the concepts and ideas put forward through feedback by those who took part in the "Art and Neuroscience" project – but it is not an evaluation of the initiative, nor is it representative of participants' diverse, unique experiences and perspectives.

You might wonder who we are to be describing the "Art and Neuroscience" project. We are a pair of biologists in the Otago University Zoology Department who are passionate about art-science crossover and sharing ideas between disciplines. Only discovering the "Art and Neuroscience" project when it was nearly over, but being very excited by the concept, we wanted to understand what had taken place. We hoped that by documenting the participants' processes and experiences in some way, we might also seize a learning opportunity that could contribute to future art-science collaborations.

### WHO TOOK PART IN THE "ART AND NEUROSCIENCE" PROJECT?

An assumption that we took into the survey design process was that there were two separate categories of participant, 'artist' and 'scientist.' In fact, more than half of the artists who provided feedback indicated that they were involved in the sciences before joining the project or had a preexisting art practice that explored scientific themes. When we asked questions like "Are you interested in learning more about the scientific method?" in our survey, the response "Am well aware" encapsulated the responses from artists whose previous experience in the sciences had not been considered in our approach.

We also asked scientists if they were interested in learning about an arts practice. Of the very small sample of scientists who responded to the survey, questions relating to an interest in developing their own art practice or learning more about the arts were either skipped or ambivalence was indicated, except for one response:"I'm not sure I have any artistic talent but it would be fun to try [to learn about an artistic practice]." If an existing interest in the sciences was a factor that drew artists to be involved, an active interest in science communication may have been a common trait among the scientists who chose to join this project. Across all the scientists who provided feedback, science communication was a major theme whenever the discussion turned toward what scientists gained from participating.

### SEEING SCIENCE "THROUGH NEW EYES"

Artist participants were briefed that the goal of this project was not "illustrating science," and artists' feedback reflected that clearly. Scientists' responses suggest that an interest in the "Art and Neuroscience" project as a mode of science communication was widespread, and these two agendas for the project surfaced frequently in artist and scientist feedback.

Scientists enjoyed the experience as an opportunity to both "hone communication skills with a general audience" – that audience being the artists themselves – and to have their research made available to the general public during the exhibition. Scientists practised using non-technical language to describe their research to artists. They had varying levels of success meeting the right comprehension level. While one artist commented, "I'm not very literate in science so [my scientist] had a real challenge I think trying to explain [their research] to me," artists largely found the experience a positive one, evident in comments such as "I really enjoyed listening." Some artists attended lectures given by their scientist or another scientist in a related discipline, while others took part in multiple meetings with their scientist, in the lab and in the office.

Artistic outputs were described by many of the scientists as "representations of the science." As one scientist put it, "The whole exhibition ... tells the public what we're doing and why we think it's important to look at it." Scientists tended to expect that audiences with little scientific literacy would come to the exhibition and engage with the scientific content of the artworks. Some scientists anticipated seeing their research "through new eyes," interpreted by artists in a new medium. In many instances, these scientists came away satisfied that the art in the final exhibition had represented their patients' experiences or the themes of their research. However, for the most part this was not consistent with artists' intentions, as artists "understood [that] the philosophy here was that you weren't illustrating." Rather than communicating a specific research narrative, many artists were interested in the broad ideas and concepts. As one artist reflected, "The topic was relevant to my arts practice ... [the scientific method] is irrelevant to my work process." Sometimes the aspect of a scientist's work that provided the inspiration for an artist was probably not what a scientist expecting to have their research interpreted in art might hope for – one artist reported being influenced by the colour scheme of a scientist's poster!

One artist expressed the following interpretation of the differences between scientists' and artists' approaches to exploring a concept: "As an artist what you want to end up with is a question, not an answer and that's probably the fundamental difference." While art, seen through this lens, could continually widen the realm of possibility, scientific research could be seen as an effort to hone in on an understanding with least uncertainty. As one scientist put it, "We saw that we work very differently. When I tried to focus [the microscope] they made it blurry." That is not to say that the artists rejected overt communication of science. One artist specifically stated that they were interested in science communication and sought to communicate ideas through art because they found visual art a better medium for that purpose than words.

Although tacit and overt differences in scientists' and artists' expectations of the project existed, it was clear that participants valued these differences. One of the most highly cited benefits that scientists gained from the project was the opportunity to interact with an artist who "had a completely different perspective on life, on science, on

everything" and have that person share views about their research from "a different point of view," a "completely different angle." One scientist described how when "you have someone from outside ... look in it kind of opens your mind." A parallel comment from an artist was the poignant statement that the experience "opened doors in my imagination."

### DIVERSE COLLABORATIVE PROCESSES

Much of the process of sharing ideas was done through verbal discourse that took place during meetings in scientists' offices, in the lab, at the university staff club and even in participants' homes. For some pairings, meetings and ongoing contact between scientists and artists were rich and productive for both parties. One scientist reported, "We ... delved real deep into what it was that we were looking at and had a couple of great two-hour meetings." Other scientist/artist pairs formed friendships and met over wine and cheese, describing how "We were both laughing all the time together."

In other pairings, once the artist's desire for "compelling and seductive ideas from discussions with scientists" had been satisfied, they didn't feel the need for ongoing involvement with their scientist. Some scientists reported having met with their artist only during the initial phase of the project, and seeing the resulting art for the first time at the exhibition opening. As one scientist put it, "We met together once. [The artist] had pretty strong ideas about what [they] wanted to get out of the type of research that we were doing." Just as the scientists relished the chance to share how their work was done, statements like "I really enjoyed the opportunity to show somebody else how an art project is set up and how an artwork is produced" suggest that the artists also enjoyed sharing their art practice with a new audience of lay persons. However, it was less common for the scientists to join the artist in their workshop than it was for the artist to enter the laboratory.

Some artists found entering the laboratory environment inside a university to be a striking experience. One describes "Going into these labs with swipe cards ... it was so different to our world which is so open" and recounts an impression of secrecy and "huge machines." They were surprised to find that this "completely different world" was populated by people who were "the same as us, not any different." This metaphor whereby the experience of collaboration allowed artists and scientists to enter into each other's "different worlds" was a recurrent theme that cropped up regularly in both artist and scientist feedback.

Most of the comments were positive about the organisational framework that was provided. The core structure was the pairing between an artist and scientist, where meetings between artist/scientist pairs (or small groups) took place at the participants' discretion after the initial pairing had been made. This approach left room for individuals to decide how they wanted to work. The wide variation in the environments where artist/scientist meetings took place, and the range in frequency and content of those meetings, indicates that this flexible approach was appropriate. Artists reported that their scientist's research provided the "brief" that inspired them to move ahead with their artistic process.

In addition to the meetings between artist/scientist pairs or small groups, there were also larger meetings that all participants attended. One artist described the level of structure as a "loose but tight ship." These whole group meetings were described by one participant as a "body count," due to attrition that occurred over the span of the project. Several people reported finding it challenging to make the time to attend these meetings. While it was suggested that allocating topics for these whole group meetings or requiring attendance at talks on specific science subjects would not suit the diversity of interests held by all the participants, several people did express interest in having general themes for these whole group meetings. Ideas for themes included centering the meetings on a general discussion point or even a social event. One participant expressed regret that they hadn't had the opportunity to get to know people other than their immediate collaborators as well as they would have liked, which a more social focus in the meetings could have supported. Another participant suggested that a broadly relevant topic such as animal ethics would be a good focal point for group meetings.

### DRAWING CONNECTIONS BETWEEN COMMUNITIES

Another recurrent theme was the concept of participants experiencing an expanded community. The University of Otago main campus and the Dunedin School of Art are physically located in close proximity to each other, and yet some of the comments imply that people inhabiting one organisation felt that their respective communities were disconnected from each other. "I wouldn't ordinarily mix with artists. You guys are miles away on the other side of campus and in my daily routine I certainly wouldn't have the opportunity to, so it was fantastic in that sense."

Much of the positive feedback referred to personal connections established between participants. Scientists talked about finding common ground, building a partnership or relationship, and making friends with their artist collaborator. Likewise, artists talked about the positive relationships that they established with scientists. Artists and scientists typically referred to "my" artist, which in itself suggests a bond. One scientist also mentioned that they felt like the experience had enabled them to connect with other scientists who took part in the project.

### CONCLUSIONS

As observers of only the final stages of "Art and Neuroscience," we acknowledge the limitations of our involvement. We entered at the end of the project, and clearly a much richer picture of events could have been built through involvement from the start, as well as through inclusion of social science researchers. Our observations reflect only one facet of what took place and are unlikely to generalise across every participants' experience. We hope, however, that this reflection will further the discussion about the process and outcomes of collaborative projects such as this, and encourage future art-science collaborations.

It was a pleasure to be able to be involved in the "Art and Neuroscience" project, and we greatly appreciate the feedback from artists and scientists who made this possible.

**Sunkita Howard** is a Fulbright Scholar and doctoral student at the University of Otago. She incorporates the artistic practices of printmaking and poetry into her research on developing shark bycatch reduction technology for longline fishing gear.

**Dr Jenny Rock** is a biologist and artist who lectures in critical and creative thinking at the University of Otago's Centre Science Communication. Her interests include the aesthetics of science, visual/sensory cognition, and art-as-hypothesis.

## REVIEW OF "ART AND NEUROSCIENCE:" A GROUP SHOW OF ARTIST AND SCIENTIST COLLABORATIONS, THE BRAIN HEALTH RESEARCH CENTRE, THE HUNTER CENTRE, UNIVERSITY OF OTAGO, DUNEDIN, 22 JULY – 9 AUGUST 2013

## Franky Strachan

"Art and Neuroscience" is an exhibition which saw 17 artists and 15 neurological researchers working together, either individually or in small groups, to develop visual responses to neurological research topics ranging from Alzheimer's and Parkinson's disease through to the effects of Ritalin. Situated within the Hunter Centre, Otago University's major health science facility, the works are not immediately obvious. Tucked away, framed like specimens, or so strikingly fitting for their environment that they have architectural appeal, they emerge to the viewer one by one. The large space is open and well-lit and is trimmed with a mezzanine which is flanked by glass-walled classrooms and group study areas through which distracted students exchange glances and gaze pensively.

It was neuroscientist and senior lecturer Dr Ruth Napper who, while attending an evening art class, had the spark of inspiration for the exhibition. Interested to know how art students would interpret her own work and that of her colleagues, she took the idea of an art collaboration to Peter Stupples, senior lecturer in art history and theory at the Dunedin School of Art at the Otago Polytechnic. Together they coordinated the project with the ultimate hope that it would draw in audiences who wouldn't normally be thinking about neuroscientific research. The only stipulation for the artists was that the art must express something of the given research, but should not be illustrative of it.

This brief had varied results, with some artists being more figurative than others. Overall, it prompted some serious artistic thought, with the neuroscientists being particularly delighted and intrigued by the aestheticisation of their research. Comprising installations, detailed embroidery, paintings, sculptures, films and videos, prints, photographs, jewellery and ceramics, the exhibition is diverse and each piece both peculiar and thoughtful.

Briefly, here are five examples that give an impression of the range of collaborations: neuroscientist Brian Hyland and artist David Green produced an eerie 'three-in-one' video which overlapped footage and dialogue to translate the Jungian theory of free association; artist Rowan Holt worked through Joanna Williams's Alzheimer's research to produce a large hanging sculpture whose segmented wooden framing is emblematic of the relationship changes which occur as a result of degenerative memory loss; neuroscientist Damian Scarf and artist Sue Taylor presented a felt scarf honouring the cognitive ability of homing pigeons by delicately sewing – in lieu of drawing – images pertaining to pigeons' brain structures and distinctive navigational capabilities; Joe Papps, in conjunction with neuroscientist Laura Boddington, created a box through which the viewer peers in order to experience a powerful looped film involving scratched I 6mm footage which had been spliced with digital film; and Amy Moffitt worked with neuroscientist Louise Parr-Brownlie to convey the facial symptoms of Parkinson's on layered and symbolically torn A4 paper.
In response to the work of neuroscientist Phil Brownjohn, artist Jimmy Bellaney produced a large abstract painting in primary hues to express the function and dysfunction of the brain post-stroke. The veining, pooling and cracking of the paint as assorted viscosities met and marbled made for an image reminiscent of a brain scan or anatomical thermal imaging. However, if the painting were removed from the context of this exhibition it could easily be taken as some kind of geological reading.

These analytical interpretations suggest something about the way we read imagery. Such configurations and patterns, signposts and symbols, connections and fragmentations, as well as the presentation of new ideas and unexplored territory, are notions we are taught to seek in both artistic and scientific material. When presented with chemical symbols or mathematical notations, symbolic iconography or emblematical colour choices, we learn to perceive visual data as encoded. Not only does this call to mind our scholarly expectations in approaching the artistic and scientific material respectively, but it highlights the fact that the "Art and Neuroscience" exhibition embodied the codification of two disciplines simultaneously.

Artists Desi Liversage and Katya Gunn skilfully illustrate this equivocality in paying homage to lab rats by creating an exquisite reliquary from the (ethically approved) skeleton of a rat. This piece is tied to neuroscientist Justine Fuller's research on the processes which occur in the brain of an ADHD sufferer who is taking Ritalin, but it also relates to the time-honoured art-historical tradition of the memento mori whereby artists provide symbolic reminders of the inevitability of death within their paintings. Like a few other artworks, this small but touching sculpture sits on a pedestal like a displaced museum artifact or a prized curiosity from a Victorian cabinet.

Also in keeping with this aesthetic, Richard Mountain has sculpted an enlarged virus based on the work of neuroscientist Valerie Tan (it could easily feature in a Jules Verne-inspired film). Tan is researching the potential of a virus injection to prevent the onset of Alzheimer's disease and Mountain's three-dimensional interpretation gives weight to the silently violent microscopic world. This can be directly contrasted with artist Becky Cameron's contribution, which likewise pertains to Alzheimer's disease. In the form of the light play created by a softly revolving lantern, Cameron gently connotes temporality and mapping of our memories. I find her piece to be the most poignant of the entire exhibition – there is something unassuming, poetic and penetrating about its ephemeral effect and, while some works in the show are literal interpretations, *Locus Lucidus* asks the viewer to turn inwards.

What is most overwhelming and consistent throughout this exhibition is the mutual respect which underlines the artist-scientist relationships. The artists do not seem interested in criticising their scientific counterparts, but rather have expressed their admiration and respect for them. This could not be predicted. When disparate disciplines collide, tensions can easily transpire and very quickly conflicting ideologies can create an atmosphere of defensiveness. Yet "Art and Neuroscience" does not seem strained, with the result that this project draws in a wider audience to consider the complexities of neurology. A very successful exhibition indeed.

**Franky Strachan** is a Napier-based art writer, children's writer and painter who has written art reviews for *The Otago Daily Times* and *EyeContact*. She holds a BA (Hons) in Art History and Art Theory and is currently undertaking doctoral studies in the same field. Her research interests are wide-ranging but they tend to circle the nature and various philosophies of twentieth-century art and representation. Most recently, this has meant her re-evaluating the value of Art Deco art and architecture in the shadow of the avant-garde.

## SLIDE

# Dr Lucia Schoderböck in collaboration with artists Kristin Peren and Marion Wassenaar

My research interest is the molecular and cellular basis of learning and memory. Currently, I am studying newly born neurons in adult brains and their role during memory formation and retrieval. I can test which memory functions are lost when these recently born neurons are switched off by using genetic tools. When I look at samples on slides under the microscope, I often admire the beauty of the brain and its individual cells. I am very excited that this beauty has now been translated into art and am curious to see an artist's take on science.

## LUCIA SCHODERBÖCK

Baby's first steps, the family's first overseas adventure, or the simple pleasure of walking through a spring garden filled with the scent of jonquils that remind you of a dear friend; these are memories we treasure. They form experiences in life that connect our past to the present and shape our identity. But what happens when memories fade – seized through brain injury or disease to become frozen in time?

Both Kristin and Marion grew up through the 1960s and '70s, a period when family slide shows were a nostalgic reminder of days gone by. The slide show was an archive of memories that has been superseded by image collections stored in a digital database. *Slide* revisions the outdated slide format with manipulated and magnified images sourced from Lucia's laboratory slides.

Lucia gave us the opportunity to photograph her slides through the microscope. Her slides relate to research on the rescue of memory after brain injury, investigating adult neurogenesis in memory formation and retrieval. In this project, the slide format has involved a revival of old technology in a similar vein to Lucia's research that questions whether older neurons retire or are still actively involved in memory processes.

And that is the way it goes here In the diffused light from the translucent roof, One missing extremity after another ... But outside on the city streets, It is raining, and the pavement shines With the crisscross traffic of living bodies.

In the first three lines of this excerpt from Billy Collins's poem *Greek and Roman Statuary*, the fragmentation of the statue forms an analogy to the impairment and memory loss suffered by the brain through aging or injury. But it is through this fragmentation, or what is missing, that scientists such as Lucia investigate the complex processes of manipulating newly formed neurons to test cognitive functioning.

Our encounter was insightful and hopeful. This was a fascinating and surreal experience resulting in a printed series of manipulated images.

Our senses were filled with wonder, free to wander, to imagine and reminisce.

### KRISTIN PEREN AND MARION WASSENAAR

**Marion Wassenaar** is a visual artist specialising in print practices and sculpture. Her research interests focus on the collision between humans and their environment, either in terms of social justice or ecological concerns. She lectures in the Print Studio at the Dunedin School of Art. Marion holds an MFA from the Dunedin School of Art.

**Kristin O'Sullivan Peren** holds an MFA from the Dunedin School of Art. Kristin is a multi-media artist whose practice responds to extremities of land, language and object. O'Sullivan Peren's work has developed from her background as a printmaker. Recent large-scale projects have embraced photographic, sculptural and electronic media, utilising both digital and analogue technologies. O'Sullivan Peren exhibits locally and internationally in public spaces, contemporary project galleries and at artist residency communities here and overseas.

Lucia Schoderböck is a Postdoctoral Fellow in the Department of Psychology at the University of Otago. Lucia received her Master's degree in molecular biology in 2006 at the University of Vienna, Austria. She then undertook a doctorate on RNA localisation in neurons. After receiving her PhD at the University of Vienna in 2010, she moved to the University of Otago. Here, she first worked on a project studying the role of precursor proteins in Alzheimer's disease and then joined a team investigating adult neurogenesis.



Figure 1. Kristen Peren and Marion Wassenaar, *Slide 1* (2013), laboratory slide photographed under microscope, digitally printed on Hahnemeule paper, 46 × 69 cm, framed 100 × 100 cm.

## TORN

# Neuroscientist Louise Parr-Brownlie in collaboration with artist Amy Moffitt

The overarching goal of work in my lab is to improve treatments for patients living with Parkinson's disease. Parkinson's disease is a neurodegenerative disorder that causes movement deficits in approximately 8000 people in New Zealand. Our research focus is to understand how the brain normally codes voluntary movements and how that code is altered when it takes a long time to start a movement or movements are slowed. We investigate this by recording the activity of individual brain cells during functional tasks, such as reaching, and look for changes in the way cells code information and interact with each other in the parkinsonian state. We apply this knowledge to investigate potential novel treatments that normalise the coding of information in the brain and restore movements.

### LOUISE PARR-BROWNLIE

In this project, entitled *Torn*, I have mixed classic studio portraiture with contemporary street art to portray my reaction to Parkinson's disease.

Through this project I became interested in the facial symptoms patients experience throughout disease progression - for example, the mask-like appearance patients develop.

Using classic portraiture techniques, I photographed a middle-aged woman and printed the photographs using the street-style format of cheap A4 paper posters. I then used poster glue to overlap each photograph onto wood panels. The panels were left out in the elements to decay and peel through to reveal each layer.

My work portrays the idea that the visual signs of Parkinson's are just that - visual.

## AMY MOFFITT

**Amy Moffitt** graduated from the Dunedin School of Art in 2012. Since then, she has been working for Dunedin's Fortune Theatre doing production photography. She is interested in the combination of film and photography as a single medium and is working towards a new project reflecting the potentialities of both practices.

**Louise Parr-Brownlie** works in the Department of Anatomy at the University of Otago and in the university's Brain Health Research Centre. Her research focuses on the neural mechanisms that underlie voluntary movements and the movement deficits of Parkinson's disease.



Figure 1. Louise Parr-Brownlie and Amy Moffitt in front of Torn at the Hunter Centre in 2013.

## OPTOGENETIC RAT

# Neuroscientist Clementine Bosch in collaboration with artist Chris Reid

My research is undertaken to better understand how the brain is disturbed in Parkinson's disease, to potentially find better treatment for this disease. For that, I am using a new technique called optogenetics to control the activity of a rat brain with light. I am using light to stimulate the brains of both healthy and parkinsonian rats while they are reaching with their forepaw for Coco Pops. Our ultimate goal in using light to control a precise area of the brain is to restore normal motor behaviour in parkinsonian rats. I really enjoyed showing my experiments to Chris and seeing his photographs, because it gave me a new outlook on my work.

### CLEMENTINE BOSCH

The idea of working on a project that is based on the use of light is very interesting to a photographer. So when the artists and scientists involved in the Art and Neuroscience Project were asked to sort themselves into working groups, I was immediately taken with the idea of optogenetics. It also helped that my research partner Clementine was friendly, helpful and an interested photographer herself.

I initially thought that I would look at the metaphorical possibilities arising from this research technique and how the lives of Parkinson's disease sufferers might be improved by treatment developed here. However, I soon found myself intrigued by the appearance of the experiments; colourful strobing lights, strange-looking apparatus and the quick movements of the research rats appealed to my eye.

I was also interested in the working relationship between Clementine and the rats. Although they would ultimately be sacrificed in order to help develop a treatment for Parkinson's, they lived well in the meantime. Treated with respect and kindness by their researcher, able to play with the other rats between experiments – and, best of all, their job was to see how fast they could grab one Cocoa Pop after another: nice work if you can get it.

In my photographs I try to depict both of these facets of the research.

### CHRIS REID

**Chris Reid** makes photographs that explore distortions in time and space. The images shown in the Art and Neuroscience Project were made while he was a postgraduate student at the Dunedin School of Art.

**Clementine Bosch** (PhD Collège de France) is a Postdoctoral Fellow in the Department of Anatomy at the University of Otago and also works in the university's Brain Health Research Centre. Clementine's research area is the neurophysiology of Parkinson's disease. In 2013 she was the recipient of the Otago Medical School Research Society's (OMSRS) Research Staff Award.



Figure 1. Chris Reid, Optogenetic Rat (2013), photograph.

## THE ONLY THING MORE POWERFUL THAN FEAR IS HOPE

# Neuroscientist Christine Jasoni in collaboration with artist Sally Shephard

Was your mother's health during pregnancy to blame if you feel awkward at parties, or if you can't stop eating those fatty foods?

These may seem odd questions. But recent studies suggest that our mother's health when she was pregnant with us can have an uncanny influence on our mental health and behaviour.

Pregnancy is a time when a mother and her offspring interact most intimately. After all, the fetus in the womb relies on its mother for, well, everything. So if a mother is in poor health, it should be no surprise that her fetus may be adversely affected. But how does this actually happen? Our research is aimed at discovering how a mother's health can affect the development of her unborn child such that its long-term health is compromised. Our goal is to protect the unborn child in the face of poor maternal health in order to give the child the best chance of a healthy start to life and lifelong well-being.

#### CHRISTINE JASONI

My work is concerned with issues of optimism, discovery and society's attitudes to progress. Scientific research is the main tool for discovering the new, but as a society we all need to address and discuss how any new knowledge might affect the individual and the decisions we make.

Art and artists are in a unique position to provide a starting point for these discussions. The way a society treats the vulnerable within in it is a marker of its humanity and goodness. I have always been interested in relationships between child and parent and am continually dismayed by the appalling statistics we have in New Zealand regarding child abuse, neglect and unnecessary deaths.

The issue of parental responsibility for the care of the children we choose to bring into the world is one we must not shy away from. For the research – exciting and well intentioned as it is – to be valuable and helpful, it must be acted upon by the pregnant mother. Motherhood and parenthood itself is under scrutiny here. The child, although unborn, in my view has a right not to be intentionally damaged.

I am exploring ideas around the feminine, danger, the precious, and the continuum of life; after all, there is nothing newer than a new life, and no greater promise than that of the unborn.

### SALLY SHEPHARD

**Sally Shephard** is a practising artist who is also enrolled for the Master of Fine Arts degree in the Dunedin School of Art.

**Christine Jasoni** is a senior lecturer in the Department of Anatomy at the University of Otago. She trained in the United States and moved to New Zealand in 2002, where she is still trying to get used to not having Christmas in the middle of winter. Her scientific interest is in understanding how our most impressive and complicated organ, the brain, forms in the period before birth. Her research focuses on understanding how adversity in the womb can increase the risk of neurobehavioural disorders and mental illness in later life.



Figure 1. Sally Shephard, The Only Thing More Powerful than Fear is Hope (2013), mixed media, dimensions variable.

## **VIRUS #72**

# Neuroscientist Valerie Tan in collaboration with artist Richard Mountain

My project attempts to prevent the onset of Alzheimer's disease by using a virus injection to transport proteins into a target region of the brain. Alzheimer's disease is most noticeably a dysfunction of memory and learning, and therefore we are aiming for those regions in the brain. We look at behaviour changes and also changes in the electrical signalling of the brain.

### VALERIE TAN

My work derives from a response to illness. By looking at the microscopic world we are now able to combat illness in new ways. Viruses in the past have hindered us, but now we are harnessing them to deliver life-altering medicine to help prevent and cure debilitating illnesses such as Alzheimer's disease. The research into Alzheimer's that Valerie Tan is currently conducting contributed towards this work, *Virus #72*.

I see clay as a very human material. It is from the ground we have come and to which we will return. Ceramic forms can be anthropomorphic – foot, belly, shoulder, neck, lip and mouth are all words used to describe a ceramic vessel. My early works have broken away from conventional ceramics. Putting them on the wall has removed their function and turned them into compositions.

I chose my Masters degree topic because of my experiences with illness and the processes that saved my life. Drugs administered to my body fascinate me. I am interested in the way they affected the cells inside me, becoming a series of lifesaving events on a molecular level.

My response to this experience was to try and make sense of my existence in the universe and the world I live in by looking at the parallels between 'micro' and 'macro' and patterns in nature. By combining thrown objects with hand-built components I built forms inspired by microbiology.

I began to include bio-mechanical aspects influenced by rapid advances in medicine. The works explore how man and machine are starting to co-evolve through nano-technologies and bionics. These works question whether this cooperation between man and machine will change the notion of what makes us human.

### RICHARD MOUNTAIN

**Richard Mountain** holds an MFA from the Dunedin School of Art in ceramics. His work is influenced by the chemical and physical events that occur in our universe, resulting in 'us' and other biological organisms.

**Valerie Tan** is a PhD student at the University of Otago. Valerie works in the Biochemistry Department at the School of Medical Sciences.



Figure 1. Richard Mountain, Virus #72 (2013), ceramic and glaze.

## THIS PAINTING IS ABOUT MEMORIES

# Neuroscientist Lucia Schoderböck in collaboration with artist Sue Novell

My research interest is the molecular and cellular basis of learning and memory. Currently, I am studying newly born neurons in adult brains and their role during memory formation and retrieval. I can test which memory functions are lost when these recently born neurons are switched off by using genetic tools. When I look at samples on slides under the microscope, I often admire the beauty of the brain and its individual cells. I am very excited that this beauty has now been translated into art and am curious to see an artist's take on science.

## LUCIA SCHODERBÖCK

It is memories that enable us to tie our life experiences together – providing continuity in personal and collective histories. Without the binding force of memories, consciousness of our unique self and knowledge of culture would be lost.

The work is a collaboration between the brain science of memory and a photograph of a scene that captures a significant personal memory. Memories in the brain require activity in special single cells; similarly a digital photograph is made up of individual pixels and a painting of individual brush strokes.

At another level, our memories are constructions of multiple levels: sounds, sights, emotions, layered together. For this painting I merged a photograph of a significant scene in my life with a photograph of memory cells taken by Dr Lucia Schoderböck in the course of her research.

The result is therefore a visual metaphor for the experience of constructed memory and its biological underpinnings.

## SUE NOVELL

**Sue Novell** lives and works in Dunedin, New Zealand, where she graduated from the Dunedin School of Art with a Master of Fine Arts with distinction in painting in 2009. Since then her work has been shown in group and solo exhibitions in Auckland, Dunedin and Christchurch. Her work is held in private collections in New Zealand and Switzerland. A recent work was acquired by the James Wallace Art Trust in Auckland.

**Lucia Schoderböck** is a Postdoctoral Fellow in the Department of Psychology at the University of Otago. Lucia received her Master's degree in molecular biology in 2006 at the University of Vienna, Austria. She then undertook a doctorate on RNA localisation in neurons. After receiving her PhD at the University of Vienna in 2010, she moved to the University of Otago. Here, she first worked on a project studying the role of precursor proteins in Alzheimer's disease and then joined a team investigating adult neurogenesis.



Figure 1. Sue Novell, This Painting is about Memories (2013).

## NEUROSCAPE

# Neuroscientists Phil Brownjohn and Jonathan Shemmell in collaboration with artist James Bellaney

Following stroke, patients often experience disability resulting from damage to the neural pathways that control movement. Recovering the function of these pathways, and thus regaining movement, is a core goal of neuromodulation techniques such as transcranial magnetic stimulation. This technology involves the application of magnetic pulses to the scalp, which then pass painlessly into the outer layer of the brain, the cortex, and directly stimulate neurons involved in the motor system

Repetitive stimulation of neurons in this manner can have long-lasting effects on the properties of these cells and their pathways, and implications for improving functional recovery after stroke. Understanding the basis of this neuromodulation and how it interacts with existing rehabilitative strategies in the context of stroke recovery is a key research aim of our laboratory.

## PHIL BROWNJOHN

My collaborator was Phil Brownjohn, whose research explores the functioning of the cortex which becomes overactive during a stroke. The result is a shut-down in the brain causing paralysis.

As an artist, what interested me was the idea of function and disfunction, active and inactive, which in an organism as complex as the human brain signifies to me both the magnificence and fragility of the brain and ourselves. My painting is not intended to be a representation or a narrative, but functions more in ambiguity.

In the work, I used my 'organic abstraction' method, which involves pouring and merging paint of different consistencies to create fractals and marble affects that play with the idea of macro and micro, comparing geological perspectives as if seen from a satellite with the cell structures in our bodies and all living things.

The briliance of Phil's research lies in the re-stimulation of the zones in the cortex. Reigniting these zones reestablishes the neurological connections running from the brain to arm or fingers or face – the movements that help us through our daily lives.

For me, this suggests a metaphor that applies to art, connecting art and science. The importance of art is in the experience involved, the individual's self-reflection that invokes the imagination which risks becoming more and more dormant through easy-to-use technology and media that is fed by the machine.

### JAMES BELLANEY

**James Bellaney** has been exhibiting locally and nationally since completing his BFA at the Dunedin School of Art in 2011. His work includes painting and drawing as well as performance art. He exhibits in galleries, and in artist and community spaces. James was a finalist in the Clifton Art Awards 2012 and the New Zealand National Art Awards

in Waikato (2013) and has received commissions for public artworks in Dunedin. He sees himself as an active artist, experimenting with and exploring ideas around the medium of paint, the human condition and the imagination. He is currently working towards an exhibition in Wellington.

**Jonathan Shemmell** works in the School of Physical Education, Sport and Exercise Sciences at the University of Otago, and is also a researcher in the Sensory Stimulation Project at the university's Brain Health Research Centre. Jon joined the School in 2009. After obtaining a Bachelor's degree in sports coaching in 1997 from Deakin University, Jon completed a Master of Science (1999) and PhD (2004) in motor control and neurophysiology at the University of Queensland. He went on to investigate methods for improving outcomes for stroke survivors during his postdoctoral training in clinical neurophysiology at Boston University and the Rehabilitation Institute of Chicago (2005-08).

**Phil Brownjohn** is a Postdoctoral Fellow in the School of Physical Education, Sport and Exercise Sciences at the University of Otago and a researcher in the university's Brain Health Research Centre's Sensory Stimulation Project. Phil Brownjohn works with Jonathan Shemmell in the area of sensory stimulation research.



Figure 1. James Bellaney, Neuroscope (2013), house paint on canvas, 1700 x 1300 mm.

# LOCUS LUCIDUS

# Neuroscientist Margaret Ryan in collaboration with artist Rebecca Cameron

My research is focussed on Alzheimer's disease, a devastating neurodegenerative disease that initially robs the sufferer of recent memories and gradually leads to the loss of personality and independence.

We are interested in how this memory loss occurs and are focused on a particular region of the brain, the hippocampus, which is important in maintaining these recent memories. It is one of the first regions of the brain affected in Alzheimer's disease, and we are investigating the molecular changes that occur in this region in Alzheimer's disease. Identifying these changes will contribute to our overall understanding of how Alzheimer's disease develops and progresses.

## MARGARET RYAN

This project began with a discussion about memory and memory loss, and about how memory affects how we orientate ourselves in the world. I started thinking about an analogy between gene mapping and our mapping of our physical environments. This work also continues my investigations into how we establish a sense of place and build up our personal maps of an area, and how other places we've lived in and cultural ideas we bring with us affect this.

The lantern shown here has a cut-out design based on a place I've lived in in the past, one that's been formative for how I perceive where I live in the present. The mechanism used is influenced by technology from the era before photography. As it revolves it traces a pattern in light that forms a visual analogy for how body memories of place are built up through repeated paths taken through a landscape. It also reflects how memory, like the body or a home place, can be transient.

## BECKY CAMERON

Based in Dunedin, **Becky Cameron** holds an MA in art conservation, and in 2013 completed a Bachelor of Visual Arts with Honours at the Dunedin School of Art. She has been exhibiting since 2008, and her most recent project, "Te Ao Huri Huri /The Turning World," was shown as a part of the Dunedin Matariki Festival in July 2014. Cameron's practice explores landscape, memory, belonging and home.

**Margaret Ryan** is a Research Fellow in the Division of Health Sciences at the University of Otago. Memory loss arising from neurodegenerative diseases such as Alzheimer's disease is devastating both to the individual and to their loved ones, robbing sufferers of many of their uniquely identifiable characteristics. Dr Ryan's interest is in how memories are formed and stored in the brain at the molecular level and how this may be altered in Alzheimer's disease.



Figure 1. Becky Cameron, *Locus Lucidus* (2013), fire retardant paper, aluminium from drink cans, light bulb, found stand, wire and tracing paper. Dimensions of lamp: 540 × 200 mm.

## PIGEON PI

# Neuroscientist Damian Scarf in collaboration with artist Sue Taylor

My initial work with pigeons focused on 'higher order' abilities that were once thought to be unique to primates. This line of work has demonstrated that, like primates, pigeons are able to encode the ordinal property of sequences (i.e., 1st, 2nd, 3rd, etc.), plan for the future, and form abstract numerical rules.

My current focus is homing. Homing is the one cognitive ability where pigeons are clearly superior to primates, including humans. The aim of this work is to show how early life experiences influence the formation of a pigeon's multifactorial map.

### DAMIAN SCARF

My attraction to Damian's research work with pigeons is grounded in my general interest in birds and their abilities. Through observing commonplace birds in my home garden I have come to respect and enjoy their unique ways of being.

The Mobius strip is a form with only one plane so that there is no starting or ending point, but a continuous line that represents the eternal. Homing pigeons remind me of this continuous flow as they soar through the atmosphere, above the landscape, finding their way by means we are now learning to understand and appreciate.

The process of drawing is usually associated with tools such as pencils, charcoal, crayons, and pastels. In this work, however, I have used a sewing machine as a drawing tool to create delicate line drawings on soft creamy felt. To add tone and texture I have used metallic threads of different colours mixed together. Differences in stitch type and size are also used to add to the overall effect.

Gold, silver, and bronze threads are used to elevate the pigeons from the ordinary to the exquisite. These pigeons are not 'flying rats,' but have abilities that are represented in images of them working with symbols and in the intricacy of their brain structure.

### SUE TAYLOR

**Susan Helen Taylor** is an artist and writer who completed a Bachelor of Fine Arts at the Dunedin School of Art, Otago Polytechnic/Te Kura Matatini ki Otago, in 2010. Coming from a background in both crafts and the humanities, she seeks to bring these two strands together through the creation of fine art objects.

**Damian Scarf** is a lecturer in the Department of Psychology at the University of Otago. It was a third-year psychology paper (PSYC 319) and its teacher (Professor Michael Colombo) that first got Damian interested in psychology. After completing his BSc in zoology, Damian went on to complete his PhD in Professor Colombo's lab; his doctoral research focused on how pigeons execute and plan sequences. Damian continues to collaborate with Professor Colombo and his comparative research now employs electrophysiological techniques in order to uncover how sequences are represented at the neural level.



Figure 1, Sue Taylor, PIGEON PI (2013), hand embroidery and stitching on quilting dacron. when used with metallic threads on felt, a sewing machine becomes a drawing tool.

## MINDTHEGAP I

## Neuroscientist Brian Hyland and others with artist David Green

This three-in-one channel video plays with a number of ideas around mind and self, using a translation of Carl Jung's 100-word 'free association' formulary.

Research for this project included extended conversations with and recommended readings by the following scientists: Mike Paulin, Department of Zoology; Elaine Reese, Department of Psychology; Grant Gillett, Bioethics Centre; Brian Hyland, Department of Physiology.

**David Green** is a lecturer in electronic arts. An acclaimed director, director of photography and visual effects supervisor at RGA graphic film studios in Manhattan, he was represented by Lee Tamahori's Flying Fish Productions in New Zealand where he became known for directing a number of iconic and internationally award-winning television commercials before coming to work at the Dunedin School of Art.

**Brian Hyland** is head of the Department of Physiology at the University of Otago and a member of the department's Cellular and Molecular Neuroscience research group. His areas of research are the neurophysiology of midbrain dopamine systems and pathways and the effects of abnormal dopamine activity, such as occurs in Parkinson's disease, on activity in the motor control pathways.



Figure 1. David Green, *mindthegap 1* (2013), video still, three-in-one channel video loop, 1:10:16:00.

## FORAMEN MAGNUM

# Neuroscientist Stephanie Hughes in collaboration with artist Paddy Woodman

Viruses get a bad rap, and rightly so, as the cause of a wide array of diseases from the flu to HIV/AIDS. However, we can harness viruses for good. Viruses are expert at transferring DNA to cells. By replacing the virus's disease-causing DNA with something beneficial we can use viruses to treat disease instead. Our lab modifies viruses to test gene therapy for neurodegenerative diseases including childhood diseases, Alzheimer's and Parkinson's disease. These viruses can also be used to discover how the brain achieves various tasks, such as the role of specific neurons in learning and memory or in the control of movement.

### STEPHANIE HUGHES

This latest work is a combination of my interest in and fascination with jewellery and science. I have found the most compelling and intriguing overlap between science and jewellery to be the concepts of looking and discovery. Both artists and scientists are searching, discovering, analysing and reflecting on what they see and, in turn, often make discoveries by chance and serendipity. This series is intended as a celebration of gene therapy and jewellery, merging them to create a metaphor of the process and the ideas present in both.

I have utilised the structure and form of the lentivirus in my piece. The lentivirus is used in gene therapy as a means of carrying genetic code into the brain in order to spark repair of tissue responsible for memory. Fragility became an important notion which I embraced in my emerging prototypes. I feel this concept reinforces the techniques used in gene therapy and is reflective of the complications involved in memory loss.

Observing the brain affected by the debilitating disease of Alzheimer's, one encounters the phenomenon of holes and space. By their nature, such empty spaces are often overlooked. Yet holes are places to peer into, a chance for discovery. I am drawn and intrigued by the unseen world of what is inside a hollow object. A void is a seductive and mysterious entity, a thing of curiosity and allure.

#### PADDY WOODMAN

**Paddy Woodman** graduated with a BVA from the Dunedin School of Art. This latest work reflects his dual fascination with jewellery and science. He has found the most compelling and intriguing overlap between science and jewellery to lie in the concepts of looking and discovery: both artists and scientists are searching, discovering, analysing and reflecting on what they see and, in turn, often make discoveries by chance and serendipity.

**Stephanie Hughes** is a senior lecturer in the Biochemistry Department, School of Medical Sciences, at the University of Otago and works in the department's Neural Development and Disease Lab. Stephanie's research team aims to identify molecular pathways that regulate neuronal development, maintenance and disease. The lab is also developing tools and gene therapy vectors for Batten disease as well as Alzheimer's and Parkinson's disease.



Figure 1. Paddy Woodman, Foramen Magnum (2013).

## IS THIS THE WORK OF SADISM OR LOVE?\*

# Researcher Justine Fuller in collaboration with artists Desi Liversage & Katya Gunn

I use electrodes to measure the presence of dopamine and observe how it changes when cues predict that something rewarding is about to happen. We can see changes when Ritalin affects neurons that release dopamine and we can understand more about how Ritalin works – how it affects the processes that are going on inside an ADHD sufferer's brain. These are the shadows cast on the wall of our cave. We have to be careful how we interpret them, but it is much better than sitting in the dark.

### JUSTINE FULLER

Having chosen the dopamine pleasure pathway project, we met with Justine to discuss her work. What struck us the most was the respect Justine had for the lab animals she worked with.

Initially, we were wary about the use of an animal in the experiment as we are both animal lovers who struggle with animal experimentation. However, we have both had life-threatening illnesses, which we may not have survived without past animal research and acknowledge that it would be hypocritical of us to decry all experimentation. This work is our way of paying our debt of gratitude.

We decided to create a memento mori 'reliquary' to our rat, acknowledging Justine's research by taking our colour scheme from the graphs of her research and beading dopamine and sucrose molecules.

The rat is made of silk and Mickey Mouse paisley, the spine evolving from bone to beaded dopamine molecules; it lies in state on an ornate silk brocade cushion, surrounded by a frame of glass beads, delicate bones and gold thread. Crystal beaded sugar cubes are enclosed as a reward. It was a rare privilege to work with these delicate, beautiful bones.

### DESI LIVERSAGE AND KATYA GUNN

\*Full ethical approval was sought and granted for this artwork

**Desi Liversage** is a textile and mixed media artist with a particular interest in found materials. She holds a BFA and MFA from the Dunedin School of Art.

Katya Gunn is a self-taught beading artist who delights in luscious and beautiful materials. She trained as a doctor at the Otago Medical School.

**Justine Fuller** is an Assistant Research Fellow in the Department of Physiology, Otago School of Medical Sciences, University of Otago. Justine works in Professor Brian Hyland's lab in the Cellular and Molecular Neuroscience research group.



Figures 1–3. Desi Liversage and Katya Gunn, *Is This the Work of Sadism or Love*? (2013), fabrics, rat bones, glass beads, gold thread (detail).

## PATHWAYS

# Neuroscientist Laura Boddington in collaboration with artist Joseph Papps

Stroke is a leading cause of adult disability in the developed world, and a key component of post-stroke rehabilitation is the recovery of movement. Following stroke, the strength of the connections between each hemisphere of the brain is disrupted, which can result in one hemisphere becoming more inhibited than the other.

Theta-Burst Stimulation is a pattern of electrical stimulation that mimics the natural theta rhythms in the brain and has shown promise as a therapy for improving stroke recovery. We are investigating the application of electrical TBS to decrease this stronger inhibition seen in the brain after stroke. It is hoped that this will improve the brain's natural ability to reorganise itself and form new connections, to allow for improved restoration of function following a stroke.

### LAURA BODDINGTON

As an artist, my practice is based in electronic arts, comprising the elements of film, light, and sound installation. I specialise in the use of 16mm and digital film. Primarily, I work with found footage, taking films and imagery that already exist and reforming them into works that might include between two and ten different original films.

After meeting with Laura and learning about her work with stroke and motor function, I decided to make a film combining both old format film and digital film, using editing and layer techniques to create a unique piece of work. The main focus of my film is based on two aspects of Laura's work: the practice of Theta-Burst Stimulation and the formation of connections or pathways.

What interested me most about TBS was the repetitive nature of the electrical stimulation applied. Reflecting this, I developed a looped film with repetitive imagery, painting on celluloid using dyes. Secondly, the notion of forming new connections from old pathways was particularly intriguing to me as it reflected my current practice of working with found footage. This involves taking old I 6mm films and cutting them up, scratching into their surface, and blacking out or painting into the cells. Once this is done I splice the pieces of film back together, essentially creating my own new pathways. This piece reflects the work that Laura does and is my interpretation of and support for her work.

#### JOE PAPPS

**Joseph Papps** graduated with a BVA from the Dunedin School of Art in 2013, majoring in electronic arts. He is currently travelling and working in China.

**Laura Boddington** (BSc Hons Neuroscience Otago) is a PhD student in the Basal Ganglia Research Group at the University of Otago. Laura completed an Honours degree with John Reynolds in 2012 and is now undertaking a PhD looking at how electrical stimulation protocols can be applied to improve rehabilitation following motor cortex stroke.



Figure 1. Joseph Papps, *Pathwa*ys (2013), film installation, 16mm film, digital film, no sound, ink, dye, 3 min 23 sec.

## COMPOUND LOGIC

# Neuroscientist Andrew Clarkson in collaboration with artist Emily Grace Hill

Research in our laboratory is focusing on finding new pharmaceutical therapies that can either minimize the extent of damage to the brain or enhance the recovery of lost functions following a stroke. Recent findings have resulted in the discovery of new mechanisms that can help the brain regain lost motor functions. These mechanisms are mediated in part by establishing new connections between brain regions, enhancing weakened connections and unlocking silenced connections.

Pharmaceutical therapies that can unmask silenced connections in the brain, induced as a consequence of a stroke, can have profound effects on improving motor functions within hours to days of starting the therapies. These therapies are under intense investigation in the laboratory to understand how this occurs.

### ANDREW CLARKSON

Slices of yellow, droplets of turquoise and lines of intrigue thrown around captions of coding fill these prints. These works resonate with possibility and opportunity afforded in the sunny optimism of Andrew Clarkson's stroke rehabilitation research.

These prints' subtle narrative holds promise of memory being reawakened, of sections of the brain stirred to life again.

My current practice plays with the push and pull of depth of field and opacity of form through the context of architectonic forms. My interest is in the postmodern materials and features of postmodern architecture and the interaction with geometric forms influenced by the Russian Constructivist movement. Through this collaboration, I have abstracted these values in the form of text as the architectural backdrop and presented the contrast of biometric forms in place of geometric ones.

The setting of the Hunter Centre is a larger context for these works, the architectural enclosure providing the contrast of concrete and glass that I am most fond of utilizing in my work practice. Here the microscopic depths of human architecture are plumbed and the concrete pavilion of Stroke invited to hope for healing.

## EMILY GRACE HILL

**Emily Hill's** artwork is architecturally themed, reflecting her interest in multi-disciplinary approaches to painting and printmaking. She studied painting at the Ilam School of Fine Arts at the University of Canterbury until 2012 and has since been experimenting with textiles and wood and combining printmaking techniques with her painting practice. Emily's work is influenced by Art Nouveau, Bauhaus and Russian Constructivism and she takes an ongoing delight in abstraction. She is currently painting on canvases, printing on timber and exploring ways of combining two modes of representation.

**Andrew Clarkson** is a Senior Research Fellow in the Department of Anatomy at the University of Otago. Research in Dr Clarkson's lab focuses on post-stroke neuroprotection and regeneration and repair mechanisms. It is directed at promoting recovery of function following a stroke. The approaches used involve novel combinations of intensive rehabilitation, drug therapy and, more recently, the use of stem cells to enhance brain repair processes. This utilises behavioural, electrophysiological, optical imaging and anatomical measures to assess recovery after stroke.



Figure 1. Emily Grace Hill, (Compound Logic), 2013,.

## HOPES

# Neuroscientist Joanna Williams in collaboration with artist Rowan Holt

My research is focused on Alzheimer's disease, which is the leading cause of dementia in the elderly. Alzheimer's disease is a progressive neurodegenerative disorder, with the underlying pathological changes occurring in the brain years before the characteristic symptoms of memory loss become acknowledged by the individuals afflicted by the disease and their families.

There is a pressing need to be able to predict the onset of the Alzheimer's disease process to allow appropriate therapeutic interventions to be carried out. The aim of this work is to identify altered levels of small molecules in blood plasma which may act as a surrogate for the disease process and allow early detection of Alzheimer's disease.

### JOANNA WILLIAMS

By using processes reflecting house-building, I acknowledge the effect Alzheimer's disease has in the domestic setting and the changing dynamics of relationships that occur within families.

As memories vanish and disappear, the solid frame still exists, suspended in space like rays of hope. The staining on the wooden frame mirrors the methodology and visual result of preparing blood samples to reveal the indicators Williams is looking for. Williams uses a simple blue forget-me-not emblem to label successful finds, and this is directly translated in my painting of a single stem.

### ROWAN HOLT

**Rowan Holt** is a textile artist who lives in Karitane, near Dunedin. She incorporates her art practice into daily life while juggling a young family and a career as a registered art teacher. These domestic themes form a common thread in her work. She also enjoys gardening, horse-riding and playing the violin. Rowan holds an MFA from the Dunedin School of Art.

**Joanna Williams** is a senior lecturer in the Department of Anatomy at Otago University and also works in the university's Brain Health Research Centre. Dr Williams' research team applies the tools of molecular biology to uncover the mechanisms underlying the ways in which the brain adapts and responds when memories are formed.



Figure 1. Rowan Holt, Hopes (2013), epoxy resin, Japanese poplar, shellac, gouache, 500 – 1700mm (variable).

ART & ANATOMY

# ART AND ANATOMY: THE STRUCTURE AND FUNCTION OF AN ART–SCIENCE COLLABORATION

## Jenny Rock and Sunkita Howard

This paper explores the practices and experiences of participants in an art-science collaboration, the Art and Anatomy Project. It was our intent to draw out reflective perspectives on what worked (or didn't) in this project, enabling us to understand the conditions that support different types of collaboration and extend its wider impact. The Art and Anatomy Project followed closely on the heels of its precursor project, Art and Neuroscience and, as Peter Stupples and Ruth Napper note in the accompanying exhibition catalogue, preserved its intentions of showing the artists' response to scientific research.<sup>1</sup> Despite being described in promotional material as a collaboration between "artists from the Dunedin School of Art and neuroscientists from the University of Otago," as intimated by participants in the first project it was uncertain how mutual the collaborative exchange was. Work towards facilitating feedback from artists and scientists was initiated from the start of the Art and Anatomy Project, and our findings are summarised here.

We focus on three key questions. (1) What were the tangible benefits and opportunities perceived by participants? (2) Was the act (and/or output) of collaboration one of these benefits, and how did the process work? Collaborations are often (though not necessarily) the union of very different expertise and experience. (3) Was this the situation realised by participants or were commonalities also discovered? Examining participants' views on these overarching questions also allows us to gauge the success of the project against some of the expectations and objectives arising from the Art and Neuroscience Project. They also reveal potential for further projects with impetus for expanded collaborative actions.

Our methods of analysis involved collecting feedback from multiple media including: participants' written commentary in reflective notebooks that they were asked to keep (and in some instances queried via follow-up emails); evidence gleaned for modes of practice manifest in artists' sketchbooks; comments on the process recorded at debrief meetings and/or noted in subsequent conversations; and observation of artworks and associated documentation (for example, artists' statements and the exhibition catalogue). The perspectives of six artists and five scientists who participated are integrated with this material.

## WHAT WERE THE TANGIBLE BENEFITS AND OPPORTUNITIES PERCEIVED BY PARTICIPANTS?

Working as part of a group was one of the most obvious benefits offered; participants consistently reported that they enjoyed being part of the group and making connections." I am happy because of the blend of people involved" [artist f]. Access to new materials was also frequently noted as a benefit for artists as well as scientists. "It is nice working with new imagery. I feel I am exploring my own artwork techniques, seeing what I can do on the canvas" [artist b]. Others appreciated the opportunity to work with human material (for example, skulls and plastinated bodies) or technical equipment. After an hour on an electron microscope, one artist noted they "loved being down in the quiet space – it creates such a sense of purpose and focus. Amazed at the micro/macro patterns occurring ..." [artist f].

Many valued the opportunity to think from the perspective of another process: from exercising a scientific approach to meeting and data collection, to "the opportunity to explore other avenues – voicing the same ideas but in different media ... [there are] not enough hours in the day to explore all the ideas that have come all of a sudden" [scientist e and artist f]. Artists' notebooks recorded fascination with details of methodologies. One artist noted that her scientist processed multiple sections through the brain to be able to spot differences and then counted dead cells, comparing damaged versus control groups. Her notes then distilled key ideas – for example, the brain as fragile, easily damaged (vulnerable) but partly repairable. She found the scientific method of working in series of thin sections to be comparable to the print process of *chine collé*, and used tissue paper (reflecting on the dimensions of microscope lens cleaning tissue) to link back to the fragile tissues of the brain, as well as considering parallel approaches involving numbered series and layering, in which some subtle information was changed to "develop a visual language of the science encountered" [artist a].

Similarly, another artist investigated thinking of slices as a format, and cropping material into a strip as a way of looking. This was how she observed her scientist making observations, who she noted often spoke about "looking through ... we tried different grids: quite like this solution of silver mesh fabric then digital print" [artist f]. Working with other discarded material sourced from another scientist, she noted: "the discarded [materials of science] – making it into art inverts the power/value."

Opportunities included access to special places as much as people, from the Anatomy Museum right down to the floor of the Anatomy Department building: "this morning printing the textures from the floor of the anatomy building – love it. Kept working in the night trying to resolve unity ...." [artist f]. For one artist in particular, access to the Anatomy Museum opened up a new world, as revealed in her chronology of comments: "More drawing the skull in the museum, discovered that I can stay past 5pm thanks to central lock doors! [A week later] Argh! Students messing with 'MY' skull so I visited plastination land instead. Not sure how I felt about it [...] swing between intense interest/concentration – intense hunger – intense nausea. Drawing came out really well though. Very surreal headspace afterwards. [Two weeks later] More visits to the Anatomy Museum – beginning to feel quite comfortable there, even when big groups of students continuously stare me out for crashing their turf! [...] I admit that I am in awe/fascinated/attached to the plastinated people I've been drawing ...." [artist c].

The scientist paired with this artist commented to colleagues how happy she was that her artist was working so much in the museum. This suggests that a further benefit for scientists may have come from the rewarding feeling of sharing specialist material, which for many comes with the burden of feeling the need to do justice to privileged access. Another scientist noted that art changed the way she looks at science, allowing her mind to work more laterally, with less focus. Being "a bit dreamy" [scientist b] is something she felt was not acceptable as a scientist handling equipment worth serious money. When working with her artist partner in the studio, she noted that "the essential difference is [that] I feel a freedom here that I don't feel in science," which sets up a trail driven by linear literature research, leading from one paper to the next. Interestingly, her artist partner noted a similar linear/ tangential juxtaposition between the scientific and printmaking processes, "where one print can lead to another" [artist f], and end up leading one off on a substantial tangent.

## HOW DID THE COLLABORATIVE PROCESS WORK?

Clearly, one of the key benefits for participants was the facilitated opportunity for collaborative exchange. But what types of collaboration arose and how did that process work? We observed that two different types of collaboration developed: individual collaborations between paired artist and scientist, and more collective collaboration where many artists and scientists helped co-create a common piece of artwork. The former was by far the more frequent interaction, as described below.

#### Individual collaborations

All artists and scientists involved in the project engaged in at least one individual collaboration (sometimes two or more). Generally, pairs met between three and five times, almost always on the scientist's turf. Meetings were noted as being more frequent in the early stages, and generally very time-focused and organised. These brief information-packed meetings, where ideas were 'bounced' about what the artists had done and could do, were described as quite purposeful, something which scientists notably valued. In-person meetings were generally augmented with email exchanges of images and ideas, also most frequently in the early stages of the project.

Most participants reported that the interactions in their pairs was sufficient, although scientists frequently commented that they regretted not having had more time for continued involvement, and some artists expressly noted wishing their scientist partner had more time during later stages. Artists referred to the critical initial encounters and information exchanges as creating a stimulating base for their subsequent work, which appears to have been more generally solitary. In at least one instance, an artist with previous scientific background also relied on past experience to inform their work, in addition to their scientist collaborator's input.

The first steps of most collaborations involved the sharing of images. Although, in many instances, inspiration was derived from a shared set of science-based visualisations, personal interaction was critical, too: "... familiaris[ing] myself with the facial bones (as described in my mid 70's *Grey's Anatomy*). Actually, it was just an excuse to do some cool medical drawings, the REAL stuff will come from [my scientist]. Can't wait!" [artist c]. Another artist noted that "it has been a really interesting process working with [my scientist]. I really liked being given the imagery and content through conversation. It made me focus so much more on the process of making the painting as I didn't have to source any original images at all. I really enjoyed pushing my own techniques and incorporating collage for the first time. I would be keen to do this again" [artist b].

After initial meetings, and in some cases joint sessions using specialist equipment to coproduce some images for the artist, the interactions between artist and scientist generally tapered off. In one instance, the scientist painted in some final small elements of the artwork, but the following scenario was far more common:"The final art work was a real surprise to me as I guess I had some ideas in my mind of how it would look, but [it] was completely different to how I had imagined it and it really did surpass any of my expectations!" [scientist c].

Some artists reported that the process made them feel "alive" in their craft, and that the collaborative work of "coming into a creative space for [the] push and pull of ideas [made me feel] artistically and creatively awake – feel I am made to do this" [artist d]. Another artist noted that in addition to solitary work, she needed "this sort of intensity of people and discovery to stay engaged. [...] This is what I love, an exchange of specialist knowledge. [...] I love this way of working – without a preconceived outcome [...] I like soaking up views/energy of other people and the way an art experience can harness ideas/images and resolve them into something that feels right in the body" [artist f].

Others valued the engagement and cooperation; "nice being part of something communal ... sharing knowledge with researchers, generosity; sharing resources with scientists and fellow artists" [artist a]. Scientists saw the experience as providing a "juxtaposition, a collaboration between the physicality of the science image and the artful" [scientist e], and noted that they "enjoyed seeing final art works and I enjoyed seeing visual interpretations of my work. ... [a] successful celebration of both scientists and artists pursuing results to interrogative inquiry" [scientist a]."It was great thinking about my research from a different perspective and consider[ing] how this may be interpreted artistically [...] the art brought colour, life and meaning to the subject" [scientist c]. Among the artists, it was a common perception that they were not sure what the scientists got out of the process; while they found the latter to be often very focused on their own research, they seemed quite pleased with the final work.

Reflection on the types of interactions recorded in artists' statements in the exhibition catalogue suggest that although there was variety in the nature of the collaborations that arose, one particular kind of relationship
predominated.<sup>2</sup> This scenario involved the scientist providing inspiring material and/or ideas, where preliminary imagery (exchanged from scientist to artist, or occasionally co-created in the science lab with specialist equipment) and conversation triggered the subsequent solo works produced by the artist. Often it appears to have been the imagery itself that was the catalyst, but technical methodologies such as histology or optical tracking were also influential. Occasionally it was a medical treatment that became the focal point of the artist's work and led them to explore the relationship between patient/society and treatment. This echoes similar trends apparent in the Art and Neuroscience Project, where artists' work often explored the experimental methodologies and values surrounding lab animals, or patient-medical relationships.

In a few instances, the initial imagery and discussion proffered triggered works addressing key paradigms in science. These works can be seen to enter into the critical conversations of science, and indeed have potential to contribute to the dynamic boundary debate surrounding paradigm shifts. For example, one collaboration explored different paradigms relating to the anatomy and podiatry of the human foot. Contrasting understandings of the structure and function of the foot can be simplified as 'strong' versus 'weak,' each demanding an inverse proportion of treatment and intervention. One artist explored her scientist's understanding of the foot as ''flooded with strength,'' incorporating an immense number of intrinsic and extrinsic elements (such as bones, muscles, ligaments, tendons, sheath/sole) and base layers that reminded her of engineering elements, or a ''masterpiece reminiscent of architectural arches'' [artist d]. In conveying the image of the foot as strong, the artist also explored its role as a sensory organ relaying information directly to the brain, and thus inherently flexible and responsive in neurophysiological terms. Strength, movement, flexibility, responsiveness are all appropriate to her working analogy of a suspension bridge. She also found analogies with music and dance: ''musical notes like the strings inside a piano ... dancing feet bones like a marionette in and on the bridge's suspension wire ... high tensile steel ... like a moving tessellation'' [artist d].

Another instance of art prodding the prevailing paradigms of science can be seen in work which queried the concept of a fragile versus resilient brain and explored an alternative view of the elasticity (and thus resilience) of tissue: "The amount of punishment tissue can receive and yet recover [from] was also a surprise to me [...] It is somewhat surprising that in all this time of human development our own bodies should still hold such mysteries of function and regeneration/healing properties [...] human anatomy is not static" [artist e]. The potential for art to develop new paradigms was further articulated by this artist: "The leaps that mankind makes is often due to a non-linear sidestep rather than the narrow non-divergent logical thinking of science – the science fiction writer, the poet and the artist need to become more involved in progress" [artist e].

Another artist also noted a particular power of art: "art can give us a surprise – jolting us out of our assumptions" [artist f]. They outlined part of the process behind the critical lens offered by art in their reflective notes on their work: "Interesting looking back at early stages – when I was in love with the electron microscope images. Still like them but the novelty has worn off. Work/prints have become more complex [...] At the start all the scientific images looked fantastic but now I recognise the need to push them further. Sometimes with drawing it is not that you get a fab/usable work but the process opens up possibilities/helps you see'' [artist f]. Around 5-6 months into the project, the same artist noted: "finally the leap from scientific image to more artistic/metaphorical is starting to happen – I can feel the cogs in my brain loosening up and leaping."

In addition to its benefits and exhilarations, collaboration can be challenging work, and does not necessarily lead to mutually rewarding outcomes. Comments from artists noted that the experience was not without its challenges. "It's quite full on, I don't know if that is solely because I'm taking it very seriously but I really feel like it's an important project, particularly for me personally because it was so deeply in my interest areas. I'm quite anxious about the finished piece, I'm working quite differently to how I have in the past and I'm not sure where I'll go between the drawings and the finished work. The first study I have done has helped me to feel happy about it but to not have a specific image or idea in my head is exciting and challenging! Because the process is different [...] I'm really worried that it'll be crap and I'll have nothing to show. Completely irrational I know [...] I'm doing SO much work that it should be fine!" [artist c]. Further revealing what is perhaps a commonality with performance anxiety and work ethic often exhibited by scientists, another artist noted: "Feeling like the project is full of possibilities but a little overwhelmed – wondering if I can do it all justice" [artist f]. Weeks later, in their reflective writing the same artist noted: "I still feel nervous jumping in [...] because this project is important to me. It feels like an accumulation of things I value in the art world that are often undervalued – artists' books, practical technical stuff, working in collaboration – i.e. artist identity is not featured – more about the work. I have to remind myself fear and excitement are the same feeling sensation" [artist f].

#### **Collective collaboration**

Although the work of individual pairings was all undertaken for a single exhibition, the works generally did not cross-reference each other; collaborative interactions between artist-scientist pairs were private affairs.

Collaboration as a more collectivist activity was developed in the Art and Anatomy Project through a project initiated by one artist. After the first meeting, in which introductions were made and research described, one artist was particularly struck by the way in which the scientists who presented their research were making aesthetic choices. In a responsive effort aimed at delving deeper into scientist participation in art practice, she launched a group collaboration using printmaking to make a collective sketchbook. This initiative was in part inspired by her interaction with her scientist, who also filled a technician's role within the Anatomy Department. "Thinking how my scheme to facilitate the prints for the scientists is actually a parallel to [a] technician job – in many ways I will be the print technician for the project, so while observation is a key thing/detail/function of these tiny things we can see through a microscope – the role of technician is a simple and major link as well. ... you can't take yourself out of yourself – my flavour is still apparent. I wonder if it is like this for a science technician – if they influence the outcomes through their perceptions" [artist f].

Although the book project was aimed at scientists, several artists also took advantage of the opportunity and appear to have particularly valued the act of working together. "The enthusiasm - it is not just about printing but the way it is a shared (or can be) activity that connects people – helps people find a place" [artist f]. Coming together for the print sessions in particular "created even more exciting deviants on materiality and process" [artist e], "spurred me along because I could see things happening" [artist f] and provided a useful opportunity for "dress rehearsal" [artist a]. The artist-technician and other collaborating artists concluded that they were more willing to experiment when working together in the studio space, and hypothesised that "we become braver - extend our limits ... from bantering off solutions, and [...] bouncing ideas off each other, being exposed to different materials and techniques" [artists a and f]; "having someone else around helped me be more playful and just try stuff" [artist f]; "the collaborative process is the important bit" [artist d]. The nature of collaboration between the artist-technician and scientists varied, involving a "synergy of energies" from contributions that ranged from an idea to an image: "am loving printing this page for [scientist e] – it's like even though I am making the plates and the choices I am influenced by his energy and workplace visit. So my way of making is changing'' [artist f]. Participation by scientists in the printmaking session also appears to have been rewarding in reinforcing valued aspects of science: "loved the printmaking session, do not view my work much differently but did illustrate to me the parts of science I enjoy the most'' [scientist b].

Although focused on a common end product in the book, collaborative activity was still often restricted to one-onone work sessions between the artist-technician and other individual participants. Indeed, the role of the technician in facilitating a collective that preserved the individuality of contributions, yet gave a sense of overall unity, elicited some real challenges to collaborative work. These included her annoyance at the way other people's expectations made things more complex (for example, wanting the technician to "make pretty" imagery that she in fact found to be inherently ugly), and her constant battle with "thinking what I need to let go control of ... the book is growing very organically and yet I want it to look a bit cohesive. ... Tried limiting colours but that old thing then of wanting to have expression of individuals showing through" [artist f]. It also raised issues of the authorship and ownership of ideas, which she found "in this project is a little like teaching, [although it] makes me pleased some ideas I have are being actioned, as impossible to do all your ideas" [artist f].

# WHAT DIFFERENCES OR COMMONALITIES BETWEEN ART AND SCIENCE WERE REVEALED IN THE COLLABORATIVE PROCESS?

Several of the participants had both art and science backgrounds – for example, a practicing artist who had been a health sciences professional, and an electron microscopist with a previous career in the arts. At least one noted the "somewhat artificial division between scientific and creative thinking" [artist e]. In many instances, the collaborative relationships appeared to be strengthen by perceived commonalities in process. It was noted that observation and visualisation were vital to understanding in both discplines, finding common ground in the "visual language of science" [artist a], but likewise, that aesthetics also had a pervasive influence. Artists using microscope drawing arms for the first time noted how in slowing you down, it really made you look. One artist summarised her understanding of the common ground shared by artists and scientists in the following terms: "curious, focused, flexible thinking, work towards discovery rather than a known, inventive, use tools/materials in different ways, persistence, always excited about learning new things and other possibilities, about looking and observation …" [artist f].

Artist notebooks revealed a common use of the language and procedures of research, whether in regard to understanding the theoretical bases of concepts or experimenting with process. "Working on technical aspects of the solar plates – many variables, even down to the print quality dpi on the laser printer – it actually made image edge more ragged which = less desirable. Also concerned about amount of plate tone when doing intaglio so need to experiment on yellow plate with less aquatint screen and/or image exposure time for laser and inkjet digital positives. Does the image bite at all if I use laser printed image and no aquatint? What if I lay down aquatint but expose for 3 mins with inkjet image?" [artist f]. Indeed, hypothesis-driven methodologies were well evidenced throughout many artists' notebooks. Solving compositional issues was also framed as active "problem solving." Some artists felt that artists in general could better acknowledge that they have transferable skills that develop ways of thinking, meaning that artists often make good problem-solvers [artists d & f]. "Artists and scientists both research, investigate, create, destroy, layer, keep images ..." [artist b].

Other processes noted by artists in their reflections aligned with those commonly expected of scientists, such as experimentation, the conducting of pilot studies and consilience. "Spent the evening of Monday 24th wrestling with it [...] and not getting very far, which was stressful. But on Wed 26th I cracked it and came up with the beginnings of a really solid idea that's working nicely with what I've already got" [artist c]. "Have been thinking and evaluating ideas in my head – how will this work etc. – but sometimes you have to work it out in the physical realm as well" [artist f]. Another example of commonality was the emphasis placed on the early phase of research focused on data collection, before data analysis commences: "It is just so tempting to fall into the 'collecting phase' ... but time is running out. However it produces a little bit of calm when limits are put in place" [artist f].

The element of time was another shared aspect of the work process in science and art, where an enormous amount of work does not directly issue in an immediate tangible result. For all participants, the pieces exhibited were presumably equally valued as physical outcomes of time invested. Reflecting on the process of notation and problem-solving over time, some artists depicted the relationship between thought, reflection and an artist's workbook as similar to the role of the scientist's lab book for documenting and promoting analytical thought: "what I like about this phase is the cyclic thing that happens. Think think think and then look through work already made/ processed and a solution can turn up just like that. A case of relooking at times – looking at repurposing what could have been abandoned. ... On a different page I had printed a surface perfect for [artist e's] 'flesh' but couldn't 'see' this – tunnel vision for a bit ... printmaking requires flexible thinking. Had in mind where slide was going – didn't 'sit' well so changed it. [...] Some of my thinking is changing from explorative to more decisive and detailed. I am starting to visualise solutions to pages I have been struggling with'' [artist f].

In particular, commonalities in process and approach were discovered between cellular anatomist's methodologies and those of a printmaker. Participants noted that the language used in both disciplines had strong parallels in terms of concepts of rotation, multiples, overlay, repetition, reflection, inversion, scale; printmaking artists noticed how some scientists used to slide preparation and analysis of multiples intuitively 'got' the same principles in printmaking techniques. "I was amazed at all the knowledge [scientist d] had that was relevant. For example, grey scales/photography and even little enzymes that eat gelatine and are put in a tissue sample with gelatine with what I would call a printing plate. Only difference is scale – have to look at them under a microscope [...] what was most delightful for me was when I asked [scientist c] about reflection – a big component of printmaking – and she said [you] have to do a flip in your brain (as printmakers do) when looking at MRI – L is R/R is L' [artist f].

Common ground was also found in the role of creativity. Creative contributions from the scientists were evident even in the initial stages of sharing their research, when delivering information to a non-specialist audience demanded communication that was "more weighted towards a story" [scientist c]. Some artists observed that in their communication of their work, scientists were "making decisions/intervening and highlighting specifics ... finding a way to show others what is important. I thought the scientists I interacted with were artists – just using different materials ... like using enzymes to cut tissue – could be etching. When they were describing (for example, something inside the body) you could see them visualising – their eyes were mapping the territory" [artist f]. One scientist considered that they were simply "sharing specialist info, methods ... but because the artists I collaborated with very quickly understood the visual potential of the images, they were quick and eager to understand the story behind the images. This was incorporated into their interpretation of the images" [scientist a].

It is perhaps in this sharing of personal aesthetics through shared imagery and theoretical perspective and focal points (revealed in story and selected content delivery) that the assertion in the exhibition catalogue that "[t]he artists use[d] the scientist as the traditional muse/inspiration" rings most true. Our own observation was that, most overtly, inspiration arose from the subject matter the scientist presented, rather than the individual per se.

Beyond language and process, some artists noted that they shared much in common with their partner scientist as people ... "[scientist a] is really cool [...] we both seem like pretty similar people. Busy but keen for the project, no time really for the group stuff [...] I actually felt really connected to her (not like me at all!)" [artist c]. One behavioural trait common to personalities in the arts and sciences was observed to be risk-taking behaviour. "So after learning the 'right' way to print certain plate types [scientist d] was ready to break free! Took a risk doing something different." [artist f]. Both artists and scientists also noted discussions about overarching cognitive commonalities, or "the high number of people that have both art and science 'brains'" [artist f and scientist a]. "When one artist did a 'test' for left or right brain dominance and scored 78% left brain, 22% right, she was surprised as she had believed her R dominated." She attributed this to temporal flexibility in our brains: "probably at the moment I am more in a phase of logically working through the wide field of material I have. Bet this test result will change if I do it another time'' [artist f].

An impediment to interaction was occasionally associated with anxiousness surrounding the perception that the scientists were "time short" [scientist e] and/or "brainy" [artist f]. But a similar reluctance was attributed by scientists to the fact that "they don't feel artistic enough" [scientist d]. "When [I] visited [scientist d] in his hospital office space I was very nervous ... when I commented on my nerves to the scientists they said that's how they feel when they come into my space/an art space" [artist f]. This artist, who facilitated the printmaking collaborative, had developed extended insight into both shared creativity and shared nervousness in crossing between 'cultures': "[scientists] come in [to the art studio] thinking [they are] not so creative, but wow – such lateral and still connected questions were flowing from [scientist c] ... [scientist b] and I have been having parallel thinking as in incorporating old text, using shapes to give another layer of information, and the rubbing of plates. She asked if this was the way artists think – in relation to the way she found her ideas evolving – and I said yes. Made me realise I thought everyone processed like an artist – i.e., I understand that people have different talents and ways of processing but thought mostly some cognitive functions would be the same. So what would happen if [scientist b] applied this different way [to] her science work?" [artist f].

# SUCCESS OF THE PROJECT AND POTENTIAL FOR EXPANDED COLLABORATION IN FUTURE PROJECTS

Feedback from the Art and Neuroscience Project (in which a number of artists from the current project also participated) inspired expectations for Art and Anatomy. An unpublished logic model developed by the authors mapping the projected outcomes of two interventions – artists and scientists met regularly as a group, and artists spent time with scientists in the latter's work environment – can be divided into short-, medium- and long-term outcomes. From the perspectives of the participants documented here, it is clear that many of the expected outcomes were met, including the short-term goals of participants forming relationships; artists gaining an awareness of new scientific concepts/methods/tools; scientists gaining communication practice and skills and scope to think creatively about science; artists being inspired to create art that explores or responds to science and reflects 'new ways to see.'

Medium-term goals achieved included: an art exhibition sharing innovative ways of thinking about science with colleagues and the public; and the sense experienced by participants of being connected to a wider (university/ School of Art) community. Evidence for the latter can also be found in, for example, artists continuing to inhabit science spaces after the project was completed. One artist still works in the Anatomy Museum on a weekly basis on a self-directed project; "really enjoy working in there and I'll probably continue as long as I am living in Dunedin, there's just so much to learn!!!" [artist c].

# HOW MIGHT THE ART AND ANATOMY PROJECT INFORM THE NATURE OF FUTURE COLLABORATIONS?

Although post-exhibition discussions between participants in the Art and Neuroscience Project indicated interest in developing mechanisms for enabling further scientist participation,<sup>3</sup> structural changes intended to facilitate this process within Art and Anatomy did not widely eventuate. In the group, the dialogue between art and science quickly became private (restricted to conversations within the pairs, with the input of the scientist also tapering off quickly). This was detectable as meetings progressed throughout the year to the final debrief meeting, where no scientists were present other than a central organiser. As a means of maintaining the collective interaction longer, particularly to include scientists, it was proposed that future meetings be turned into workshops where techniques, processes and general progress would be shared. It was also proposed to extend the opportunities for interactions between artists and scientists by placing them in closer physical proximity through artist-in-residence programmes within science departments at the University of Otago. This would capitalise on the multiple benefits of in situ experience, including those accruing through personal interactions:"enjoyed being in the space – so many interesting things to look at. [...] Just so amazing to be working on site – because get the chance encounters – not just formally planned ones'' [artist f].

One change which was enacted in the Art and Anatomy Project involved bringing shared reflection and open evaluation of the project to the fore, and may have facilitated an increased focus on reciprocal exchange; it may have encouraged one artist to expand the nature of collaboration to create a communal piece (the print book). This singular example of collective collaboration within Art and Anatomy might be expected to have invoked a feeling of group identity through collective ownership; and, indeed, artists described the positive process of working together on the book as moving beyond traditional modes of collaboration. Artists noted that there is a culture in galleries that "people can't touch," whereas this collective effort moved towards "social consciousness for the people rather than above the people" [artists d & f]. There was general support for considering ways of incorporating additional aspects of such social art into future collaborative projects.

Another way that active collaboration could become more sustained would be to collectively explore the impact of the collaborative work on public engagement. Some evaluation of public perceptions of the exhibition, and of art and science communication generally, was conducted on the Art and Anatomy Project,<sup>4</sup> and the results proved to be of significant interest for artists attending the final debrief meeting. Given the focus on science communication evident in the Art and Neuroscience Project, potentially, scientists might be drawn to a collective research project on public perceptions of their research, and more of them might remain involved in any future project throughout its course.

It strikes us that a further means of extending scientists' participation into a more genuine process of collaboration may involve realigning the intentions of the project and the way it is presented. For instance, the project's preferential focus on the artist is reinforced by a variety of formal descriptions of the project in the exhibition catalogue. Although the artists devoted the most time and energy to the project, statements like "artists have volunteered to work with scientists," obscures the fact that in terms of an activity relevant to career performance measures, the artists' efforts can be more easily viewed as professional work, whereas - under current performance measures - the scientists were very much the ones volunteering time. Further, the initial conversation between artist and scientist is described in the catalogue as "centred on the research undertaken by the scientist," whereas a sharper focus could be placed on conversation that includes and extends discussion of artist perspectives, or the greater societal context of the research. Rephrasing it as a "dialogue about research and interpretations" would suggest an intention to conduct a meaningful two-way exchange of perspectives and ideas. Indeed, a slightly modified remit could challenge scientists to not simply express their research interests (which could be expected to be the elements they felt most confident about and thus secure in articulating), but to share the mysteries, problems, guestions and tensions inherent in their particular field of research. If both artist and scientist are positioned on the shifting ground of science, rather than something perceived to be solid, then this may invite sharper questioning and observations, with an enhanced feeling of authority and validity from artists. Such an approach would also invite scientists to think more critically about creative interpretation as a way of generating hypotheses. Further, such shared interaction would demonstrate to all involved (artists, scientists and the viewing public) the dynamic exploration of ideas in science, and how vital creative thinking is.

Perhaps one of the most potent messages to surface from these collaborations is that the huge variety in the resulting collaborations and end artwork is the product of equally enormous variation in approaches to science and art, and in the personalities of the individual artists and scientists. For example, "one scientist was more 'straight up and down' ... and others were more lateral and wove connections and stories into our conversation" [artist f]. Many different ways of working were apparent, but so too were commonalities, and these were not sequestered within a single discipline. Indeed, all participants appeared equally fascinated with processes and ideas; individually, we are attracted to different approaches and we become practiced in particular methodologies and theory, which can self-reinforce perpetually.

Collaborations promote a shake-up of such cycles, encouraging us to acknowledge our central motivations as individuals, and to question the divisions we put in place between professional practice and private passions. One of the artists, encouraged us to question, "Why are you tearing me from myself?". In her artist's statement, her quotation from writer Heather Webb<sup>5</sup> applies equally to scientists and artists: "How are we to understand creation if the artist's selfhood is contained in his unaltered skin rather than within some central core of being that is brought forth in the act of producing art?"

**Dr Jenny Rock** is a biologist and artist who lectures in critical and creative thinking at the University of Otago's Centre Science Communication. Her interests include the aesthetics of science, visual/sensory cognition, and art-as-hypothesis.

**Sunkita Howard** is a Fulbright Scholar and doctoral student at the University of Otago. She incorporates the artistic practices of printmaking and poetry into her research on developing shark by catch reduction technology for longline fishing gear.

- I Art and Anatomy: A Collaboration between Scientists from the University of Otago, Dunedin Artists, and Dunedin School of Art, catalogue of an exhibition, 30 June 11 July 2014, Anatomy Department, University of Otago and Dunedin School of Art at Otago Polytechnic (Dunedin: University of Otago, 2014).
- 2 J Rock, pers. obs.
- 3 Howard and Rock 2014.
- 4 R Napper; unpublished data.
- 5 See Sally Shephard's artist statement in the Art and Anatomy catalogue included in this issue.

#### Review

# ART DESCRIBES SCIENCE

### Steve Grbic

The "Art and Anatomy" exhibition held during the New Zealand International Science Festival represented a collaboration between scientists from the University of Otago, Dunedin artists and the Dunedin School of Art. Its purpose was to provide a visual response to a range of scientific activities not usually seen or understood by non-scientists.

Senior lecturer in the Department of Anatomy, Ruth Napper, who curated the exhibition with Peter Stupples from the Dunedin School of Art, explained that each of the 15 art pieces on display was aimed at "gently leading the viewer into the world of science. ... The viewers were allowed to admit to themselves that they knew nothing about the subject while being given the opportunity to find out by engaging with the artist's representation".

To create the exhibition, which was mounted on campus at the Hunter Centre, I I scientists from the departments of anatomy, physiotherapy and physical education worked with 15 artists – graduates, postgraduates and staff from the Dunedin School of Art, as well as a number of independent Dunedin artists. They met at the end of 2013, self-selected into pairings, and began a conversation about the scientists' research. Using 'their' scientist as their muse/ inspiration to lead them to areas otherwise unexplored, each artist developed visual material relating to, but not necessarily illustrating, the research topic.

One example was Lynnette Taylor's 'lozenge motif,' used in her work *Untitled*, an acrylic on canvas – Lynette's purpose in using a single motif in a repeated, overall pattern was to represent the seemingly limitless combinations in the cell structure of the human brain. The idea was to illustrate how, according to Ruth Napper's research, brain cells and neural pathways damaged by exposure to alcohol during fetal development are able to reorganise and realign in order to maintain functionality.

Another was James Bellaney's mixed media on canvas work, composed of nine pieces -I walk through mud to get here - showing what many people go through after a stroke. This work was based on scientist Jonathan Shemmell's work developing methods to improve the ability of stroke survivors to interact with the world through movement. In this piece, Bellaney says, "The dark place into which our minds can fall, and that unsettling feeling of inadequacy we know all too well, are set against the romantic image of the human will and our striving to overcome all the obstacles that life places in front of us."

Two other compelling works were David Green's mirror-encased meat cleaver, highlighting the complexities of the brain's structure at cellular level, and Robyn Bardas' *Anatomy of the Heart*, representing the "intricate, delicate, plant-like red casts of the veins, arteries and capillaries of hearts, hands, a finger."

**Steve Grbic** has over 30 years' experience in corporate communications and public relations, providing public relations and strategy consulting services to a wide variety of New Zealand businesses and organisations. He was originally a journalist and editor working on some of South Africa's leading publications. His clients are drawn from a range of areas including fast-moving consumer goods (FMCG), corporate and public events, infrastructure, engineering, government organisations, pharmaceuticals and personal publicity.



Figure 1 and 2: Installation view of Art and Anatomy exhibition, 2013. Photos by David Green.

# ART & ANATOMY; MY PAPER IN REVIEW

### Brigitte Kammlein and Ruth Napper

Most of the time I draw my inspiration from the natural world, the landscape I live in, the animals, the plants and patterns around me. So it is truly a new and exciting challenge to engage and collaborate with a specific scientist, and to have a glimpse into the fascinating world of her research and come up with a visual response to the science encountered.

From the start, I was particularly intrigued by the similarities in the processes used in gathering research data and in printmaking. I can relate to the cutting and mounting of minute samples arranged in numbered series, with often only the smallest of differences between them. Only by layering the various sections on top of each other is a 3D understanding of the data possible. In printmaking, I also work in layers to build up information. I produce work in series and editions, with slight but noticeable differences between them. I handle not fragile samples of brain tissue, but often fragile paper. So it was a natural progression to create my own samples, my own 'paper,' my own visual language of the science encountered.

I wish to thank particularly Ruth Napper for giving me access to her research and for so generously giving up time and information. I would also like to thank Peter Stupples for making this wonderful collaboration possible, and my fellow artists whom I shared ideas and techniques with and who made it so much fun.

#### BRIGITTE KAMMLEIN

My laboratory uses an animal model of fetal alcohol spectrum disorder (FASD) to understand the long-term damage that can result following exposure of the fetal brain to alcohol. We have found that even a single binge-like exposure to ethanol can cause significant death of neurons (nerve cells of the brain) in many different brain regions. Using electron microscopy, we use images taken from serial ultrathin sections to reconstruct the connections between surviving neurons and determine the structure of the remaining cells to assess whether plasticity has occurred in an attempt to compensate for the loss of neurons.

#### RUTH NAPPER

Brigitte Kammleim graduated with a BFA in printmaking from the Dunedin School of Art.

**Ruth Napper**, BSc(Hons), PhD (Otago), works in the Department of Anatomy at the University of Otago and is a researcher in the university's Brain Health Research Centre. She is investigating the role of binge-like exposure to alcohol during fetal development in acute and long-term changes in the structure and function of the brain.



Figure 1. Brigitte Kammlein, Art and Anatomy; My Paper in Review (2014), solar etching dry point.



Figure 2. Brigitte Kammlein, Art and Anatomy: My Paper in Review (2014), detail, solar etching dry point.

### EYE MOVIE

### Rebecca Cameron and Chris Button

Chris Button has been using an eye-motion tracking camera to study human movement and how people acquire skill in physical activities. Although recently graduated with a BA Honours in the visual arts, I realised I knew very little about vision and how it works – not just light beams being focused through the retina, but the eye's saccades, cycles and digressions as it scans a scene to build up a picture of the world around us. I sought to apply the eye-motion tracking camera to look at – literally – how I draw. Not such an easy translation of technology; the eye movements while drawing a life model were small and precise, and we struggled to get an accurate enough overlay of model / eye movements / drawing. When A L Yarbus, the Russian pioneer in the field, studied the eye patterns of people looking at paintings he'd used a terrifying-sounding contact lens device to get precise information, not the optical tracking we were using here. The works exhibited were drawings from the sessions with the eye camera, alongside video footage of the eye as I drew. The eye scans and flicks, a curious creature, never still as it follows the contours and shadows of the visual field.

#### BECKY CAMERON

I conduct research on motor learning and sports performance. I am interested in how humans learn to perceive their environment and coordinate their actions. I use the theoretical framework of ecological dynamics to explain how movement patterns emerge and dissolve under the influence of a range of constraints. With an emphasis on applied research, I have worked with Water Safety New Zealand to provide advice to the general public with the aim of reducing drowning risk. In a recent study, I explored how skilled climbers adapt their visual scanning behaviour in different practice environments.

#### CHRIS BUTTON

Based in Dunedin, **Becky Cameron** holds an MA in art conservation, and in 2013 completed a Bachelor of Visual Arts with Honours at the Dunedin School of Art. She has been exhibiting since 2008, and her most recent project, "Te Ao Huri Huri /The Turning World," was shown as a part of the Dunedin Matariki Festival in July 2014. Cameron's practice explores landscape, memory, belonging and home.

**Chris Button**, BSc(Hons) PhD(MMU), has worked at the School of Physical Education, University of Otago, since 2003. Previous roles have included being director of the Human Performance Centre and co-director of Land Information New Zealand (LINZ). As well as carrying out teaching and research, Chris has provided consultancy services to several sports, providing advice on biomechanics and skill acquisition to Snowsports NZ, Netball NZ, NZ Football, and Motorsport NZ, among others.



Figure 1. Becky Cameron, Drawing for Eye Movie (2014), detail, charcoal on paper; 50 x70 cm.



Figure 2. Becky Cameron, Eye Movie (2014), video still.

# WHY ARE YOU TEARING ME FROM MYSELF?

### Sally Shephard and Marcus Collinge

"Why are you tearing me from myself?"

"How are we to understand creation if the artist's selfhood is contained in his unaltered skin rather than within some central core of being that is brought forth in the act of producing art?"

Heather Webb, "Being Marsyas: Dante and Michelangelo as Flayed Poet"

Homo Sapiens. Artistica: "all the rest of the genus in the singularity of its appearance, which is such as at first view rather to suggest the idea of some production of fancy than of any real existence."

G. Shaw, General Zoology, 1804

My recent art practice has been informed by the transformation and change in materials. I have been exploring the possibilities of materials in the process of decay, evaporation and absorption, the self-made object, and time-based installations.

In this collaboration, I worked with Marcus Collinge and became interested in both the preservation and display of tissue. The two of us relate to both science and art, as I have a background in musculoskeletal medicine and Marcus is an artist as well as a technician.

My piece also reflects my interest in the classical story of Marsyas, the power relationships between young and old and the somewhat artificial division between scientific and creative thinking.

#### SALLY SHEPHARD

I work within the Anatomy Department as a specialist technician, maintaining the existing collections and developing new research and teaching material. I am inspired by the efforts and varied approaches of all who have come before me, and the richness and variety of presentation methods as well as the vast talents of those working in the field today.

Taking the best of the past and combining contemporary advances in materials, technology and understanding gives us a tremendously broad range of ways to exhibit anatomical detail and to pass on the knowledge and lessons direct observation can give. I would like to think that I assisted the intention of this exhibition by demonstrating the many ways in which anatomical subject matter can be presented and displayed, and has been in the past.

#### MARCUS COLLINGE

**Sally Shephard** is a practising artist who is currently also enrolled for the Master of Fine Arts degree in the Dunedin School of Art.

**Marcus Collinge** works in the Anatomy Department at the University of Otago. Marcus began his working life as a carpenter, ran a vegetarian cafe and worked in print before heading to art school in Christchurch in the early 1990s. Concentrating on human anatomy, he majored in printmaking and sculpture. As a practising artist, he sold his work to design stores and through galleries in New Zealand, Australia and the UK. He studied digital multimedia at AUT, but preferred working with atoms rather than bytes. Marcus joined the Otago University Anatomy Department in 2012 as an anatomy technician where he works as a museum preparator, potter of wet specimens, skeletonisor, plastinator, and renderer of anatomical models and research prototypes. He now enjoys calling Dunedin home.



Figure 1. Sally Shephard, Why are you tearing me from myself? (2014).

## FOUR HEADS

### Holly Aitchison and Louisa Baillie

Several years ago I attended a workshop at the Dunedin Public Art Gallery where participants learned about the anatomy of the face by assembling clay muscles onto a plaster skull. It was extremely interesting and a lot of fun, and was run by Louisa Baillie.

When we began this project I recognised Louisa's name, remembered what she was studying, how fascinating her workshop had been and made contact. She supplied me with a series of screenshots taken from scans of two skulls that could be rotated and viewed in any position and could be seen as bone and solid skin or as bone with the skin as a transparent wraparound. As I watched those skulls rotating on her computer screen, I was mesmerised!

Louisa was then kind enough to introduce me to the staff at the Anatomy Department Museum at the University of Otago where I would spend the next few months drawing from the items housed there and learning about facial anatomy. From these studies and images I composed this piece.

#### HOLLY AITCHISON

My research is to do with forensic craniofacial reconstruction – putting faces back on skulls. In particular, I have been investigating how depth of facial soft tissue is predicted. My focus is on how to improve the accuracy of prediction, as there is at present considerable error in how this is done. I have had access to cone beam computed tomography images of heads from living adults, viewed in 3D on digital software. They give impressive detail of the skull and skin surface of each head and are visually stunning. I can colour the different tissues, make the skin opaque or transparent, spin the heads around, and view them from any angle or magnification. Seeing these layers of skin and bone gave me the impetus for collaborating with artists for this exhibition.

#### LOUISA BAILLIE

**Holly Aitchison** is an autodidactic artist who lives and works in Dunedin teaching art to people with special needs. She is a graduate of the Dunedin School of Art.

**Louisa Baillie** works in the Department of Anatomy, University of Otago. Louisa's primary interest is the anatomy of the human form. She studied health sciences at the University of Otago and fine arts at the Dunedin School of Art. During the 1990s she lectured in sculpture, drawing and design, while also curating and collaborating on community projects. In 2012 Louisa curated a show, "Place," an exhibition of 12 portrait busts of Otago identities that she produced, and supported with prints and text by Otago artists that portrayed the Otago region. Since 2012, Louisa has been a full-time doctoral research student in Otago University's Anatomy Department. Her study is focused on the face, with the aim of improving the accuracy of a forensic facial approximation.

# FOUR HEADS BY HOLLY AITCHISON

### Alexander Noble Dust

Holly Aitchison recalls staring for hours at her parents' copy of Jean Michel Jarre's Oxygene LP, with its cover image of an ancient hominid skull positioned inside the earth. From a broad palette of just such cultural ephemera grew an obsession with what lies beneath. Coming of age in a bogan culture – in her case, the Southland punk/heavy-metal scene – that sets great store on such imagery, she soon moved onto examining anatomy in the starkest possible light. Although admiring the anatomical art of Vesalius and Bourgery, her earliest large works drew on more prosaic textbook sources, like B Waterhouse Hawkins' *Artistic Anatomy of the Dog and Deer* and especially, Stephen G Gilbert's *Pictorial Anatomy of the Cat.* Her native tendencies towards the graphic, honed in a regular practice of tattooing and cartooning, saw the paint in these works pressed into the service of a rigorously descriptive muse – an attempt to make the personality of bare bones palpable.

Even in her subsequent series *Deceased Estate* (2012-ongoing), which depicts the detritus fetish of her local auction house (see Fig.2, Reál Politik, 2013) she seems to find pleasure in minutely describing the ruin of previously loved items, as if the remains of a Victorian toy or a rusty ironmonger's compass could describe the structure of a vanished life. The invitation to contribute to the "Art and Anatomy" exhibition coincided with this more painterly work, and her attempts to marry it with a graphic impetus.

Louisa Baillie, the scientific contributor in this collaboration, handed in her doctoral thesis on Forensic Craniofacial Reconstruction – the rendering of virtual or clay 'flesh' onto skulls, reclaiming faces lost to the worms – on the day the exhibition opened. The skull at top right of *Four Heads* (see Fig.1, *Four Heads*, 2014) is a CBCT image taken straight from Baillie's work, complete with green tracking dots that show depth values. The 'painting' Baillie had done with this state-of-the-art software inspired her to give an artistic collaboration a try. After preliminary discussions, Aitchison put in solid hours at the university's Anatomy Museum, familiarising herself with the history and finer points of this scientific art. A sideline series of drawings, *Meetings*, materialised during these sessions.

*Four Heads* came out of an early sketch, working with a model and closely referencing anatomical models and texts. Aitchison says she was inspired by the philosophical notion of the Five Bodies – the notion that we deal with five separate ways of perceiving the human body, for which we often have radically differing and even incompatible modes of intercourse. They range from the Erased Body – where we infer a personage, despite the lack of any physical presence – to the Masked, Clothed and Naked Bodies, finishing with the Opened Body – the state with which anatomy is obviously concerned. The Five Bodies thesis holds that we struggle to harmonise the extremities of these perceptions, and that the shifting social conventions around each state force us into disclosing visceral utterances that betray our true – possibly innate; or at least deeply etched – moral and perceptual qualities. It was from such considerations that Aitchison approached *Four Heads*. The rotation of the heads suggests the turning of our attention from one state to the next; and, faintly seen in the background, there is a tangle of sinewy shadows that might be simple striations of paint, shrewdly evoking that eerie sense of the Erased that we can't seem to shake.

But, as Aitchison says, in painting there is mind, there is instinct, and there is the hand. This latest work on the glassy surface of hardboard represents her attempt to refine certain Old Master fine glazing techniques within the compass of her particular graphic strengths. Skillfully performed, classical glazing seeks to deal with light in as painstaking a manner as a surgeon must deal with tissue. The training of the hand in order to subtly break down

light into facets that remind us of how, and what, we truly see, is agonisingly slow; and it is in just such discipline of technique that art and science might recognise in each other a bond of intent that proceeds from the specific, to the necessarily philosophic.



Figure 1. Holly Aitchison, *Four Heads* (2014), oil on board, 1200 × 1200 mm.



Figure 2. Holly Aitchison, Real Politik (2014), oil on canvas, 655 × 520 mm.



Figure 3. Holly Aitchison, Meetings 1 (Hirst) (2014), graphite drawing, 260 × 200 mm.

### I WALK THROUGH MUD TO GET HERE

### James Bellaney and Jonathan Shemmell

When talking with Jon Shemmell, whose work involves the rehabilitation of stroke patients who suffer paralysis, I was struck by his admiration for these people who show great perseverance in the face of emotional frustration, learning to once again be capable of simple tasks they easily accomplished prior to their stroke. I thought of them as unsung heroes, whose courage and perseverance inspires us to strive for better things, although their deeds go unheralded. The dark place into which our minds can fall, and that unsettling feeling of inadequacy we know all too well, are set against the romantic image of the human will and our striving to overcome all the obstacles that life places in front of us. Life is a raw canvas.

When I made this work, the strength and perseverance of stroke victims was in the forefront of my mind.

#### JAMES BELLANEY

The primary goal of my laboratory is to develop methods to improve the ability of our amazing stroke survivors to interact with their world through movement. Given the priority often placed by stroke survivors on regaining arm and hand function, we focus on improving movement in those limb segments. When we suffer a stroke, any resulting impairment of arm and hand movement is caused by the death of many neurons in the brain. People in our lab are developing new techniques to encourage the surviving neurons to take over the functions previously assumed by neurons killed during the stroke.

#### JONATHAN SHEMMELL

**James Bellaney** has been exhibiting locally and nationally since completing his BFA at the Dunedin School of Art in 2011. His work includes painting and drawing as well as performance art. He exhibits in galleries, and in artist and community spaces. James was a finalist in the Clifton Art Awards 2012 and the New Zealand National Art Awards in Waikato (2013) and has received commissions for public artworks in Dunedin. He sees himself as an active artist, experimenting with and exploring ideas around the medium of paint, the human condition and the imagination. He is currently working towards an exhibition in Wellington.

**Jonathan Shemmell** works in the School of Physical Education, Sport and Exercise Sciences at the University of Otago, and is also a researcher in the Sensory Stimulation Project at the university's Brain Health Research Centre. Jon joined the School in 2009. After obtaining a Bachelor's degree in sports coaching in 1997 from Deakin University, Jon completed a Master of Science (1999) and PhD (2004) in motor control and neurophysiology at the University of Queensland. He went on to investigate methods for improving outcomes for stroke survivors during his postdoctoral training in clinical neurophysiology at Boston University and the Rehabilitation Institute of Chicago (2005-08).



Figure I. James Bellaney, I walk through mud to get here (2014), mixed media on canvas, 9 pieces, each 50 × 40 cm.

# CONNECTICUT

### David Green and Ruth Napper

I am interested in ideas around surface, interiority and the sharp end of our natural curiosity: the complexities that accompany our simple urge to know.

The materials I used were: chromium, molybdenum, vanadium, aluminium, plastic, glass, wood, mirrors, light.

#### DAVID GREEN

My research areas require an understanding of brain structure at the cellular level. This involves brain tissue being cut into smaller and smaller pieces until finally 90mm thick slices or sections are viewed in the transmission electron microscope. Images from these sections are reassembled into three-dimensional images using computer software. Cutting into biological material to investigate what is inside remains a powerful method of understanding structure and hence function.

#### RUTH NAPPER

**David Green** is a lecturer in electronic arts. An acclaimed director, director of photography and visual effects supervisor at RGA graphic film studios in Manhattan, he was represented by Lee Tamahori's Flying Fish Productions in New Zealand where he became known for directing a number of iconic and internationally award-winning television commercials before coming to work at the Dunedin School of Art.

**Ruth Napper**, BSc(Hons), PhD (Otago), works in the Department of Anatomy at the University of Otago and is a researcher in the university's Brain Health Research Centre. She is investigating the role of binge-like exposure to alcohol during fetal development in acute and long-term changes in the structure and function of the brain.



Figure 1. David Green, *Connecticut* (2014), chromium, molybdenum, vanadium, aluminium, plastic, glass, wood, mirrors, light.

## **BODY OF EVIDENCE**

### Lynn Taylor, Allan Mitchell and the Scientists

I felt like I was flying over the moon while looking down on slivers of kidney magnified in the electron microscope.

Allan Mitchell introduced me to this micro domain and while under his tutelage, I learned that part of his role is to facilitate the work of scientists in the Anatomy Department. This blended with my impulse to provide creative experiences through art engagement and an interest in how audiences can contribute to an exhibition. The upshot of this was to put out an invitation to scientists involved in the Art and Anatomy project to contribute images to be translated into photopolymer plates and to have a printmaking session printing these.

Evidence of this process was printed as a sketchbook, *Body of Evidence*. This sketchbook was shaped organically in an evolving way with the input of different participants throughout the project. Who is the author? The artist? The scientist? The audience? What happened in the process of collaboratively printing and shaping a sketchbook? Some things I expected and others I did not. People took risks. Although participants recognised the inherent aesthetic appeal of their scientific imagery, some did not feel creative and felt nervous in coming to a printmaking workshop. It seems, however, that all of us like working in something that is not our usual medium and I hope that their printmaking experiences made participants aware that art is about other ways of thinking and what develops out of the process of experimentation.

These prints are markers in thinking that combine anatomical themes with printmaking processes: repetition, rotation, overlay, surface, tone, aquatint, scale and reflection, to name only a few. The parallels between art and anatomical science emerged more strongly than I expected. For example, when printmaking I envisage imagery in mirror image because with the intaglio printing process, the information on the plate prints in reverse. I was excited to hear one researcher describe how she also has to 'flip her mind' when looking at an MRI scan compared with looking at a person; left is right, right is left.

I have stolen some sentences from participants:

"The essential difference is that I feel a freedom here that I don't feel in science."

"I enjoyed this, as I had no expectations of a result – it was a fun thing to do. The environment is nice to work in as my own [work] environment is sterile out of respect for the human material."

"Is this [the Otakou Press Room] heaven? ... I can't quite believe that I got to spend the afternoon doing this."

"It is nice to be part of something communal, to bounce ideas off each other."

"[This printmaking] is a recording of the juxtaposed physicality between the scientific image and the artful."

"There are not enough hours in the day to explore all the ideas that have come all of a sudden."

**Lynn Taylor** graduated in 1984 with a Bachelor of Education. She then focused her early career on specialist art teaching. In 1998 she graduated with a Bachelor of Fine Arts, followed by a Master of Fine Arts in 2003, from the Dunedin School of Art. These dual streams operated together when she was a lecturer at the Dunedin School of Art and they continue now through her work as a visual arts facilitator, which sees her frequently teaching workshops throughout New Zealand and abroad.

**Allan Mitchell** works in the Department of Anatomy at the University of Otago and is technical manager for the Otago Centre for Electron Microscopy. Allan provides support for TEM and SEM project planning and training in transmission electron microscopy in the Anatomy Department.



Figure 1. Lynn Taylor, work in progress (2014), printing from the Otakou Press Room at the University of Otago.



Figure 2–5. Lynn Taylor, Artists' Book (2014), based on the images used by the scientists in their research work.



Figure 6. Lynn Taylor, rubbing table, visitors to the exhibition were invited to make rubbings of the plates which had been set in a table.

# CLIFTON SUSPENSION BRIDGE

# Emily Hill and Gisela Sole with Chris Sole

The foot is an amazing machine – not far removed from the engineering feats of inventors and designers of our own times. Gisela's work practice as a physiotherapist intrigues me as she investigates the foot as the pivotal point of our body's biomechanics. Her way of seeing it as an engineering masterpiece is fitting, and lends itself to exploration of this aspect of our anatomy from a structural and engineering angle.

In my piece, I have drawn on the modernist transition from functional structures to architectural works considered in terms of aesthetics and form. Isambard Kingdom Brunel's Clifton Suspension Bridge (1836) is a superb example of an engineering masterpiece that has been adopted by the architectural community.

In this work I endeavour to display the aesthetics of form and function and to hint at a changing paradigm that emphasises the foot's strength instead of its previously ill-defined weakness.

Impressed by the architecture of this perfectly designed 'bridge' attached to our body, I draw inspiration from architectural material in my current practice and have incorporated this interest into the present work.

#### EMILY HILL

Over the past 30 years, the human foot has been considered to be in need of support and control with respect to both children and adults. However, in the light of the development of modern man over millions of years, the anatomy and biomechanics of the foot can be considered well adapted and sufficiently strong to absorb normal forces during daily activity. The mobility of the foot allows us to adapt to the surface we are walking on while providing sensory input to the brain. If we allow the foot to function fully, it provides us with a strong and stable base of support. Our current research explores age-related changes in the barefoot human footprint.

A few months ago we had the opportunity to visit an exhibition of Leonardo da Vinci's creations and inventions. A statement by him was highlighted on a wall at the show: "The human foot is a masterpiece of engineering and a work of art." Despite all the technology, resources and knowledge we now have, we are returning to what da Vinci knew about 500 years ago.

#### GISELA SOLE CHRIS SOLE

**Emily Hill's** artwork is architecturally themed, reflecting her interest in multi-disciplinary approaches to painting and printmaking. She studied painting at the llam School of Fine Arts at the University of Canterbury until 2012 and has since been experimenting with textiles and wood and combining printmaking techniques with her painting practice. Emily's work is influenced by Art Nouveau, Bauhaus and Russian Constructivism and she takes an ongoing delight in abstraction. She is currently painting on canvases, printing on timber and exploring ways of combining two modes of representation.

**Chris and Gisela Sole** are both physiotherapists. After graduating from the University of Stellenbosch, South Africa, Gisela Sole worked in hospitals and private practices for a number of years. She returned to university to complete a postgraduate Honours degree in exercise science in Cape Town, where she was offered a lecturing post in the Department of Physiotherapy. The family moved to Dunedin in 2001 after she accepted a position as a lecturer at the University of Otago in musculoskeletal and sports physiotherapy. She completed a PhD in 2008, and her current research explores outcomes of knee injuries and risk for post-traumatic osteoarthritis.

**Chris Sole** worked as a high school mathematics teacher for a number of years, in addition to being an elite middle-distance runner and coach. He retrained as a physiotherapist at the University of Cape Town. With the relocation of the family to Dunedin, he established his own physiotherapy practice and completed a PhD at the University of Otago in 2012, investigating the effects of footwear changes on postural stability and performance.



Figure 1. Emily Grace Hill, Clifton Suspension Bridge (2014), print.

## MAN SAYING 'AHH'

## Marcus Collinge and the Anatomy Department

In my role as an anatomy technician in the Otago University Anatomy Department I have the good fortune to spend my working hours fully immersed in the finer points of anatomical preservation and presentation. Facial reconstruction is normally associated with the forensic arts, missing persons and identifying the unnamed, usually pragmatically presented with a placid forward gaze.

During the past four months, I have been working on a facial reconstruction project for the Otago Museum, and consequently have chosen this as a sculptural topic, but with a small twist. I have taken my lead from the works of the eighteenth-century Austrian sculptor Franz Xaver Messerschmidt, exploring the idea of how muscle plays across bone in our everyday facial expression, whether under tension, stress or through deliberate contortion.

#### MARCUS COLLINGE

**Marcus Collinge** works in the Anatomy Department at the University of Otago. Marcus began his working life as a carpenter, ran a vegetarian cafe and worked in print before heading to art school in Christchurch in the early 1990s. Concentrating on human anatomy, he majored in printmaking and sculpture. As a practising artist, he sold his work to design stores and through galleries in New Zealand, Australia and the UK. He studied digital multimedia at AUT, but preferred working with atoms rather than bytes. Marcus joined the Otago University Anatomy Department in 2012 as an anatomy technician where he works as a museum preparator, potter of wet specimens, skeletonisor, plastinator, and renderer of anatomical models and research prototypes. He now enjoys calling Dunedin home.



Figure 1. Marcus Collinge, Man saying "Ahh" (2014) 400×300×175 (life size).

# UNTITLED

# Lynnette Taylor and Ruth Napper

It has been a pleasure to participate in the Art and Anatomy Project, which has been an opportunity to share ideas and resources with the scientists and the other artists who have taken part. Ruth Napper generously provided both her time and the raw materials relating to her research work that enabled me to experiment with ideas, techniques and visual effects.

The main challenge for me has been in translating elements of the organic cellular structures of the brain into an organised network of nonrepresentational geometric patterns. Patterns appear in many forms of material culture and are generally thought to function as decorative embellishments. However, non-representational patterns not only decorate, but may also act as visual voices that metaphorically carry particular information about cultural relationships.

The lozenge motif that I have used is based on the specimen support grid holders that house the resin-encased tissue samples which are a vital part of Ruth's research. My purpose in using the single motif in a repeated, overall pattern is to represent the seemingly limitless combinations in the cell structure of the human brain and the ability of brain cells and neural pathways to reorganise and realign in order to maintain functionality when certain types of damage occurs.

#### LYNNETTE TAYLOR

I was introduced to the use of electron microscopy when I undertook my PhD studies, and in recent years I have returned to this technique to investigate the changes that occur in the neurons of the fetal brain after being exposed to alcohol during development.

My laboratory aims to understand the long-term damage that can result following exposure of the fetal brain to alcohol. We have found that even a single binge-like exposure to ethanol can kill neurons in many different regions of the fetal brain. My group is studying the neurons in the hippocampus – a brain region important in memory and learning – which manage to survive an ethanol insult, to determine how these neurons change in an attempt to maintain normal brain function. We are particularly interested in how these neurons will age.

#### RUTH NAPPER

**Lynnette Taylor** is a Dunedin artist whose background in technical graphics strongly influences the content and style of her work. In 2008 she completed a Bachelor of Fine Arts at the Dunedin School of Art, followed by a Master of Fine Arts in 2010. She continues to experiment with materials and modes of production associated with her painting processes.

**Ruth Napper**, BSc(Hons), PhD (Otago), works in the Department of Anatomy at the University of Otago and is a researcher in the university's Brain Health Research Centre. She is investigating the role of binge-like exposure to alcohol during fetal development in acute and long-term changes in the structure and function of the brain.



Figure 1. Lynnette Taylor; *untitled* (2014), detail, acrylic on canvas, 105 ×105 cm.

# USE IT OR LOSE IT

### Robbie McPhee and Stephanie Woodley

Nature dislikes a gap and will use what is at hand to restore the balance, good or bad. Daily movement is vital to the return of positive balance and to assure good health and longevity. In the case of hip pathology or osteoarthritis, when a gap is created due to muscle wasting caused by inactivity or damage, the body may use fat to fill the space. This is not a positive return to balance, potentially weakening the muscle and possibly heightening the chance of recurring injury.

In my piece, young, fit and active people dance across the hillside, while under them a timeline is fed by a system of human vessels, suggesting the link between movement, health and longevity. Older individuals exercise near a landscape composed of fat and graphs that measure the improvement in their physical condition. Still water sits between the timeline and the landscape of graphs and fat, implying a bridge of fitness and movement to strengthen muscles, prevent loss of mobility and improve lifestyle.

#### ROBBIE MCPHEE

Hip pain is a common condition that affects the health and wellbeing of New Zealanders. It may develop as a result of underlying problems such as osteoarthritis, which affects the hip joint and surrounding soft tissues. The gluteal (buttock) muscles have been a focus of research due to their important role in stabilising the hip and pelvis, particularly during everyday activities such as standing and walking. Assessment of muscle anatomy is possible using magnetic resonance imaging (MRI), a technique that enables calculation of volume and cross-sectional area, both of which are important in determining how much force a muscle is able to produce.

Gluteal muscle atrophy (wasting) or a decrease in muscle mass normally occurs with ageing. However, these changes are also evident in individuals with longstanding hip pain, and in many cases areas of atrophied muscle are replaced with fat. The mechanisms that lead to these changes are not well understood. It is also interesting to consider how the anatomy and function of these muscles may change in response to a programme of specific strengthening exercises in individuals with chronic hip pain.

#### STEPHANIE WOODLEY

Robbie McPhee is a graphic designer in the Department of Anatomy at the University of Otago.

**Stephanie Woodley** works in the Department of Anatomy at University of Otago, where her primary area of interest is musculoskeletal anatomy, particularly of the hip and pelvic regions. Stephanie has a professional background in physiotherapy, and endeavours to produce applied research that is relevant to clinical practice. Alongside traditional anatomical methods (including dissection and histology), Stephanie seeks to incorporate clinical studies and modern imaging techniques, such as magnetic resonance imaging and ultrasound, into her research wherever possible. In addition to her research focus, Stephanie teaches in the university's undergraduate and postgraduate physiotherapy programmes, as well as science courses.


Figure 1. Robbie McPhee, Use it or Lose it (2014), acrylic on canvas, 795 × 590 mm.

# ANATOMY OF THE HEART

## Robyn Bardas and Greg Jones

I chose my scientist on the basis of the title of his research project: "Anatomy of the Heart." As part of his teaching at the University of Otago and Dunedin Hospital, Greg builds exquisite plastic casts of animal vascular systems. On his desk and sitting in a cabinet are intricate, delicate, plant-like red casts of the veins, arteries and capillaries of hearts, hands, a finger. It was obvious to me that his functional pedagogic tools could be transfigured into artworks in themselves.

My current research as an MFA candidate explores the concept of 'the Line' as horizontal element. The Line interpolates itself onto or within an existing image to examine multiple, simultaneous narratives, as well as subjectivity. The Line in this work implies horizon, alluding to internal and external states, the physical and spiritual, as well as referring to 'walking the line,' drawing the line,' scar, grief, barrier, connection, and the sublime. The casts themselves resemble careful line drawings and, sited within a medical framework, this work begs such questions as ethical lines, communication lines, cardiogram lines and the sanctity of the human body.

#### ROBYN BARDAS

Vascular corrosion casts are a useful way of demonstrating the blood supply to many organs of the body. Plastic resin is injected into blood vessels and allowed to set hard. The surrounding soft tissue is then dissolved away to reveal the vascular pathways. Here at Otago we use the technique in both teaching and research. The images are both visually appealing and simple to understand, and because of this they increase the level of engagement with the intended audience.

#### GREG JONES

A resident of Hawea Flat since 1996, **Robyn Bardas** is currently studying towards an MFA at the Dunedin School of Art. Originally from Melbourne, she gained a Bachelor Fine Art (Painting) from RMIT in 1989, and has regularly exhibited in painting, video, performance, theatre, photography and mixed media.

**Greg Jones**, Bsc, PhD (Otago), is a Research Associate Professor in the School of Medicine at the University of Otago. Dr Jones' research group has a broad range of interests in the field of vascular biology, including population genetics, cardiovascular disease biomarkers, and vascular connective tissue biology. The group's research has a strong clinical emphasis, particularly in the areas of aortic aneurysm, coronary and peripheral arterial disease and varicose veins.





Figure 1. Robyn Bardas, Anatomy of the Heart (2014), inkjet print and acrylic on Epson Hot Press 300gm 100% cotton paper, 47 × 65 cm.

# **MEDIUS and MINIMUS**

## Claire Peters and Natasha Flack

Through my work I explore an inner world of questioning and expression regarding evolution, with a specific focus on genetics, the human body and its environments. Multiple layers of paint accumulate upon the canvas, leaving impressions of their photographic source. Autobiographical in nature, these motifs mix, weave and then evolve into new forms and layers that build up the visual image and become memories that recur while painting.

Collaborating with Natasha was a valuable experience, as she provided me not only with the medical imagery and cellular slides of the gluteus minimus and medius muscles to work from, but also with some useful discussion of the processes and results involved that stayed with me while I constructed the artwork. I was particularly interested that part of her research was still in the initial stages of investigation, with outcomes unknown. I decided to review my own art-making techniques in the light of this, and responded by experimenting with imagery inspired by Natasha's work, combining collage and acrylic paint on canvas.

The two images reproduced here form a diptych.

### CLAIRE PETERS

My PhD focused on the anatomy of three muscles on the outside of the hip: the gluteus medius, gluteus minimus and tensor fascia lata. Muscle volume, length, nerve supply and attachment sites were examined through cadaveric dissection and magnetic resonance imaging. At a cellular level, the different types of muscle cells were stained using a method called immuno-histochemistry, and ratios for the whole muscle were estimated, giving an indication of these muscles' functional capabilities and adding another dimension to the story.

Because I am commonly asked "But don't we know everything about the muscles of the human body already?" I was excited to work with Claire Peters and learn her thoughts. Claire was particularly interested in the fact that existing data are deficient and, although my work constitutes the most comprehensive anatomical investigation to date, there is more to discover.

#### NATASHA FLACK

Claire Peters lives in Dunedin, New Zealand, and graduated with a BFA from the Dunedin School of Art in 2012.

**Natasha Flack** is a Postdoctoral Fellow in the Department of Anatomy, University of Otago. Natasha works with Professor Helen Nicholson, whose research area is clinical anatomy and medical education.



Figure 1. Claire Peters, *Medius* (2014), mixed media on canvas, 61 × 61 cm.



Figure 2. Claire Peters, *Minimus* (2014), mixed media on canvas, 61 × 61 cm.

# BUS STOP and EFTPOS

## Simone Montgomery and Ruth Napper

The tactility and the interactive capacity of a piece of art to impart a message is important to me. I find that the repurposing of an everyday object – for example, a beanie – can impress on a viewer a new perspective. This work explores the association of hats and humour to impart a serious message.

In particular, this piece embodies my interest in the effect of alcohol on the developing adolescent brain: alcohol alters the function of the chemical transmitters in neurons and this can cause irreversible damage. This work is interactive. You are welcome to put it on and try to complete some everyday activities.

Enjoy.

### SIMONE MONTGOMERY

One of my research interests is the effect of the alcohol on the adolescent brain. The brain is undergoing continual growth and remodelling during adolescence, from around age 11 to 25. This involves a reduction in the grey matter that contains the nerve cell bodies and the stabilization of the connections between nerve cells. The Dunedin Multidisciplinary Study has shown that alcohol and drug consumption prior to the age of 15 significantly increases the chance of negative life outcomes in the mid-thirties. My laboratory has developed an animal model to study the cellular changes that occur with repeated binge exposure to alcohol during adolescence in the hope of understanding the long-term brain changes that occur as a result of adolescent alcohol exposure.

### RUTH NAPPER

**Simone Montgomery** (Waitaha, Ngati Mamoe and Kai Tahu) has an MFA from the Dunedin School of Art and recently won the Award of Excellence at the Hokonui Fashion Awards. She says: "As a maker, textiles really excite me; in thinking about a body of work, I am challenging my and others' perceptions about experience. I am aiming to engage the viewer in a story. I am very interested in using mundane textiles in unusual ways. Sustainable art practice is very important to me."

**Ruth Napper**, BSc(Hons), PhD (Otago), works in the Department of Anatomy at the University of Otago and is a researcher in the university's Brain Health Research Centre. She is investigating the role of binge-like exposure to alcohol during fetal development in acute and long-term changes in the structure and function of the brain.



Figure 1 and 2. Simone Montgomery, Bus Stop and EFTPOS (2014).



Figure 3. Installation view of work by Simone Montgommery during Art and Anatomy exhibition, 2013. Photo by David Green.

### SHADOW

## Rowan Holt and Joanna Montgomery

In this piece, I have used the impermeable material of damp-course strapping to signify the meshing mass that occurs when the protein fragments responsible for Alzheimer's disease combine. Creating this form on a large scale is intended to magnify the importance of the research that Joanna Williams and her team are doing. Making the work in a towering form also reminds us how all of us might live beneath the shadow of Alzheimer's.

#### ROWAN HOLT

Alzheimer's disease currently afflicts more than 50,000 New Zealanders and this number is set to triple by 2050. Aggregation of a small protein fragment, amyloid-beta, drives the underlying pathological changes. The structure of this molecule changes from largely alpha-helical to being rich in cross-beta sheets in the extracellular aggregates, which are the postmortem hallmarks of Alzheimer's disease. This process occurs years before the characteristic symptoms of memory loss occur. My research aims to identify blood-borne markers that are surrogates of the pathological changes in the brain. This will allow new and existing therapies to be given in the early tractable stages of the disease, providing hope to those diagnosed with Alzheimer's disease.

#### JOANNA MONTGOMERY

**Rowan Holt** is a textile artist who lives in Karitane, near Dunedin. She incorporates her art practice into daily life while juggling a young family and a career as a registered art teacher. These domestic themes form a common thread in her work. She also enjoys gardening, horse-riding and playing the violin. Rowan holds an MFA from the Dunedin School of Art.

Associate Professor **Joanna Montgomery** completed her PhD in physiology at the University of Otago. She then performed her postdoctoral research at Stanford University, where her research focus was the plasticity of synapses in the hippocampus. She returned to New Zealand in 2004 where she is principal investigator in the Synaptic Function Research Group in the Department of Physiology and Centre for Brain Research at the University of Auckland. Her research team focusses on understanding the molecular mechanisms that underlie the physiology of excitatory synapses in the brain. Her laboratory combines electrophysiology, molecular biology and imaging techniques to investigate how changes in synapse function could underlie developmental disorders such as autism, and neurodegenerative disorders such as Huntington's disease and hearing changes.



Figure 1. Rowan Holt, Shadow (2014), plastic strapping.

Preview

# ART AND BOOK: AGAINST THE ODDS

## Pam McKinlay



Figure 1. Marion Wassenaar, Evolution of Industry, (2013), charcoal book with charcoal and clay base.

As we go to press guests and speakers are gathering for the sixth Dunedin School of Art international symposium. This year's symposium, Art & Book, is co-hosted by the Dunedin School of Art at Otago Polytechnic and the University of Otago Centre for the Book, and is held in support of Dunedin's campaign to gain the status of a UNESCO Creative City of Literature. The symposium is accompanied by an exhibition at the Dunedin School of Art Gallery, *Art & Book: Against the Odds,* featuring the works of some of the speakers as well as artists from America, Canada and Australia.

Organiser and senior lecturer in Art History and Theory, Peter Stupples says, "We started in 2009 exploring the connections between Art & Science, followed by Art & Law, Art & Medicine, Art & Food and, last year Art & Money.



Figure 2. Ana Terry, *Twice Removed*, (2003-2007), books, cameo frames, ribbon.



Figure 3.Tom Ellison, Triptych, (2014), detail.



Figure 4. Jane Armour, House to Hovel, 2011, cameo frames, ribbon.



Figure 5. Neil Emmerson, *Lei Feng Mantra*, (1993), lithography on Chinese concertina book paper.

The annual symposium is this year exploring the synergies between art and book, both culturally and historically, from a variety of perspectives."

Books are the foundation of literate societies across the globe. They hold the history and culture of a society over time, formerly the preserve of revered orators and bards. Books are also artworks – from the clay tablets to parchments, paper and print, to the linguistic marks and binding and decoration. Like paintings and sculptures, they have the status of cultural treasures. Within books, artists have exercised their skills in design and illustration. Artists' books have become an acknowledged genre of the visual arts.

This symposium is an opportunity to celebrate the book in all these various artistic contexts. Topics covered range from Tolkien and his illustrators to designing and making the world's first three-D book. The symposium also includes Tourtime – an opportunity to visit many of the places in Dunedin associated with books. Both the symposium and the exhibition are part of the Arts Festival Dunedin and in support of Dunedin's bid for the status of a UNESCO City of Literature.