

VCCVAFS 2013

VCCVAFS

Vice-Chancellor's College Visiting Artist Fellows Scheme

2013



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FOREWORD

The Vice-Chancellor's College Visiting Artist Fellows Scheme (VCCVAFS) is an exciting new initiative developed by the Australian National University in 2012 to encourage and celebrate interdisciplinary research. Each year six artists are funded to work collaboratively with researchers across a wide range of disciplines in the ANU Colleges and to produce creative and experimental outcomes. These exhibitions are the first in what will become a regular program, bringing the results of the collaborations into public view with the aim of stimulating discussion about the multiple roles of visual arts and practice-led research at ANU and beyond.

Professor Ian Young AO

Vice-Chancellor and President
The Australian National University

ANU VICE-CHANCELLOR'S COLLEGE VISITING ARTIST FELLOWS SCHEME (VCCVAFS)

Supported by funding from the Vice-Chancellor, this innovative five-year Scheme is the first of its kind in an Australian University, and demonstrates the high regard in which visual arts and practice-led research is held at the ANU. Each Fellowship lasts one year, is supported by a personal award and material costs, and is completed by a group show with an exhibition catalogue. These prestigious Fellowships offer an exciting opportunity for our top creative practitioners to work with high-flying researchers in other fields: an important stepping stone in the career development of young artists, many of whom have ambitions to continue in academia.

The aim of the Vice-Chancellor's College Visiting Artist Fellows Scheme is to encourage interdisciplinary research relationships across the breadth of the University's disciplines in order to develop and sustain a wider mutual understanding of collaborative working practices. The Scheme promotes collaborative research in order to generate opportunities for developing future trans-disciplinary research projects in which practice-led research and creative design logic are embedded. Writing about and documenting the processes of collaboration form a central component of these Fellowships, to form a permanent record of the interdisciplinary research process and a resource for future collaborations.

Approved at the end of 2012, the Vice-Chancellor's College Visiting Artist Fellows Scheme began the following year with a competitive application round followed by the placement of six Artist Fellows in six of the seven ANU Colleges. Now, a year later in Autumn 2014, the Scheme launches its first Artist Fellows' Exhibition to showcase work-in-progress from the inaugural round of six College Fellowships involving practice-led research in collaboration with colleagues across the University.

Eligible applicants for The VCCVAFS include recent ANU School of Art Honours

and PhD students, part-time staff and graduates from the previous 4 years. An eminent external artist may on occasion be invited as a Fellow. Artist Fellows are selected each year on the basis of their work, research interests, the strength of the project proposal and collaboration. The distinguished selection Panel meets every year and comprises senior University staff and external advisors. Prospective Artist Fellows will have identified an appropriate field/researcher within one of the Colleges and prepared the ground for their research collaboration proposed for the Fellowship year.

The successful 2013 Artist Fellows come from diverse disciplines, Painting, Sculpture and Print Media, and are collaborating in fields as wide-ranging as Applied Mathematics and Anthropology. All the 2013 Fellows are either enrolled in PhD programmes at the School of Art, or have completed their PhD at the School.

Vanessa Barbay



Building on existing interest in multi-disciplinary research in the School of Art and the Centre for Visual Anthropology, Barbay's project, supported by Dr Melinda Hinkson, Senior Lecturer in Anthropology, focuses on bringing together tactile, visual and aural evidence in practice-led research as a key tool in facilitating cross-cultural exchange. European culture's scientific focus on animals and plants known as Natural History employs the practices of taxidermy, illustration, film and sound recordings to gather information regarding 'specimens' for the purpose of taxonomy. Barbay is producing collaborative works whereby her own painted records of taxidermy specimens in her father's home natural history museum appear alongside the same species represented by an Aboriginal artist from the area endemic to the subject represented. She is working with local Koori painter and teacher Theresa Ardler with whom she attended high school. Barbay's research is driven by her formative exposure to her father's taxidermy practice, along with her life-long enculturation experiences in Aboriginal Australian communities. Her VCCVAFS project also entails initiating and coordinating a collaborative community art exhibition entitled *Synergy*; this will be a key event during the See Change arts festival, organized in conjunction with the community by Jervis Bay and Basin Arts Inc. for which Barbay is the Vice President. Consulting with Koori artists from Wreck Bay and surrounding local villages to inspire their production of collaborative art for *Synergy*, and extending her community consultation to inspire local schools, youth groups,

seniors groups and local artists to undertake collaborative works that engage in cross-cultural, inter-generational and bonding among peers. She continues to strengthen her academic networks in Visual Anthropology through regular presentations at conferences and contributions to publications.

Michael Edwards



Michael Edwards is undertaking research into the relationship between economic conditions and still life painting. As an adjunct to his studio-led research, he has been developing an economic methodology to assist in explaining the evolution of style in still

life painting from the 17th century to the present. Drawing on the assistance of several specialists in the College of Business and Economics, this VCCVAFS project takes that research in a different direction. Rather than focussing on still life painting, the role of portraiture is explored as a way of presenting a visual picture of a group of economists who, together with their philosophies and ideas, have emerged as an influential force in contemporary thought and practice.

Kirsten Farrell



The ideas Farrell is testing with The World Synaesthesia Survey are firstly whether one can generate an interactive artwork that relies on engaging the experience of viewers or participants. Secondly, through undertaking the research in collaboration with language experts in the College of Asia and the Pacific (particularly those with expertise in linguistics), she aims

to discover if there is any scholarly merit to the idea that the colour terms employed in diverse languages may be synaesthetically predictable. Even if they are not, then deploying the methodologies of linguistic research in the visual arts will provoke valuable discussion and spark ideas and conversations between our two Colleges and beyond.

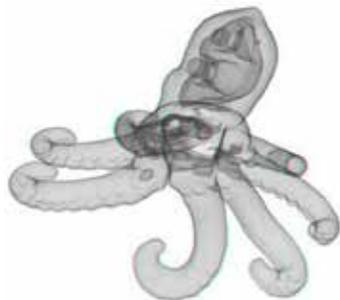
Jay Kochel



Working in collaboration with Dr Russell A Barrow, Organic Chemistry of Natural Systems, Research School of Chemistry, and Dr Tim Brook in the School of Computer Science, Kochel's project researches smell as an aesthetic marker. The research investigates what potential exists for the extraction of smells, and the re-experiencing from the original context, but also the gathering of scent data through gas chromatographic and mass spectrographic analysis. The latter forms of data might be realised through programmed translations into 2-dimensional and 3-dimensional forms. Through the use of computer aided design technology (CAD), objects might be produced through rapid prototype technologies, and drawings

will be produced through a plotter printer. Considerations of coding and coded behaviour—at the molecular, biological and affective scales of perception— influence strategies of representation and translation.

Erica Seccombe



'Grow, visualizing nature at nanoscale' is being undertaken in collaboration with Professor Tim Senden and researchers at ANU Department of Applied Mathematics XCT facility. Researchers at the XCT Facility are pioneers in the field of dynamic X-ray micro-computed tomography. As a visual artist Seccombe is exploring methods of contemporary scientific research and digital technologies that create new ways of visualizing virtual volumetric data of dynamic microscopic systems. Her research project

investigates the aesthetic possibilities of computational extension of vision through the process of dynamic X-ray micro-computed tomography (micro-CT). With this science she attempts to capture in 4D (3D + time) microscopy, the transformation of agricultural seeds as they germinate, from embryo to first leaf stage. Seccombe's interdisciplinary project combines data acquisition and the visualization of this data with a custom designed volumetric exploration software *Drishiti*. Her intention is to create work that will allow an audience to experience seed propagation at a scale enlarged well beyond the natural proportion of the original, natural process. The premise of propagating crop

seeds is to consider contemporary questions surrounding the comparative values between perceived natural and artificially cultivated food sources, particularly in context of the current concerns for global food security within a sustainable and natural environment. The challenge for this interdisciplinary project is to find a way of making original and meaningful works of art with this same scientific methodology, while creating new narratives that can extend beyond the technology and the original object.

Amanda Stuart



Stuart is collaborating with curator Dr George Main and Dr Kirsten Wehner, who work in conjunction with Professor Libby Robin (who has strong ties with the ANU's Fenner School for Environment and Society), to develop research

using the National Museum of Australia's (NMA) collections which will form part of the Museum's public program and education services. Her work will feature in the People and Environment Section of the Museum's website in an innovative new outreach facility, designed to reach a wide audience. Stuart will consider a range of voices engaged with the theme of contested landscapes – specifically, wild native and feral animals in conflict with humans. Her project will explore multiple viewpoints and personal accounts from individuals who have had strong associations with elements of the NMA collection. Stuart's project strengthens ANU's cross-institutional ties and outreach, cementing opportunities for future research collaboration.

Anthea Callen

Professor of Art (Practice-led Research)
ANU CASS School of Art

March 2014

VANESSA BARBAY

COLLEGE OF ARTS AND SOCIAL SCIENCES
SCHOOL OF ARCHAEOLOGY AND ANTHROPOLOGY

The aim of my project linking painting with visual anthropology is to document and analyse the effectiveness of collaborative art process in evidencing cross-cultural exchange. Following my PhD research, which included cross-cultural research in Western Arnhem Land among Kunwinjku speaking artists living in Kunbarlanja and surrounding outstations, I wanted to solidify the cross-cultural research experience by producing collaborative works. Choosing the field of visual anthropology, I aim to promote the value of arts practice as a research tool with outcomes that visually and materially provide evidence of cross-cultural exchange. I have chosen to return to my familial community on Jervis Bay to work with childhood friend and painter Theresa Ardler, a Gweagal – Dharawal woman from Wreck Bay community. She states: 'The motivation that was installed within me I inherited from a long line of artists within my family, mainly a strong influence coming from my mother Jessie Ardler and grandmother Gladys Ardler.' Theresa's academic focus is education and the merging of Catholic and Koori cosmology. Her paintings adorn schools, Catholic churches including the Vatican in Rome, national and international institutions such as The National Museum of the American Indian in Washington D.C. Her work is also held in the private collections of Former Governor General of Australia (Sir William Deane) and Cardinal George Pell (former Catholic Archbishop of Sydney).

Theresa states: 'My most common medium is acrylic paintings on stone, wood, and canvas. Other materials are weaving, sculptures and charcoal drawings. My main art style is dot painting using my own characters to represent me and my area where I live along by the sea.' Theresa and I share the wonderful experience of growing up in the pristine coastal environment of the Yuin nation and we have strong ancestral links to the area and the Sydney region of the Eora where we were both born in 1972. Our lives have been cross-cultural and merged formative familial and institutional education in Catholic and Koori worldviews. Our collaborative works reflect this through the subtle exchange of materials (I work with traditional Aboriginal pigments and she works with acrylics) and a shared passion for the natural world of our pristine childhood home. Our subject for this body of work is the local animal inhabitants; Theresa works in a unique Koori style combining iconic figures and dotted fields, while I work from my father's taxidermy collection and that of

museums of natural history creating iconic yet naturalist figures on plain colour fields. We have also painted into a work produced for my PhD project whose practice-led component involved 'collaborating' with deceased animals hit by vehicles or shot by hunters. A decomposing echidna made the work we have chosen, and Theresa and I talked ourselves through the process of how to interact using the earth pigments I collected in Arnhem Land. I explained to her that the yellow pigment *karlba* was the fat of the emu and noting the oily stain leaching out from the echidna's body print decided we should 'paint the fat in' using Theresa's dot technique. Then Theresa decided we should use the red and black pigments to denote the sand and earth landscape over which the echidna roams, and which relates to our 'country'. She designed alternating bands of colour radiating out from the fatty 'halo'. Our current works in process depict the crab and the turtle.

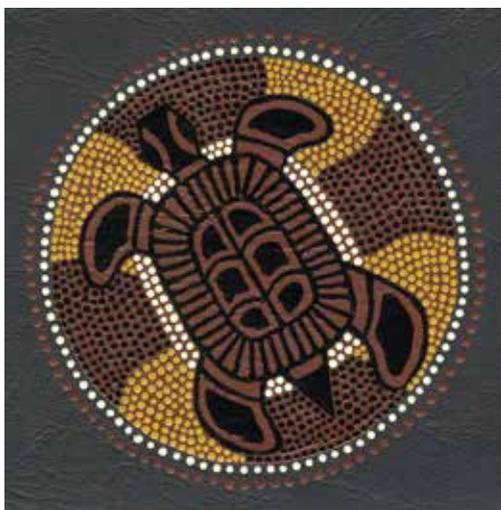
I have extended this collaborative research method into the wider community by becoming the vice president of Jervis Bay and Basin Arts and organising a community collaborative art exhibition and prize during the biennial See Change festival in the area during May-June 2014. The title is *Synergy* and I have invited artists and non-artists from all areas and cultural backgrounds to produce works in any medium involving 2 or more people. Artists from the Wreck Bay community have been encouraged to enter and I have liaised with schools and seniors organisations in addition to the Jervis Bay and Basin artist network. I am looking forward to the outcome of this research into the power of collaborative art to facilitate intergenerational and cross-cultural exchange. I have seen the benefits of this way of working in Arnhem Land where families paint together and communicate cross-culturally through painting practice and its ability to transfer and evidence knowledge.



1



2



3

1. Vanessa painting crab using ochres, 2014

Image: Maree Barbay

2. Crab collaborative painting in process using taxidermy and ochres, 2014

Image: Vanessa Barbay

3. Theresa Ardler, *Aboriginal Turtle at the Waterhole*, 2004, acrylic on wood



4



5

4. Vanessa using ochre to paint the fat on the echidna 'shroud', 2013
Image: Maree Barbay

5. Theresa Ardler trying out the ochre I collected in Arnhem Land on a work I created with a dead echidna in Spring 2011, 2013
Image: Vanessa Barbay

MICHAEL EDWARDS

COLLEGE OF BUSINESS AND ECONOMICS

Michael Edwards graduated from the ANU School of Art in 2006. His paintings have been exhibited in a number of group and solo shows in Australia. He is currently undertaking a PhD through studio-led research, examining the influence of economic conditions on the evolution of style in still life painting.

My aim in this project was to explore the relationship between economic conditions and portrait painting, something I was already doing through still life painting.

The faces in this suite of paintings represent a group of eminent economists. They are distinguished by their powerful influence on recent trends in economic philosophy and associated policy practices and, in particular, with the ascendancy of economic neoliberalism. The term may be imprecise, but I take economic liberalism to reflect a belief in the allocative efficiency of the free market and of a regulatory rather than a strategic role for the state in public sector governance. When I began the project, a debate about economic neoliberalism, or something approaching it, might have seemed trivial. But recent developments in Australia have changed that. In 2014, the economic and political landscape has become dominated by a heated debate about the 'age of entitlement' and the role of the state in a broad range of economic, industry, environmental and social support policies, including support for the arts. The economists portrayed here are invoked by both sides of the debate: sometimes favourably, sometimes not.

My approach to the debate, however, is from the perspective of a visual artist, not from the viewpoint of an economist or economic historian. As a painter, one of my first challenges was to respond to the viewer's expectation that the portraits are an authentic likeness of the subject, not only physically but as representatives of their profession and beliefs.

Authorised portraits can convey a reassuring sense of authenticity. Unauthorised portraits risk conveying the opposite. And the more the subject and the narratives surrounding them become enmeshed in controversy the greater the risk of artistic misrepresentation, at least in someone's eyes. The risks were compounded when I discovered how few images existed of most of these economists, despite their prominence. In some cases only one or two low quality black and white images were available. Whether the portraits ended up presenting an authentic likeness might be dubious.

But portraits are more just about than likeness. They can also be about representing type, and symbols such as context, pose and clothing are important. When reading about these economists, I encountered an analogy suggesting neoliberalism was ushering in a “dark age of macroeconomics”, a period where the arts of civilisation once discovered were now being lost.¹ No painter is likely to ignore such a rich vein of visual possibilities, and I therefore looked at portraits from around the 15th century for inspiration and appropriation. This included portraits of the powerful House of Medici, the small and gem-like portraits created by Hans Memling and Giovanni Bellini’s iconic *Portrait of Doge Leonardo Loredan*.

For me, the idea of returning to a dark age of macroeconomics also raised questions about temporality and the connection between portrait painting and still life painting, and the *vanitas* still life painting in particular. Like the *vanitas*, the portraits of the neoliberal economists can serve to remind the viewer that fame and relevance can be brief, and that the awe and reverence commanded today can become disenchantment and oblivion tomorrow.

This project was a multi-disciplinary and collaborative one. I received advice at the outset of this project from a number of specialists in the ANU college of Business and Economics, and valuable advice and encouragement throughout from Celeste Chandler, a visiting artist at the ANU and a distinguished Australian portrait painter.

1 Paul Krugman, ‘Dark age of Macroeconomics’ is upon us’, In Stata Center lecture, 2010. <http://web.mit.edu/newsoffice/2010/krugman-event.html> (accessed 17 March 2014).



Milton Friedman, 2013
oil on canvas
35.5 x 25.5 cm



Ronald Coase, 2014
oil on canvas
35.5 x 25.5 cm

KIRSTEN FARRELL

COLLEGE OF ASIA AND THE PACIFIC

‘Why didn’t you just look at this on the internet?’ was the question that Paul Kay, one of the authors of the *World Color Survey*¹ asked me with undisguised bewilderment when I visited him at Berkeley in 2012. It was a fair enough question. I had looked at it on the internet and had looked at the large tome containing the graphic representation of the data published in 2009. Professor Kay had been most prompt and collegial and had responded to my requests to come and meet him and see the original data collection papers. He had even taken the trouble to scan one of the notated data sheets and email it to me as a pdf, asking if this was the kind of thing I wanted to see. Of course there were similar samples in the appendix of the *World Color Survey* book and on the website. But the artist in me, the part of me that knows that there is nothing like looking at the real thing, still wanted to see the papers, still felt that there might be something to see. Sometimes it’s not possible to know what it is until you see it. Or do it.

Professor Kay let me do the *World Color Survey* tests myself: it was then I understood that the time each person, the 2700-odd subjects of the research, had ‘taken’ the survey, they can also be seen as having performed it. This work, which I have named the *World Synaesthesia Survey*² in response to the *World Color Survey*, is several things at once.

It is firstly a collaboration between me and Julia Miller. As a linguist she helped me to see that my initial questions—Is it possible to prompt a general synaesthetic response in non-synaesthetic subjects in relation to colour and language? To what extent are colour terms in an unknown language are synaesthetically predictable?—were not necessarily merely the fanciful navel gazings of an artist, but might have significant research merit. It has also been a lot of fun.

Next, it is a collaborative work of art between me, Julia, and the viewers who become participants. The work-in-progress in this exhibition consists of a set of instructions to participants, who are presented with a set of colour terms in the Papuan language Kalam. They are asked to sit at a table in the gallery and colour a grid containing the terms on an A4 page using the nine colours provided. In joining the performance and display of the results, the participant draws attention to the possibility of an aesthetics of data, in this case linguistic, that is potentially both performative and conceptual.

—Kirsten Farrell

1 ‘The World Color Survey’ last modified March 16 2011 <http://www1.icsi.berkeley.edu/wcs/>

2 Synaesthesia: 1. Psychol. the production of a mental sense-impression relating to one sense by the stimulation of another sense. *Australian Oxford Dictionary*, 2002

We are exhibiting actual lexical items taken from unwritten languages spoken in the Asia-Pacific region asking our audience if these colour terms trigger a synaesthetic experience for them.

Speech sounds and colour

Speech is produced with articulators such as the tongue, teeth, lips, palate, etc. When making speech sounds, we combine these articulators as air flows from our lungs out our mouth or nostrils.

Vowels are multidimensional in their production. Firstly, there are height distinctions based on tongue and jaw placement. For example, <oo> as in *fool* is high, the <a> as in *father* is low. There is also a front and back distinction; <ee> in *deed* is produced in the front of the mouth; <o> in *dote* is produced further back in the mouth. And finally there is a lip rounding distinction. The <oo> in *doom* is rounded, the <i> in *dime* is not. Consonants are produced in places that range from the lips to the back of the throat. They can be voiced as in <d> *dogs* or voiceless as in <t> *togs*. They can be produced by a full stoppage of airflow followed by a release burst as in the <c> of *cogs*, or with varying degrees of airflow: <f> as in *flop*, <sh> as in *shop*, or <ch> as in *chop*.

One possibility is that when the participants sound out the words in their heads it will trigger a sort of colour synaesthesia. Will higher vowels seem lighter in colour than lower vowels? Will the rounded vowels seem warmer than the unrounded ones? Will consonants that stop air flow, such as <t> and <k> be darker than those that only partially stop it <sh> or <s>?

Graphemes and colour

Taking the written word as our input, a person may associate the shape of the graphemes that make up the word to something in his or her known world. The bouba/kiki effect¹ is the non-arbitrary mapping of visual shapes of objects to speech sounds. It follows that there could be a mapping of the shapes of the graphemes to colours. For instance, , <ou> and <a> are graphemes that have rounded, soft lines where the <k> and <i> are straight, pointed. Participants may associate the soft, round graphemes to colours that are perceived as soft or warm. They may associate the pointed, straight graphemes to darker, cooler colours.

—Julia Miller

1 Ramachandran, VS & Hubbard, EM 'Synaesthesia: a window into perception, thought and language' in *Journal of Consciousness Studies* 8 (12): 3-34. (2001b).



Two examples of grids coloured by participants in *The World Synaesthesia Survey, 2014*
Photos: Kirsten Farrell

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JAY KOCHER

COLLEGE OF PHYSICAL AND MATHEMATICAL SCIENCES
RESEARCH SCHOOL OF CHEMISTRY

Jay Kocher is a Canberra-based artist who completed his PhD in Sculpture at the Australian National University, School of Art, in 2013. He has a multidisciplinary approach to his art practice and research methodology and prior to completing an undergraduate degree in sculpture and interactive media he studied a combined Bachelor of Anthropology and Law in 1996. He has won several awards, notably, the Neil Roberts Award (2008) and the Anthony Forge Prize for Anthropology (2004). Kocher's doctoral studies focused on the relationship between fetish, magic and contemporary art. The majority of his fieldwork was conducted at the Pitt Rivers Museum, Oxford and the Musée du quai Branly, Paris, where he researched the artefactual history of fetishism. In 2014 he was awarded an Arts ACT Project Funding grant and an Asialink Residency to go to Kyoto, Japan.

This research began as an investigation into the expression of the immaterial—through concepts of essence, soul or spirit. This developed into a more sensuous investigation—the invisible and yet perceptible. Smell, in an evolutionary sense, is the most primal sense, shared by bacteria and humans alike. The ability to literally absorb our environment, albeit at a molecular level, to enact a biological interaction with olfactory receptors, that are purposed to only receive stimulation from a certain palette of aromatics.

My Fellowship engages with ideas of smell as a system of encoded interaction. The physical form of particular molecules activate the protein receptors within the nose, in turn creating signals to the olfactory bulb, which is spatially organised into similar ‘types’ of smells. In the perception of odour, language has a unique role. Those who have a better ability to describe smell through language are often considered to have a better nose. The transition from smell to recognition can be facilitated through language—often an ‘ahah’ moment when a smell is described as having certain notes, flavours or characteristics of another familiar odour. These interactions of form, code and pattern recognition influence the development of the research towards investigations of truly volatile and yet almost imperceptible molecules such as pheromones.

While the creation of odours as ‘designed’ experiences is a thousands year old profession, the subtleties of extracting and reproducing complex smells with a great degree of fidelity, still remains an elusive art. The process of ‘capturing’ smell, is fraught with failure due to the delicate and impermanent nature of volatile molecules. This research investigates what might be possible in terms

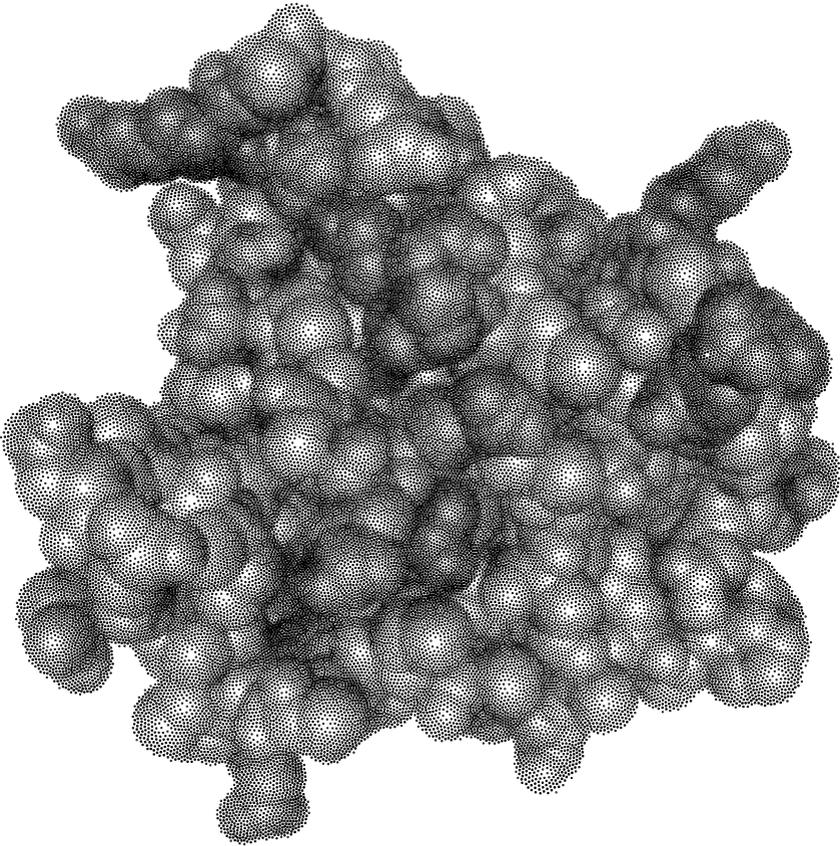
of translating the experience of smell into kinaesthetic, haptic and visual modes of perception and response.

The work-in-progress presented at the summation of the Fellowship, has looked at the molecules of attraction, sex pheromones. Often the influence of these molecules is beyond discernible perception, and their affects are not linear or straight-forward. In fact, these molecules can be exploited by other species, through acts of sexual mimicry, as is the case of orchids attracting male wasps. This point of research is the focus of work by ANU chemist Dr Russell Barrow, to whom I am grateful for inspiring the current directions of investigation. Perception is then complicated by our understanding of biologically coded responses and the objectivity of pattern recognition. Pheromones, while generally considered a catalyst for more basic natures, in humans the reception of a pheromone may be imperceptible, yet in the case of bacteria, the ability to sense food and sex is their *raison d'être*.

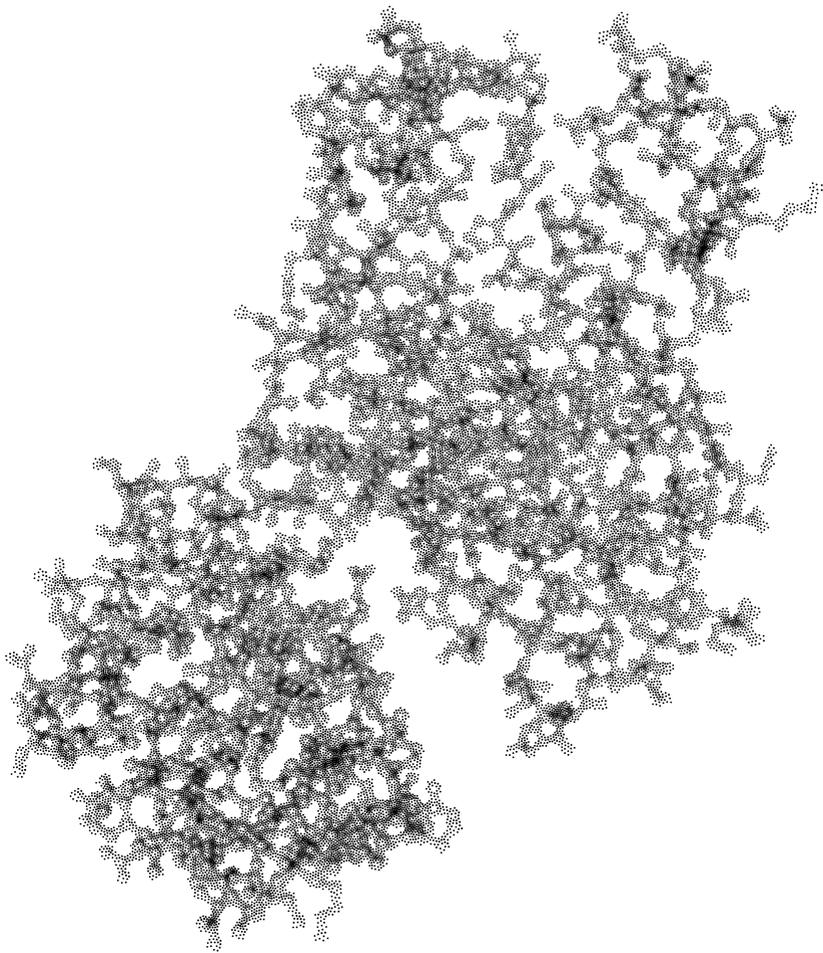
This work-in-progress presents drawings produced through experiments with 3D models of various pheromones (e.g. *Staphylococcus aureus* – ‘Golden Staph’). These drawings are rendered in pen by a 2 ½ axis plotter. The original drawing file is generated through a form of cellular distributive mapping—weighted Voronoi distributed dots. The algorithm of Adrian Secord utilises weighted Voronoi cell distribution, and implemented using Processing through Open Source software (StippleGen).¹ The result is a CNC toolpath based on a technique of shading similar to pointillism in painting. The toolpaths are generated iteratively, growing with greater fidelity over multiple series of calculations. The resultant cloud of dots reveals an impression of the represented pheromone.

These pheromone drawings reiterate concepts of fidelity and scales of perception. The visual weight of these pheromones is amplified through scale, presented as no more than a series of points, the value of estrogen, testosterone and the sex pheromone of bacteria become equal in a manipulation of scale and pattern recognition. In a similar way, chemistry is leveraging our senses into the molecular scale, making tangible and visible the otherwise imperceptible and immaterial.

¹ Adrian Secord's algorithm (<http://mri.nyu.edu/~ajsecord/stipples.html>); and StippleGen (<http://www.evilmadscientist.com/2012/stipplegen-weighted-voronoi-stippling-and-tsp-paths-in-processing/>).



Chain A, Crystal Structure Of Aphrodisin, A Sex Pheromone From Female Hamster, 2014
SVG image, 50,000 Voronoi points



Chain A, Structure Of The C-Terminal Domain Of Sex Pheromone,
Source: *Staphylococcus aureus* subsp. *aureus* Mu50, 2014
SVG image, 50,000 Voronoi points

ERICA SECCOMBE

COLLEGE OF PHYSICAL AND MATHEMATICAL SCIENCES
DEPARTMENT OF APPLIED MATHEMATICS

Erica Seccombe is currently a PhD candidate in Photography and Digital Arts and is undertaking a project facilitated by the ANU Department of Applied Mathematics. Erica is a 2010 Synapse recipient through ANAT, and was awarded a 2011 Australia Council of the Arts London Studio Residency.

Experimenting with 3D printing timelapse data from germinating seeds. Work-in-Progress.

I am a visual artist and currently a PhD candidate at the ANU School of Art in Photography and Digital Arts. My research is being facilitated and supervised by Professor Tim Senden, Head of the Department of Applied Mathematics, ANU. My interdisciplinary project 'Grow, visualising nature at nanoscale', is an investigation of the aesthetic possibilities of computational extension of vision with dynamic 3D Microcomputed X-ray Tomography, or 4D Micro-CT, a process which has an additional dimension of time ($3D + \text{time} = 4D$).

With this science I have captured in 4D Micro-CT the transformation of plant seeds as they germinate, from embryo to first leaf stage. I am visualising this data in a scientific volume exploration and presentation tool known as *Drishti*, a custom-designed software developed by Dr Ajay Limaye at VizLab in the ANU Supercomputer Facility, NCI. I am visualising these virtual time-lapse datasets of germinating seeds and projecting the resulting animations in immersive stereoscopic installations.

Because of the fantastic opportunity provided by VCCVAFS I have been able to further experiment with my time-lapse data of mung beans and alfalfa through 3D printing. The Department has a Z-Printer 650 which prints exactly as a colour inkjet, but over fine layers of chalk powder. The resulting 3D colour objects are then sealed with resin.

The first experiments I have created are the beginning of thinking about how this project might progress. Printed objects immediately become static, but by using the transfer functions in *Drishti* and experimenting with overlaying the data volumes, I am starting to see some unusual results.

In my first print, the time-lapse stack, [fig. 1-2.], each sequential moment of the mung bean sprouting is printed on top of another. This is a very simple model and orders each timeframe in a very linear structure, but it made me think about how to push these experiments in less conventional forms.

Because the datasets I am using are not created with conventional mesh framing, the virtual data is extremely organic. The beans and alfalfa sprouts are

very fragile so printing them off as small sculptures is problematic as the little leaves and stems break away. To contain the structures, I started implementing disks of solid data [fig-3-6]. It was only when I printed them out that I realised they had started to take the shape of culture dishes. This was not intentional but I like the effect.

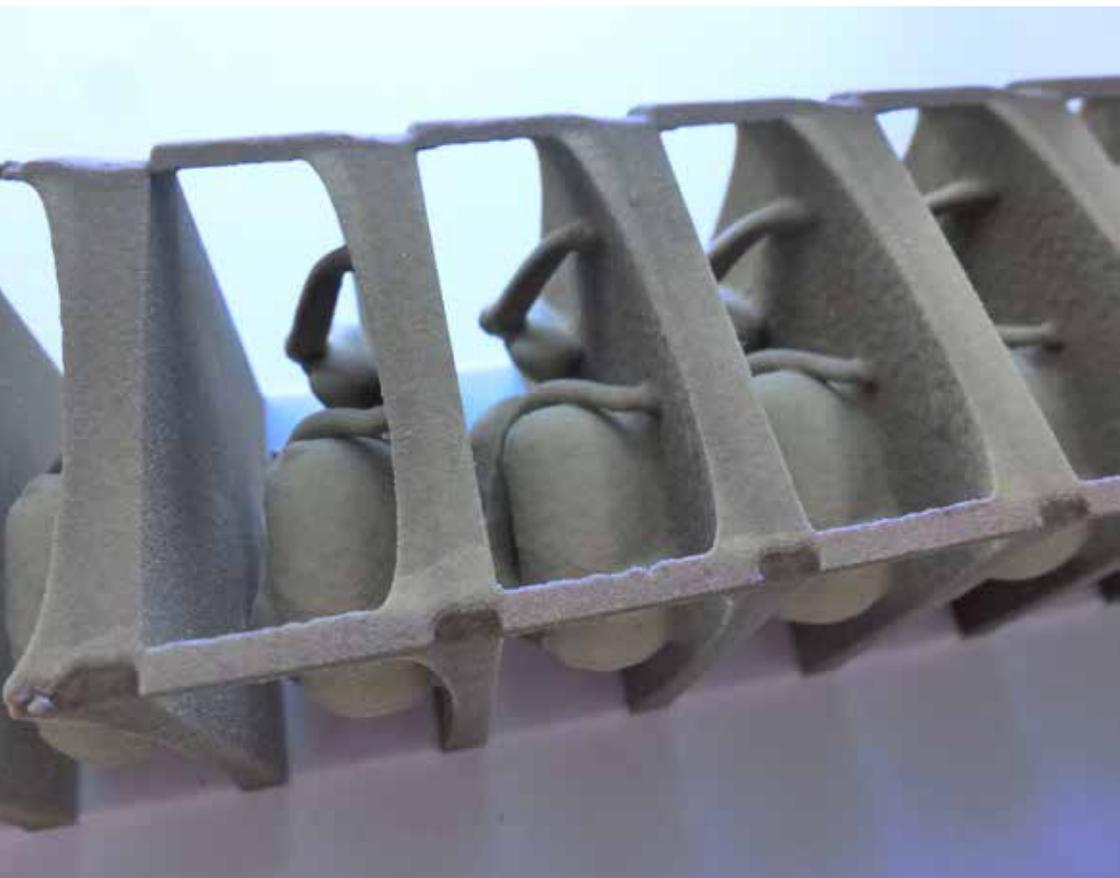
The colour is also an additional element that I apply in *Drishhti* before printing. I would like to see how the data translates in a range of colours but to start with I selected a lurid green to highlight the artificial quality of the prints, rather than trying to pretend to be realistic.

The beauty of virtual data is that multiple volumes can be overlaid before they are prepared for printing.

This way the data becomes fluid and I can overlay various time sequences in different stages of development at various angles. I can see how through this process time-lapse data can be visualised back into physical 3D models in very different ways. The possibilities are endless.



1. *Bean Stack*,
work-in-progress, 2013
3D print of mung beans in a
sequential stage of germination.
Image: Dr Ajay Limaye.



2

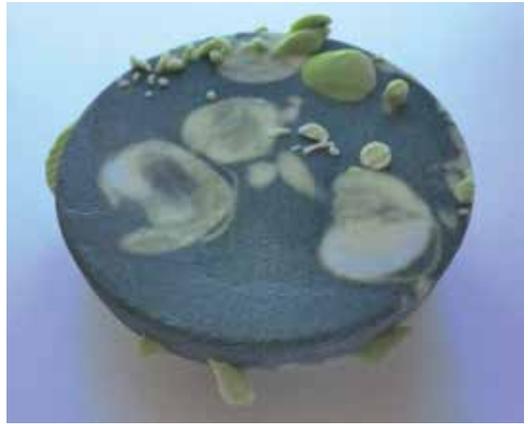


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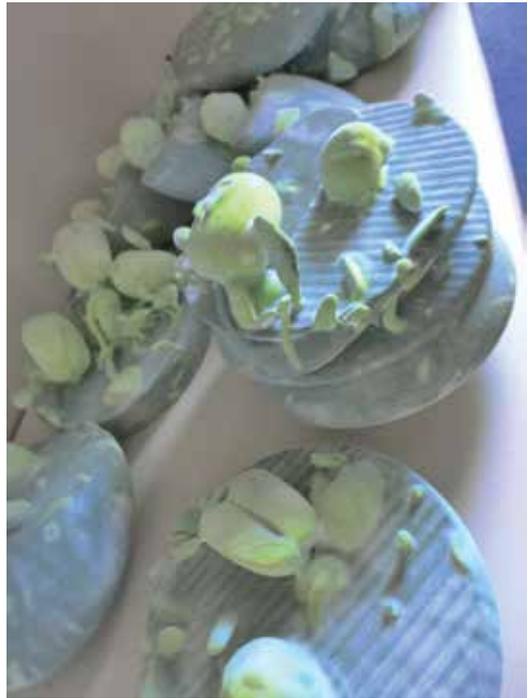


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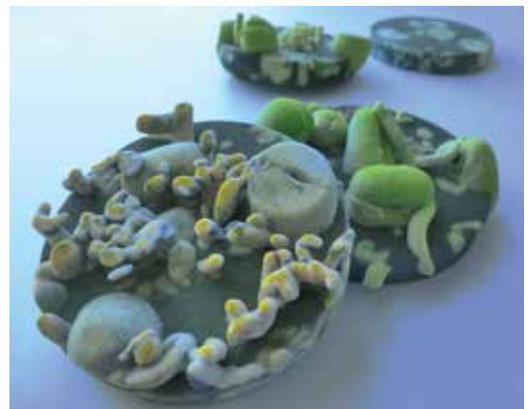
5



6



7



2. *Bean Stack*,
work-in-progress (detail), 2013
3D print of mung beans in a sequential
stage of germination
Image: Dr Ajay Limaye.

3-6. *Germinating seeds*,
work-in-progress (detail), 2013
3D prints of mung beans and alfalfa in
various forms depicting time-lapse of
germination

7. *Germinating seeds*,
work-in-progress, fresh out of the Z-printer,
2013
3D prints of mung beans and alfalfa in
various forms depicting time-lapse of
germination

AMANDA STUART

NATIONAL MUSEUM OF AUSTRALIA
COLLEGE OF MEDICINE, BIOLOGY AND ENVIRONMENT
FENNER SCHOOL OF ENVIRONMENT AND SOCIETY

re-imagining the unwanted: re-awakening the stories in animal objects

A work-in-progress in collaboration with the National Museum of Australia.

What is the role of unwanted animals in Australia?

What evidence is there in our contemporary cultural heritage of the unwanted animal?

How have these perceptions shifted since settlement?

My PhD in visual art, undertaken at the ANU School of Art, was driven by fieldwork that encompassed a multi-disciplinary approach and represented a range of viewpoints regarding contested landscapes between humans and animals (dingoes and wild dogs) in southeastern Australia. The research embraced regional and social histories, scientific and cultural issues arising from colonization, and the socio-political influences that have shaped cultural opinion.

In my studio practice I strove to create a visual language to express aspects of the complexities arising from the often bitter tensions between humans and unwanted animals in post-colonized Australia. *lines of desire*, (Figure 1) was the sculptural installation that resulted from this research and gestured towards a metaphoric dream space of modified objects and shadows that incorporated the viewer and spoke of subconscious European settler anxiety and uncontained boundaries.

This installation caught the attention of Dr Kirsten Werner and Dr George Main from the National Museum of Australia's *People and Environment Section*, who shared my fascination with the stories embedded in objects with history – especially those that reference the environment. Kirsten and George were committed to evoking contemporary narratives and dialogues from the Museum's rich collection of objects, focussing on those that embody relationships Australian's have had with rural environments.

Through the VCCVAFS, I was invited by Kirsten and George to research and respond to objects in the NMA collection, in the role of *resident* visiting artist.

This is a challenging task for any visual artist, especially one with a major object obsession, however through the Fellowship I have been privileged to allow just a few of these fascinating objects to take hold of my imagination.

The project was initiated last August with a wish list of 20 objects that I considered loosely explored themes and ideas associated with unwanted animals, both native and introduced, in regional Australia. These objects historically reflect European settler attitudes towards what constitutes an undesirable animal, however during the course of my research I have come to understand that they represent so much more, especially through a contemporary lens.

I have focused my attention on two objects of similar vintage, a thylacene pelt from the Pieman River area in Tasmania (Figure 2) and a cat skin rug from the Monaro region of New South Wales (Figure 3). Both reveal startling insights into the times from which they came, and my research to date has focused on documenting them visually and tracing their individual stories.

The thylacene pelt is one of less than 20 in museum collections around Australia and is significant because it is thought to be one of the last animals shot in the wild, and in an area earmarked to be a thylacene sanctuary in the 1930's. Its story is obscure but it was once thought to have functioned as a domestic floor mat. My visual documentation of this tragic object allows for an intimate reflection upon the nature of an individual being, one whose species was deeply maligned and largely unseen and can only ever now be imagined. The thylacene was exterminated due to the threat it was considered to pose to the colonial project.

Despite its shared practical function, the cat skin rug presents a stark contrast to the thylacene pelt. By revisiting this contentious object through a contemporary lens, my project traces the maker, Mrs Ena Harris (Figure 4), and the morphology of the rug. It also enables me to trace a highly personal narrative behind an extraordinary animal object within the collection, whilst giving valuable insight into the times from which it came.

This research opportunity has allowed me the space and time to confront some difficult aspects of my own European ancestral lineage, face-to-face. My residency at the National Museum of Australia has enabled me to open up a dialogue between some of their objects, and to find ways of re-imagining and tracing the stories embedded in them.



1



2

1. *lines of desire*, 2013, found objects (shearers' beds, woollen blankets, LED torches), mixed media, dimensions variable
Image: David Paterson
2. *thylacene eye* (detail), 2014
Image: Amanda Stuart



3



4

3. *Cat Skin Rug*, c.1942, cat skins, felt, 170.8 x 100 cm
Image: courtesy of George Serras, National Museum of Australia

4. *ena's hands*, 2014
Image: Amanda Stuart

ABOUT THE SCHOOL OF ART

The ANU School of Art has a reputation as one of Australia's premier visual art and design teaching institutions. This reputation has been developed and maintained through a hands-on teaching program that emphasises excellence in studio practice in combination with a critically informed approach to the field of art and design. The School has an excellent success rate in graduating highly skilled professionals who make a significant contribution as exhibiting artists, curators, writers, scholars and arts administrators. Graduates have achieved national and international recognition and are successful in gaining competitive scholarships and awards.

Undergraduate, combined degree, Honours and an extensive postgraduate program are offered, all taught in the School's specialised facilities by highly skilled staff. A highlight of all of our programs is the access provided to visiting artists and scholars both within the School of Art and through the University's broader teaching and research areas. A special feature of the School of Art is the International Student Exchange Program. Through this program students have the opportunity to study at university schools of art and design in Asia, Europe and North America.

Programs are enhanced by the School's proximity to national cultural institutions, and a strong network of local and regional arts organisations. Close by are the National Gallery of Australia, the National Film and Sound Archives, the National Library of Australia, the National Museum of Australia, the National Portrait Gallery, Canberra Museum and Art Gallery and the Drill Hall Gallery; in addition the School has close bonds to Canberra's well established not for profit art and community organisations.

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Images pages 8-11

Vanessa Barbay, *Summer Cockatoos* (detail), 2011-12, Delek (white ochre), silk stitch, aquarelle, bitumen, body and plant pigments on canvas

Michael Edwards, *Andrew Mellon 3 cent stamp*, 2013, oil on canvas, 50 x 40 cm

Kirsten Farrell, *Colour Theory*, participatory performance part of Walker and Bromwich's Art School Anecdote, 2013

Jay Kochel, *Séance*, 2012, timber, copper, hair, polyurethane, Shellac, glass vessel, found and altered table, magnets, brass, steel, custom programming and electronics, transducer, 170 x 255 x 275 cm
Photography: Brenton McGeachie

Erica Seccombe, *Ocularanaglyphos*, 2011, anaglyph print on paper

Amanda Stuart, *the bed i lie in*, 2013, shearer's bed, mild steel, torch, lanolin, 200 x 77 x 95 cm
Photography: David Paterson

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