

THE SECOND INTERNATIONAL CONFERENCE ON TRANSDISCIPLINARY IMAGING AT
THE INTERSECTIONS BETWEEN ART, SCIENCE AND CULTURE



INTERFERENCE AS A STRATEGY FOR ART
CONFERENCE PROCEEDINGS

Edited by Su Baker, Paul Thomas and Andrew Varano

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The International conference on Transdisciplinary Imaging at the Intersections between Art, Science and Culture, is fully refereed (double-blind peer reviewed) and open access.

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Introduction

The Second International Conference on Transdisciplinary Imaging at the Intersection between Art, Science and Culture

Su Baker, Paul Thomas and Jan Andruszkiewicz

In the depths of a Melbourne winter during the 22nd and 23rd of June 2012, the second international conference on *transdisciplinary imaging at the intersection between art, science and culture*, was held in Federation Hall, at the Victorian College of the Arts, University of Melbourne. This was the second in the series of presentations on transdisciplinary research and attracted thirty three presenters, with significant keynote speakers Oliver Grau and Anna Munster.

The theme of “interference” reflects a literal merging of sources, of interplay between factors, and also as a metaphor for the interaction of art and science, the essence of interdisciplinary study. As a metaphor “interference” contains insights to creative strategies for the intersection of different concepts, thus fostering new perspectives. (Bohm and Peat 2011, 33) The role of the conference, as a forum to promote and encourage interdisciplinary research, brought together researchers to speculate, contest and share their thoughts on the conference theme, and its potential to explore the intersection between art, science and culture, and to form new dialogues.

The conference was conceptually positioned to explore and negotiate the contemporary cultural settings, saturated with images from all disciplines, whether through the creation of ‘beautiful visualizations’ for science, the torrent of images uploaded to social media services like Flickr, or the billions of queries made to vast visual data archives such as Google Images. These machinic interpretations of the visual and sensorial experience of the world are producing a new spectacle of media pollution. Some might propose that machines could be, in many ways, the new artists. Or not.

The notion of ‘Interference’ is posed here as an antagonism between production and seduction, as a redirection of affect, or as an untapped potential for repositioning artistic critique. Maybe art doesn’t have to work as a wave that displaces or reinforces the

standardized protocols of data/messages, but can instead function as a kind of signal that disrupts and challenges perceptions. ‘Interference’ can stand as a mediating incantation that might create a layer between the constructed image of the ‘everyday’ given to us by science, technological social networks and the means of its construction. Mediation as discussed in the first conference is a concept that is taken for granted now because it is itself the medium in which we think and act, in which we swim. Interference confronts the flow, challenges currents and eulogizes the drift.

The questions posed, included, whether art can interfere with the chaotic storms of data visualization and information processing, or is it merely eulogizing contemporary media? Can we think of ‘interference’ as a key tactic for the contemporary image in disrupting and critiquing the continual flood of constructed imagery? Are contemporary forms and strategies of interference the same as historical ones? What kinds of similarities and differences exist?

Interference occurs between our internal preconceived notions of media and the media as they define themselves, the resulting incongruities’ provoking new ways of engagement with vast oceans of information. The processes of resonance and diffraction, applied metaphorically, can amplify unifying characteristics of contradictory sources, the outcome of which contains aspects of the contributing elements, in the context of a meta-discourse on the contradiction. Application of a process to a medium, for example, the sorting of pixel data, literally interferes with the state of an image, and directly gives new materiality and meaning, allowing interference to be utilised as a conceptual framework for interpretation, and critical reflection.

Interference is not merely combining; interference is an active process of negotiating between different forces. The artist in this context is a mediator, facilitating the meeting of competitive elements. Bringing together, setting up a situation of possibilities. Orchestrating the meeting of elements, akin to designing a system that makes art, instead of making the art, the artist is recast as meta-practitioner. Implicit in the artists’ redefined role as mediator is the concept of the system of which the artist is one part.

In response to the questions posed by the theme, presentations traversed varied notions of interference in defining image space, the decoding and interpretation of images, the interference between different streams of digital data, and how this knowledge might redefine art and art practice. Within that scope a lies the discourse about interference that arises when

normal approaches or processes fail, with unanticipated results, the accidental discovery, and its potential in the development of new strategies of investigation.

In “The case of Biophilia: a collective composition of goals and distributed action”(Cypher 2012, 11) Mark Cypher documented the negotiation between exhibit organisers, and space requirements, and the requirements for artist/artworks, resulting in an outcome that is a combination generated by the competition of two or more interests. The final appearance of “Biophilia” the artwork itself contained elements of both interests, an interference of competing interests, comprising a system in which the artist and the artwork are components, and the display a negotiated outcome. In this sense the creation of the final appearance of “Biophilia” is the result of the distributed action of many “actors” in a “network”(Cypher 2012, 11).

Interference can also be found within elements that exist within an individual creative act. The artist as negotiator is responsible for finding agreement within different conceptual levels of a medium. Bettina Bruder’s “Inferences Through Interferences” documented the creative use of “elastic interference”(Bruder 2012, 10) in creating differences, an approach that facilitates the discovery of hidden patterns. Bruder working with the concepts of “Bending or flexibilisation”(Bruder 2012, 9) on multiple levels of technical image production, technical image transmission, the use of algorithms in image mediation and the “reading, decoding and making sense”(Bruder 2012, 10) of images, described her creative practice as “investigations in the flexibility of systems”(Bruder 2012, 10), which “demands divergent practices and encounters to translate the ideas into action”(Bruder 2012, 10). For Bruder, the interference of interference becomes a tool the artist uses to provoke new strategies; creative practice is redefined as dialogue between the artist and the medium.

In the summation Edward Colless spoke of some of the aspirations for the conference, entertaining the possibilities of transdisciplinary art as being contested field, in that many of the papers were trying to unravel, contextualise and theorise simultaneously. This transdisciplinary image conference series aims to demonstrate a combined eclecticism and to extend the discussion by addressing the current state of the image through a multitude of lenses. Through the 2012 conference theme of interference proposed that this journey may well be about embracing error and transdisciplinarity as a new vision of how to think, theorize and critique the image, the real and thought itself.

References:

Bohm, David, and F.David Peat. 2011. *Science, Order and Creativity*. Great Britain: Routledge Classics.

Bruder, Bettina. 2012. Inferences Through Interferences *Second International Conference on Transdisciplinary Imaging at the Intersection between Art , Science and Culture, The Victorian College of the Arts and Music in Federation Hall: Transdisciplinary Research at the Intersections between Art , Science and Culture*.

Cypher, Mark. 2012. Second International Conference on Transdisciplinary Imaging at the Intersection between Art , Science and Culture *The Victorian College of the Arts and Music in Federation Hall: Transdisciplinary Research at the Intersections between Art , Science and Culture*.

IMAGES (R)-EVOLUTION: Image Science and Digital Humanities

Oliver Grau

1. Loosing Contemporary Art

Over the last fifty years digital Media Art has evolved into a vivid contemporary factor. Although there are well attended festivals worldwide¹, funded collaborative projects, discussion forums, publications² and database documentation projects³, Media Art is still rarely collected by museums, barely supported within the mainframe of art history and with relatively low accessibility for public and scholars.

As we know, compared to traditional art forms - painting or sculpture - Media Art, has a multifarious potential of expression and visualization; and therefore, although underrepresented at the art market, which follows other interests, it became, we might say, “the art of our time”; thematizing complex challenges for our life and societies, like genetic engineering⁴ and the rise of post human bodies⁵, like ecological crises⁶, like the image and

¹ For example: Ars Electronica, Austria; Transmediale, Germany; Intersociety of Electronic Arts (ISEA) Conference; Dutch Electronic Art Festival; European Media Art Festival, Germany; FILE, Brasil; Microwave Festival Hong Kong; Korean Media Art Festival; Siggraph, a.o.

² DA COSTA, Beatriz and PHILIPP, Kavita (Eds.): *Tactical Biopolitics: Art, Activism, and Technoscience*. Cambridge/ Mass.: MIT Press 2010; WILSON, Stephen: *Art + Science Now: How scientific research and technological innovation are becoming key to 21st - century aesthetics*. London: Thames & Hudson 2010; WILSON, GARDINER, Hazel and GERE, Charly (Eds.): *Art practice in a digital culture*. Farnham: Ashgate Press 2010; POPPER, Frank: *From Technological to Virtual Art*. Cambridge/Mass.: MIT Press 2007; SHANKEN, Edward: *Art and Electronic Media*, London: Phaidon 2009; SOMMERER, Christa and MIGNONNEAU, Laurent (Eds.): *Interface Cultures: Artistic Aspects of Interaction*, Bielefeld: Transcript 2008; VESNA, Victoria: *Database Aesthetics: Art in the Age of Information Overflow*, Minneapolis: University of Minnesota Press 2007; DIXON, Steve: *Digital Performance: A History of New Media in Theatre, Dance, Performance Art, and Installation* Cambridge/Mass.: MIT Press 2007; GRAU, Oliver: *Virtual Art*, Cambridge/Mass.: MIT-Press 2003 among others.

³ For example: Database of Virtual art: virtualart.at; [Netzspannung.org](http://netzspannung.org), http://netzspannung.org/archive/V2_Archive, <http://framework.v2.nl>; [Docam, www.docam.ca](http://www.docam.ca); Daniel Langlois Fondation, www.fondation-langlois.org; Variable Media Initiative, <http://variablemedia.net>; Ludwig Boltzmann Institute, Media.Art.Research, <http://media.lbg.ac.at>; a.o.

⁴ See: Suzanne Anker / Dorothy Nelkin: *The Molecular Gaze: Art in the Genetic Age*. N.Y. 2004; Sk-interfaces. Exploding borders - creating membranes in art, technology and society. Ed. by Jens Hauser. Liverpool 2008; Eduardo Kac: *Bio Art. Signs of Life. Bio Art and beyond*. Cambridge/Mass 2009; Ingeborg Reichle: *Kunst aus dem Labor. Zum Verhältnis von Kunst und Wissenschaft im Zeitalter der Technoscience*. Wien 2005. a.o.

media⁷ revolution and with it the explosion of human knowledge⁸, the rapid growing mega cities, the change towards virtual financial economies⁹ & the processes of globalization¹⁰, just to name a few. Visually powerful, interactive Media Art, perhaps supported by databases or attached to the www, is offering more and more degrees of freedom and evidently is much better equipped to deal with the challenges of our complex time; nevertheless, although around since decades and even quantitatively dominating many art schools, art and image forms able to do that have not arrived into the core collecting institutions of our societies. Thus, due to the fast changes in storage media - works that originated approximately 10 years ago can normally not be shown anymore. And it is no exaggeration to state that we face the *total loss of an art form* from the early times of our post-industrial-digital societies.

It is ironic that this loss takes place in a time, where the world of images around us changes faster than ever before: Images are advancing into new domains: New private platforms like YouTube, Flickr with it's billion uploads or Facebook that has now around 1 billion members and is now the largest image archive in the world. Television became a zappy field of thousands of channels; now in 3D – and 3D experiences as we know a renaissance in Cinema as well. Large projection screens are invading our cities, buildings surfaces meld ever more often with moving images, so that the old dream of talking architecture gets a new arsenal of options¹¹, cell phones transmit movies in real time VJing represents a whole new amalgamation of music and moving images¹² and *Google StreetView* and *Google Earth* step up the concepts of panoramic image spaces including Satellite views, for example of our Center for Image Science in *Göttweig*. (Fig. 1) Images' historical development between innovation, reflection and iconoclasm reaches a new level of global complexity in the 21st century. Digital images became ubiquitous and key tools within the global reorganisation of

⁵ See: Lynn Hershman-Leeson: The raw Data Diet, All-Consuming Bodies, and the Shape of Things to Come, in: Database Aesthetics: Art in the Age of Information Overflow. Ed. by Victoria Vesna, University of Minnesota Press 2007, pp-249-252.

⁶ The topic of the Transmediale Berlin in 2009: „Deep North“; Ars Electronica festival in 2009: „human nature“.

⁷ See: Imagery in the 21st Century. Ed by Oliver Grau: Cambridge/Mass. 2011; W.J.T. Mitchell: Cloning Terror. The War of Images. 9/11 to the Present. Chicago 2011. a.o.

⁸ See: Lev Manovich: Info-Aesthetics. Bloomsbury, N.Y. 2012.

⁹ See the forthcoming dissertation of Daniela Plewe, Paris, Sorbonne 2011: www.transactional-arts.com/summary.html

¹⁰ Ars Electronica's festival theme in 2002: „Unplugged. Art as the scene of global conflicts“ a.o.

¹¹ See: Medium Architektur, 9. Internationales Bauhaus-Kolloquium, Weimar, Ed. by Gerd Zimmermann Thesis, Wissenschaftliche Zeitschrift der Bauhaus-Universität Weimar 2003.

¹² www.soundframe.at

work, but these transformations have hit society to a large extent unprepared.¹³ And all this, let's say visualization and virtualization, requires a so far unknown material base: Google runs for example 1 Mio Servers in a dozen countries even on the ocean and processes 24 PetaByte of user generated data per day and the 4-6 million people, who died in the race for so called "conflict minerals"¹⁴ did not even receive a monument for the unknown victim.

2. Media Arts multifarious potential of expression

And this is what it's about: Hundreds of names of artists, of artworks, art trends, theory of media art in keywords, presented in an enormous huge circle. Thirty-two slices are offered as a subdivision into themes, like representation, emotion and synaesthesia, atmosphere, games, art as spatial experience - we find glimpses of a history of media art. Like other festivals, which look into their own past, Gerhard Dirmoser has created a diagram to give an overview of the tremendous development that media art went through during 30 years of *Ars Electronica*.¹⁵

Let me name a few artworks, which stand for the multifarious potential of media art: Charlotte Davies transports us with the installations *Osmose* or *Éphémère* into a visually powerful 3D-simulation of a lush mineral-vegetable sphere, which we can explore via a body intimate interface: Classics which provoked more than 100 scientific articles but were ignored by museums.¹⁶

Open-ended questions about the complicated ethical issues involved in the manipulation of DNA raises Eduardo KAC's installation *Genesis*.¹⁷

¹³ See: Imagery in the 21st Century 2011 (note 7).

¹⁴ See: "Congressional Testimony of Les Roberts, Director of Health Policy at the International Rescue Committee," 107th Cong., 2nd sess., 7 May 2001, 2. By 2009, over 6 million died directly due to the conflict minerals trade: U.S. House of Representatives Bill H. R. 4128, 111th CONGRESS, 1st Session, November 19, 2009.

¹⁵ www.servus.at/kontext/ausstellungskunst/Folie1.GIF (plus Folie 2-4).

¹⁶ Davies, Char, Harrison, John: *Osmose: Towards broadening the aesthetics of virtual reality*, in: *Computer Graphics (ACM)*. Vol. 30, no. 4, 1996, pp. 25-28. Char Davies: *Landscape, Earth, Body, Being, Space and Time in the Immersive Virtual Environments Osmose and Ephemère*, in: Ed. by Judy Malloy: *Women, Art, and Technology*, MIT-Press Cambridge/Mass. 2003, pp. 322-337.

¹⁷ See: Eduardo Kac: *Life, Light & Language/ / La vie, la lumière & le langage*. Enghien-les-Bains Art Center. France 2011; Eduardo Kac / Avital Ronell: *Life Extreme: An Illustrated Guide to New Life*, Paris 2007; Eduardo Kac: *Bio Art. Signs of Life. Bio Art and beyond*. Cambridge/Mass 2007; Eduardo Kac: *Telepresence and Bio Art—Networking Humans, Rabbits and Robot*, Ann Arbor. Michigan 2005.

With UNMAKEABLELOVE Jeffrey Shaw and Sarah Kenderdine created in their cybernetic theatre *Re-Actor* a real time augmented world of 30 humans inspired by Samuel Becketts “The Lost Ones”. In a dark space or even a prison camp formed by a hexagon of six rear-projected silver screens – this results in the most powerful (*Fig. 2*) reappearance of the phantasmagoria.¹⁸

For years William Kentridge, one of the most known artists of our time, is working around the subject of vision. Even historic image media, like the mirror anamorphosis, made its way into his contemporary media art. In 2007 he created a hybrid that had not existed before in the media history of seeing: Using his 8 min. short *What Will Come (Has Already Come)* he links a hand-drawn animation film with the anamorphosis, which appears connected now for the first time with moving images and so he is one of the artists helping us to put the latest image revolution into a historic perspective too.

Victoria Vesna’s *Bodies@ Incorporated* allows visitors to construct their own avatars. Using a variety of Web tools, the users can make a 3D representation of their body. References are made throughout the site to identity politics and other concepts used to separate and identify bodies.¹⁹

Ignored by museums too was golden Nica awarded *Murmuring Fields* by Fleischmann & Strauss. The interacting users manouver through a virtual space of media philosophy, where statements by Flusser, Virilio, Minsky, and Weizenbaum can be heard. A new type of a Denkraum — a sphere of thought.²⁰

Today we know that the increasing complexity of financial products is partly responsible for the crisis, which costs us trillions of Euros and Dollars. But already more than a decade ago, the artist studio Asymptote proposed a 3D info-scape for the NYSE to manage financial data within a real time virtual environment, providing a better image and with that a better idea what is dealt with - before we get driven into the next mega-crash.²¹

¹⁸ Shaw got inspiration from media arts history: “The history of the cinematic experience is a rich chronicle of viewing and projection machines. Before Hollywood imposed its set of ubiquitous formats, there were a myriad of extraordinary devices, like the Lumiere Brothers Photodrama, the Cyclorama, Cosmorama, Kineorama, Neorama, Uranorama and many more. The Kaiserpanorama – a stereoscopic cylindrical panoptic peepshow – is an especially relevant forerunner of a newly configured display system, *Re-Actor*.” See: Sarah Kenderdine / Jeffrey Shaw: UNMAKEABLELOVE: Gaming Technologies for the Cybernetic Theatre *Re-Actor*. In: ACE 09 Proceedings of the International Conference on Advances in Computer Entertainment Technolog, Athens, Greece, October 29. – 31. 2009.

¹⁹ See: Jennifer Gonzales: The Appended Subject Hybrid Incorporations: Bodies© INCorporated: Race and Identity as Digital Assemblage. In: *Race in Cyberspace*. Ed. by Beth Kolko / Lisa Nakamura / Gil Rodman. New York 2000, Victoria Vesna: Under Reconstruction: Architectures of BodiesINCorporated. In: *Veiled Histories: The Body, Place and Public Art*. Ed. by Anna Novakov. New York 1998, pp. 87-117.

²⁰ See: Monika Fleischmann and Wolfgang Strauss: Staging of the Thinking Space. From Immersion to Performative Presence. In: Uwe Seifert, Jin Hyon Kim and Anthony Moore (Eds.): *Paradoxes of Interactivity*. Transcript, Bielefeld, 2008, pp. 266-281; Monika Fleischmann and Wolfgang Strauss (2000): Extended Performance. *Virtuelle Bühne, Selbstrepräsentanz und Interaktion*. In: *Kaleidoskopien, Theatralität, Performace, Medialität*. Körperinformationen 384, Inst. Für Theaterwissenschaft, Univ. Leipzig, pp. 52-57.

²¹ Asymptote, NYSE 3D trading floor (1998), <http://www.asymptote.net> (accessed on September, 28 2012).

Ingo Günthers obsessive cartographic work “Worldprocessor” on illuminated globes, multiples more and more appears as a clairvoyant prefiguration of the attempts of the growing visualisation industries to make our complex time understood. Since the late 80ies until now, he destroyed in his making process more than 10.000 globes, following the attempt to visualise a more realistic image of economy, power and all kinds of meaningful parameters.²²

Paolo Cirio & Alessandro Ludovicos Face to Facebook was a Media Hack Performance through a social experiment: stealing 1 million Facebook profiles, filtering them with face-recognition software and then posting them on a custom-made dating website, sorted by their facial expression characteristics. Our mission was to give all these virtual identities a new shared place to expose themselves freely, breaking Facebook's constraints and boring social rules. So we established a new website²³ giving them justice and granting them the possibility of soon being face to face with anybody who is attracted by their facial expression and related data. The action was set in five days of intense media coverage and fast-pace thrilling events, which became a Global Mass Media Hack Performance. It has been defined as a performance since it happened after a long preparation as a unique live act. During the performance we counted one thousand media coverages around the world, eleven lawsuit threats, five death threats and three letters from the lawyer of Facebook.

And with Johanna and Florian Dombois' *Fidelio, 21st Century*, named after Beethoven's “Fidelio”, for the first time a classical opera was directed as an interactive virtual 3D experience. Protagonists embody music, follow the dramaturgic direction and react to the interventions of the visitors.²⁴

These examples might demonstrate, that media art can deal with questions and challenges of our time in a way traditional art media simply can't do. In the best humanistic traditions digital media art takes on the big contemporary questions, dangers and proposed transformations but is not adequately collected, documented and preserved by our public museums. And a techno-cultural Society that does not understand its challenges, which is not equally open for art of it's time, is in trouble.

We know that media artists today are shaping highly disparate areas, like time based installation art, telepresence art, genetic and bio art, robotics, Net Art, and space art; experimenting with nanotechnology, artificial or A-life art; creating virtual agents and avatars, mixed realities, and database-supported art. As we know, the relation "Artist-

²² Ingo Günther: Worldprocessor.com, in ACM SIGGRAPH 2007, San Diego, proceedings, New York, p. 200.

²³ www.lovely-faces.com

²⁴ Johanna Dombois: Master voices : Opernstimmen im virtuellen Raum. Fidelio, 21. Jahrhundert. In: Doris Kolesch (Ed.): Stimm-Welten : philosophische, medientheoretische und ästhetische Perspektiven, Bielefeld, Transcript, 2009, pp. 127-142; Johanna Dombois and Florian Dombois: Op.72., II 1-5, 3D. Beethoven's "Fidelio" in a Virtual Environment. In: Proceedings of the 5th World Multi-Conference on Systematics, Cybernetics and Informatics. Vol. X, Orlando (Florida), July 22-25, 2001, pp. 370-373.

Original", which was still apparent in the age of craftsmanship, became in the post-industrial era fairly complicated through mechanisation and multiplication. Today, software of digital artwork often exists in a multiplied state by definition. Intensifying this are the complicated iterations developed through the interactive interventions of the users in the framework of a piece enabled by the degrees of freedom offered by the author, the artist - a multiplication of the expressions of the work.

The more open the artwork system is constructed, the more the creative dimension of the work moves towards the normally passive beholder, who transforms into a player and can select from a multitude of information and aesthetic expressions. He/she can recombine, reinforce or weaken, can interpret, and partly even can create. On the other side, the previously perhaps critically distanced relationship towards the object - the precondition of the aesthetic experience and scientific insight in general, as described by Cassirer,²⁵ Adorno²⁶ or Serres²⁷ - changes now towards a field of participative experience.

3. Integrating Media Art into its media and Art Histories

But the evolution of media art has a long history and now a new technological variety has appeared. However, this art cannot be fully understood without its history, which is why I agree with the plea the 98-year-old Rudolf ARNHEIM published in 2000, for integrating the new, interactive and procedural worlds of images into the experiences and insights that have come down to us from the art of the past. His words sounded like a plea for an interdisciplinary Image Science.²⁸ Image Science and Media Studies help understand the function of today's image worlds in their importance for building and forming societies. Image Science might be considered as a reservoir in which contemporary processes are embedded, like an anthropologic narration, but as well as the "political battleground", where the clash of images is analyzed.²⁹

²⁵ Ernst Cassirer (1954): *Philosophie der symbolischen Formen*, Darmstadt, Wissenschaftliche Buchgesellschaft; Ernst Cassirer (1963/1927): *Individuum und Kosmos*. Darmstadt, Wissenschaftliche Buchgesellschaft.

²⁶ Theodor W. Adorno (1973): *Ästhetische Theorien*, Frankfurt am Main, Suhrkamp.

²⁷ Michel Serres: *Capaccio: Ästhetische Zugänge*, Reinbek, Rowohlt 1981, p. 152.

²⁸ The evolution of media art has a long history and now a new technological variety has appeared. However, this art cannot be fully understood without its history. See: Arnheim, Rudolf (2000), 'The coming and going of images' in *Leonardo*, vol. 33, no.3, pp. 167-168.

²⁹ Bruno Latour and Peter Weibel (Eds.): *ICONOCLASH: Beyond the Image Wars in Science, Religion and Art*, Karlsruhe: ZKM 2002.

Older definitions, by Gottfried Böhm, Klaus Sachs-Hombach, or W.J.T. Mitchell, of what an image is, became problematical in the context of the digital age. I shall therefore begin by quoting a carefully crafted definition by Thomas Hensel: “IMAGES are not reducible to a particular technology (like graphic prints or neutron autoradiography), not to certain devices or tools (paint brushes or telescope), not to symbolic forms (perspective), not to genres in the broadest sense (still life or summation image), not to an institution (museum or lab), not to a social function (construction or diagnostics), not to practices/media (painting or Morse Code), materials (canvas or photographic paper) or certain symbolism (Christian iconography or alphanumeric code) — but they are virulent in all of them..”³⁰

And nowadays it has become even more difficult: images today, along with the cultures from whence they originated, are on the move; myriads of images flow with extreme mobility in fractions of a second around the globe as messages of transnational and transcultural communication. Images from formerly separate contexts are occupied, interpreted, amalgamated, and given new meanings.

What we are seeing at the moment is a shift in our image cultures, which are connected to international media, in the direction of a single image culture that increasingly operates transculturally. Formerly passive recipients, who reflected on discrete works of art in a distanced yet intellectually active manner, have now become interactive users with considerable degrees of freedom. What is more they have become active mediators and facilitators of image worlds, as well as producers of the same, in that they increasingly collect, modify, distribute, and position images selectively and strategically. New visual information arises not least through dialogue in which one or more networks are involved.

The *mise en scène* of the images, singly or in clusters, their metamorphoses and their dissemination, are significantly determined by the users of social networks. Vibrant sub-cultures develop unbeknown with a speed of image turnover that was hitherto unimaginable. Often something completely new arises from the contradictions, tensions, and differences which is manifested visually. This process is nothing new for theories of interculturalism: the fruitful fusion of Roman and Greek culture, for example, or of Christian and Islamic culture in medieval Spain, demonstrated this over long periods of time.

In addition to global icons, seemingly banal but actually highly complex as we know, there are also myriads of image-clouds arranged in clusters, which overlay the globe like a second visual sphere. This is where different ways of seeing the world encounter each other and are negotiated actively; this is where the rudiments of a new culture form. Nevertheless, if one wants to understand an image at least in part then it has to be considered in context. And contexts are becoming more and more complicated due to the many different visual media: also new is that there is apparently no limit to the acceleration of visual *exchange processes*, which, because of their multifaceted branching and connections, cannot be captured or analysed by the instruments employed by the humanities in the nineteenth and twentieth centuries.

³⁰ Thomas Hensel: Das Bild im Spannrahmen, in: *Gegenworte: Hefte für den Disput über Wissen*, No. 20, Fall 2008, pp: 35-39, here: 39.

If ever the theory of a homogeneous or “pure” culture, elevated ideologically and repeatedly misused, had any validity, this idea is now virtually obsolete. On the other hand, a cultural theory of culture that is playful and favours egalitarian exchange may be desirable, but it is rather naïve when one considers the power of commercial global players to create global icons, the inroads of political control over the networks, language barriers, inadequate knowledge about digital cultural techniques, and the power of certain media concerns that are coming together to form cartels.

Already in the 90s it became clear, that MediaArtResearch is spread over many disciplines and the need became urgent to give it some common ground. That’s why we organised the MediaArtHistories Conference during last 10 years coordinating meanwhile more than 1800 papers and applications on MediaArtHistory.org.³¹ Held at Banff’s New Media Centre in cooperation with Leonardo, Refresh represented a wide array of 19 disciplines involved in the rapidly emerging field of Media Art Histories³² – and through the success of re:place 2007 in Berlins House of World Cultures, Melbourne 2009 and Liverpool last year, the conference series is established, so that Riga 2013 is on its way.³³

The field of MediaArtHistories examines the subhistories and implications of present day image revolution in media art: paradigms like artificial life/Automata³⁴ or telepresence,³⁵ the history of

³¹ See: www.MediaArtHistory.org

³² The content development of Re:refresh! was a highly collective process. It involved three producing partners, a large advisory board, 2 chairs for each session, call and review for papers, a planning meeting in 2004, keynotes, poster session and the development of application content over the time of two and a half years. Before Banff could host the conference, this was organised by the team of the Database for Virtual (DVA).

The international planning meeting at Vigoni/Italy in 2004 (hosted by the Database of Virtual Art) agreed that it is of importance to bring media art history closer to the mainstream of art history cultivating a proximity to film-cultural and media studies, computer science, but also philosophy and other sciences. After nomination and acceptance of the chairs, coordinated call for papers, review by the program committee and selection of speakers by the chairs organized and funded by the Database of Virtual Art - the conference brought together colleagues from the following fields: invited speakers (based on self description from bios) HISTORIES: Art History = 20; Media Science = 17; History of Science = 7, History of Ideas = 1; History of Technology = 1; ARTISTS/CURATORS: Artists/Research = 25; Curators = 10; SOCIAL SCIENCES: Communication/Semiotics = 6; Aesthetics/Philosophy = 5, Social History = 2; Political Science = 2; Woman Studies = 2, Theological Studies = 1; OTHER CULTURAL STUDIES: Film Studies = 3; Literature Studies = 3; Sound Studies = 3, Theatre Studies = 2; Performance Studies = 1; Architecture Studies = 1, Computer Science = 2; Astronomy 1

³³ Some of the conference results can be found in the anthology MediaArtHistories by Oliver Grau (Ed.), (Cambridge Mass.. MIT-Press 2007); recently: Andreas Broeckmann and Gunalan Nadarajan (Eds.): Place Studies in Art, Media, Science and Technology: Historical Investigations on the Sites and the Migration of Knowledge (Weimar: Verlag und Datenbank für Geisteswissenschaften, 2009).

³⁴ See: Oliver Grau: New Images from Life, in: Ryszard Kluszcziński (Ed.): Art Inquiry. Recherches sur les Arts, Volume II (XI), Lodź: Grotesk 2000, pp. 7-25; Mitchell Whitelaw: Metacreation: art and artificial life, Cambridge/Mass 2004.

³⁵ See: GRAU, Oliver: Telepräsenz: Zu Genealogie und Epistemologie von Interaktion und Simulation, in: Peter Gendolla, a.o. (Eds.): Formen interaktiver Medienkunst, Frankfurt/Main 2001, pp. 39-63.

panoramic perception and its knowledge with the related history of immersion³⁶ or the history of phantasmagoric imagery,³⁷ an image machine developed after the French revolution, which is reflected nowadays by artists like Zoe Beloff, Jeffrey Shaw, Rosângela Rennó, Gary Hill or Toni Oursler.

Building Bridges for Media Art means also to further the establishment of new curricula, as we developed the first international Master of Arts in MediaArtHistories for working professionals, with faculty members like Erkki Huhtamo, Lev Manovich, Christiane Paul or Sean Cubitt, which deals also with the practice and expertise in Curation, Collecting, Preserving and Archiving of Media Arts - students meanwhile come from 5 continents and of course a Facebook forum with almost 3500 members exists.³⁸

Our Archive of Digital Art counts many Media Art works, which are, for example, part of the history of immersion, a recently recognised phenomenon that can be traced through almost the entire history of art: History has shown that there is cross-fertilization between large-scale spaces of illusion that fully integrate the human body (360°frescoes, the panorama, Stereopticon, Cinéorama, IMAX cinemas, or the CAVEs) and small-scale images positioned immediately in front of the eyes (peepshows of the 17th century, stereoscopes, stereoscopic television, Sensorama, or HMDs).³⁹ The Media Art landscape of recent years is even increasingly being seized by a phenomenon, which has yet to receive significant research, the use of historic media configurations. Renowned artists like Douglas Gordon, William Kentridge, Olafur Eliasson, Zoe Beloff, Jeffrey Shaw, Mischa Kuball, Maurice Benayoun, Rafael Lozano-Hammer and others create optical experiments, panoramas, phantasmagoria, perspective theaters, dioramas, camerae obscurae, anamorphoses, magic lanterns, etc. And this sounds like redefining images in their historical dimension, as we know approaches of comparison are based on the insight that images act diachronic, within a historical evolution and not function simply without any reference.⁴⁰ Reinterpreting old optical media these artists

³⁶ Oliver Grau: *Virtual Art: From Illusion to Immersion*, Cambridge Mass. MIT-Press 2003; Jeffrey Shaw, and Peter Weibel, (Eds.): *Future Cinema: The Cinematic Imaginary after the Film*. Cambridge/Mass 2003; KENDERDINE; Sarah: *Speaking in Rama: Panoramic Vision in Cultural Heritage Visualization*, in: CAMERON, Fiona and KENDERDINE, Sarah (Eds.): *Theorizing Digital Cultural Heritage. A Critical Discourse*. Cambridge/Mass.: MIT-Press 2007, pp. 301-332.

³⁷ Oliver Grau (2007): *Remember the Phantasmagoria! Illusion Politics of the eighteenth century and its multimedial afterlife*. In: Oliver Grau (Ed.): *Media Art Histories*, Cambridge /Mass., MIT Press/Leonardo Books, 2007, pp. 136 – 161.

³⁸ www.donau-uni.ac.at/cis/mah

³⁹ Oliver Grau: *Virtual Art: From Illusion to Immersion*, Cambridge/Mass., MIT-Press, 2003.

⁴⁰ FLECKNER, Uwe, BREDEKAMP, Horst, WARNKE, Martin (Eds.): *Der Bilderatlas Mnemosyne*, vol.1. Berlin: Akademie Verlag 2000, BELTING, Hans (Ed.): *Bilder fragen. Die Bildwissenschaft im Aufbruch*. München: 2007, BELTING, Hans: *Images in History and Images of History*, in: Kantorowicz, Ernst: *Erträge der Doppeltagung*, Institut for Advanced Study, Princeton, Johan Wolfgang Goethe-Universität Frankfurt, BENSON, R.L and FRIED, J. (Eds.)Stuttgart:

contextualize and help to reflect on our digital image revolution.⁴¹

Thinking about new tools for the media art history in the 21st century we remember Warburgs *Mnemosyne* atlas tracking image citations of individual poses and forms across media – and most significantly, independent from the level of art niveau or genre. We might even say that he redefined art history as medial bridge building arguing that art history could fulfill its responsibility only by including most forms of images. Let us remember too, that Film Studies was started by art historians: The initiative by Barr and Panofsky founded the enormous *Film Library* at New York's MOMA, called by its contemporaries the 'Vatican of Film'.⁴² The same spirit for new infrastructures and networks for the Media Art of the last decades is needed today. And although taking a different approach, the history of image databases should also mention André Malreaux with his *musée imaginaire*.⁴³ And now we are witnessing the birth of the virtual museum a key project for the Digital Humanities.

But lets look for a moment beyond the Humanities: In the natural sciences during the last decade large collective projects could address new research goals as in Astronomy, the "Virtual Observatory" compiles centuries worth of celestial observations,⁴⁴ global warming is understood with projects like the "Millenium Ecosystem Assessment"⁴⁵, at a detail never before calculable, and the Human Genome Project⁴⁶ became already legend. So far unknown

1997, pp.94-103; Recently: BADER, Lena, GAIER, M. and Wolf, F (Eds.): *Vergleichendes Sehen*. München: Wilhelm Fink Verlag 2010.

⁴¹ While approaches of Media Archaeology by Zielinski or Huhtamo tend to focus on the media and instruments only, the MediaArtHistories approach investigates the arts and images as well and explores among other things the driving force the arts played historically for the development of the media. See: Siegfried Zielinski: *Deep Time of the Media*, MIT Press, Cambridge MA, London 2006 and Erkki Huhtamo and Jussi Parikka (Eds.): *Media Archaeology: Approaches, Applications, and Implications*, California University Press, Berkeley 2011 and Oliver Grau (Ed.) *MediaArtHistories*, Cambridge/Mass. MIT-Press 2007.

⁴² Film Library , MOMA - <http://www.moma.org/explore/collection/film>

⁴³ A prophet of the virtual museum André Malraux describes as "imaginary museum" or "museum without walls" collections of photographic reproductions comparing a large variety of ages and cultures in a virtual space that could never exist physically. André Malraux: *Psychologie de l'Art: Le Musée imaginaire - La Création artistique - La Monnaie de l'absolu*, 1947.

⁴⁴ The International Virtual Observatory Alliance (IVOA) was formed in June 2002 with a mission to „facilitate the international coordination and collaboration necessary for the development and deployment of the tools, systems and organisational structures necessary to enable the international utilisation of astronomical archives as an integrated and interoperating virtual observatory.“ The IVOA now comprises 17 international VO projects. www.ivao.net

⁴⁵ The *Millennium Ecosystem Assessment* assessed the consequences of ecosystem change for human well-being. From 2001 to 2005, the MA involved the work of more than 1,360 experts worldwide. Their findings provide a state-of-the-art scientific appraisal of the condition and trends in the world's ecosystems and the services they provide, as well as the scientific basis for action to conserve and use them sustainably.

⁴⁶ The *Human Genome Project* was an international scientific research project with a primary goal to determine the sequence of chemical base pairs which make up DNA and to identify and map the approximately 20,000-25,000 genes of the human genome from both a physical and functional standpoint. The mega project started 1990 with the collective work of more than 1000 researchers in 40 countries, the plan was to achieve the goal in 2010. A

collective structures, based on international and sustainable funding give answers to complex problems.

4. New Scientific Tools for our Field

Comparable with natural sciences, digital media and networked research catapult the humanities within reach of new and essential research, like documentation and preservation of media art, or, as a realistic utopia an entire history of visual media and their human reception by means of thousands of sources. These themes express in regard to image revolution current key questions.

From 1999 we originated at Humboldt University the first online media art documentation, the Database of Virtual Art.⁴⁷ As pioneer, it has been documenting in cooperation with renowned media artists, researchers and institutions the last decades of digital installation art, as a collective open source project. Since today's digital artworks are processual, ephemeral, interactive, multimedial, and fundamentally context dependent, because of their different structure, they required a modified, we called it an "expanded concept of documentation"⁴⁸. As probably the most complex media art resource available online with several thousand documents and their technical data the database became a platform for information and communication. The DVA represents the scientific selection of 500 artists of approx 5000 evaluated artists. The policy, whether an artist is qualified to become a member is "the number of exhibitions, publications – at least 5; high importance we ascribe also to artistic inventions like innovative interfaces, displays or software".

Media Art documentation becomes a resource that facilitates research on the artists and their work for students and academics, who, it is hoped - now in a new facebook-like communication structure - will contribute to expanding and updating the information.⁴⁹ In this way, documentation changes from a one-way archiving of key data to a proactive process of knowledge transfer.

And now together with an important graphic print collection, the Götting Monastery Collection, representing 30 thousand prints emphasizing Renaissance and Baroque works and

working draft of the genome was released in 2000 and a complete one in 2003. See: IHGSC (2004). "Finishing the euchromatic sequence of the human genome", in: *Nature* 431: 931–945. doi:10.1038/nature03001

⁴⁷ Database of Virtual Art (DVA) – www.virtualart.at

⁴⁸ GRAU, Oliver: For an Expanded Concept of Documentation: The Database of Virtual Art, ICHIM, École du Louvre, Paris 2003, Proceedings, pp. 2-15. It was a long development since the classic text by Suzanne Briet: *Qu'est-ce que la documentation?* Paris: Editions Documentaires Industrielle et Techniques 1951.

⁴⁹ Oliver Grau: Das Pionierarchiv der Medienkunst: Virtualart.at", in: *Kunstgeschichte aktuell*, 1/09, p. 8.

a library of 150.000 volumes going back to the 9th century, like the Sankt Gallen Codex, the Database of Virtual Art strives to achieve the goal of a deeper mediaarthistorical cross pollination. Reaching to the present day, the print collection has grown to be the largest private collection of historical graphic art in Austria.⁵⁰ Just as the MediaArtHistories conference series bridges a gap, the combination of the two and other databases hopes to enable further historic references and impulses. The collection also contains proofs of the history of optical image media, intercultural concepts, caricatures, landscapes in panoramic illustrations.⁵¹ For the future this may provide resources for a broader analysis of media art.

The Göttweig collection is being made public through 3 strategies:⁵²

- a.) The “Scientific Facsimile”; high resolution allows to find details in digital prints, which are even difficult to discover in the “original” prints.
- b.) The concept of Virtual Exhibitions (now adopted by main museums) addresses since 2006 the public with online exhibitions like “Venecian Views”, or “Theory of Architecture”. Virtual exhibitions are divided into sub themes and enriched with different picture formats, literature and meta data.
- c.) Fortunately, we have the unique situation to have the media art archive next to a historic art collection: The Collection will be further networked with archives of contemporary media art via keywording.

Keywording can be bridge building too! The hierarchical Thesaurus of the DVA constitutes an approach to systemize the field of Digital Art: Out of the *Getty Arts & Architecture Thesaurus* and the subject catalogue of the *Warburg Library* in London, keywords were selected which have relevance also in media art. On the other side, out of the most common used terms from media festivals like *Ars Electronica*, on *Transmediale*, new keywords were empirically selected. Important innovations such as ‘interface’ or ‘genetic art’ have been considered as well as keywords, that play a role in traditional arts such as ‘body’, ‘landscape’ or ‘Illusion’ and thus have a bridge-building function. It was important to limit the number to

⁵⁰ See: www.gssg.at/gssg/

⁵¹ The digitization of the collection is a project developed by the Department of Image Science at Danube University and conducted in cooperation with the Göttweig Monastery. The collection of prints at Göttweig Monastery, which itself was founded in 1083, is based on acquisitions made by various monks since the 15th century. The first report of graphic art kept in the monastery dates back to 1621, with an archive record that mentions a number of “tablets of copper engraving” (“Täfelein von Kupferstich”). The actual act of founding the collection is attributed to Abbot Gottfried Bessel whose systematic purchases in Austria and from abroad added remarkably a total of 20,000 pieces to the collection in a very short span of time! Reaching to the present day, the print collection at Göttweig Monastery has grown to be the largest private collection of historical graphic art in Austria with more than 30,000 prints. The Department of Image Science’s digitization center at the Göttweig Monastery uses technology to scan paintings and prints from the collection (up to 72 million pixels).

⁵² Oliver Grau: ‘Die Graphische Sammlung Stift Göttweig – Perspektiven der Erforschung und Vermittlung digitalisierter Druckgraphik’, in Kupferstichkabinett online/ Entwicklungen, Ergebnisse, Perspektiven, Internationale Tagung der Herzog August Bibliothek, Wolfenbüttel und Braunschweig, (14.-16.03.2011). http://www.hab.de/forschung/projekte/kupferstichkabinett-konferenz-2011/Grau_wolfenbuettel_text.pdf

approx. 350 words so that members of the database can keyword their works without great study of a too complex index. The categories led to natural overlapping, so that the hybrid artworks can be captured through clustering.

5. For international and sustainable Media Art Research

Let me finish with remarks on the challenging and serious situation of media art research today: With the DVA involved in the field of tool development from its beginning, we witnessed the crisis of documentation during the last years: Since the foundation of the *Database of Virtual Art* (1999 – 2012 and ongoing) a number of online archives have arisen: *Langlois Foundation* in Montreal (1999-2008), *Netzspannung* at the Fraunhofer Institute (2001-2004) or *MedienKunstNetz* at ZKM (2004-2006) the *Boltzmann Institute for Media Art Research* in Linz (2005-2009) – all these major projects of the field terminated, their funding expired or they lost key researchers like V2 in Rotterdam (2001-). In this way the original scientific archives which more and more often represent the *only* remaining contextualized image source of the works, not only lose their significance for research and preservation but in the meantime partly disappear from the web. So we face the ironic situation that we loose not only the media art itself, but also its scientific documentation, so that future generations will not be able to get an idea of this art of our time. Even the *Europeana*, a large but underfunded project for Europe-wide networks of digital collection documentation is rendered meaningless if the foundation - the archives themselves - are not continued. To put it another way: till now no sustainable strategy exists.

If we take a look at media art research over the last 15 years then it is clear: What we need is a concentration of high quality scholarly documentation as well as a huge expansion of strength and initiative. 1.) In the field of documentation – systematic preservation campaigns do not exist so far⁵³ – it is essential to unite the most important lessons learned and strategies developed by initiatives either existing or abandoned under the single roof of an international institution, that can guarantee persistent existence, such as the Library of Congress or an equivalent international institution. It would need to be supported with adequate expertise from the network of important archives & initiatives, organized in a corona around the long lasting institution. 2.) But also the establishment of an appropriate research institution bringing together the best heads of the field would be necessary. In Germany interdisciplinary questions, like research on digital cultures from computer games to avantgarde art - too extensive for a single university, and that is exactly what we are facing –the Max Planck Institute structure was created.

⁵³ Although there are a number of promising case studies like: Caitlin Jones: Seeing Double: Emulation in Theory and Practice, The Erl King Case Study; <http://206.180.235.133/sg/emg/library/pdf/jones/Jones-EMG2004.pdf> and Inside Installations: Preservation and Presentation of Installation Art, www.inside-installations.org; Independent Media Arts Preservation, www.imappreserve.org; CIAO – Conceptual Media Arts Online, www.bampfa.berkeley.edu/ciao/, Digital Art Conservation, www.digitalartconservation.org; PACKED, <http://www.packed.be/en/>. All of those initiatives are fairly small.

But for up to date digital humanities, also the funding structures must be internationalized in ways similar to those enabling modern astronomy, genomics or climatology. In order to create enough momentum and the necessary sustainability, sponsors like NSF, DFG, Getty, EU etc. have to ensure international long-term sustainable structures. Only when we develop systematic and concentrated strategies of collecting, preservation and research we will be able to fulfill the task which digital culture demands in the 21st Century. In astronomy the funding agencies developed and modernized their systems towards sustainability. The virtual observatory infrastructure is funded on an ongoing basis and there is international coordination between more than a dozen countries that produce astronomical data.

For Media Art Research a significant commitment has to be made: Let's recall the enormous and sustaining infrastructure that was developed for traditional artistic media, painting, sculpture, architecture, even film, photography and their corresponding archives over the course of the 20th century. What is needed is an appropriate structure to preserve at least the usual 1–6 per cent of present media art production, the best works. If we compare the world-wide available budget to preserve and explore traditional art forms with the one for digital culture then we understand how inadequate the support for our present digital culture is; it is almost statistically immeasurable. The faster this essential modification to our cultural heritage record can be carried out, the smaller the gap in the cultural memory; shedding light on the dark years, which started about 1960 and lasts till now. As recently expressed in our international declaration, signed so far by more than 350 colleagues and leading artists from 40 countries, there is urgent need to internationalise research and establish an international sustainable platform of interoperable archives.⁵⁴

Hearing that there are experts of contemporary (old media art, sculpture, painting etc) that try to exclude the art of our time with the widest need is sad – and ironically, as we learned from Shanken, Cubitt and Thomas, the exponents of an exclusion of media art justify this by its connection with technology. This confession truly is a disaster, not so much for the interests of those people, but for the tax paying public, who deserves the right to be enabled to think about our time through media art. It might be “blindness”, it seems more a desire to keep life easy and save the time needed to understand the immense complexity of media art and its preservation needs. But this ignorance is not something we should just tolerate – it means that although our societies, the political, financial, and cultural are more and more driven by modern technologies, the art market, a number of biennales and most “contemporary art museums” deny the public, which pays their bills, the needed aesthetic and intellectual confrontation with the art of our time. But the attempt to separate art from its time is not new, it is also comparable with earlier movements of world escapism, like the forms of 19th century historicism. But our modern societies need to be enabled to reflect on their time and future and, as we know, media art plays a seminal role in that process.

Media Art, as we see, needs as many bridges as possible: conferences, new scientific tools like databases and text repositories, new strategies for documentation and visual analysis of complex data, new curricula for the next generation of teachers and collectors. Maybe in a

⁵⁴ See: MEDIA ART NEEDS GLOBAL NETWORKED ORGANISATION & SUPPORT – International Declaration: www.mediaarthistory.org

near future we can create collective tools, as represented in Christa Sommerer and Laurent Mignonneaus work *The Living Web*, which generates a spatial information (*Fig. 3*) sphere from search engines for web images in a CAVE. The work represents a new instrument for visual analysis, with the option of comparing up to 1000 images in a scientific discussion. Captivating new visualisation tools could provide access to the BREATH of digital cultural production: Coupled with the DEPTH of historical optical media, new unpredictable understandings of today's image revolution can be enabled.

Transversal interference.

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ABSTRACT

Increasingly, the images we regard as authoritative – those with a seemingly direct relation to the ‘truth’ of our brains, the profiling of our identities and the mapping of our universe – are generated nonvisually. They are composed out of other media, notably sonic and electromagnetic materialities, and other processes, primarily algebraic and statistical transforms. In actuality, they are *transmaterial* assemblages. Yet such heterogeneous image entities continue to share the epistemological privilege of indexicality that light-based images previously claimed. If the scientific, authoritative image is already ‘transgenic’, what implication does this have for interference as a viable aesthetic strategy? To what extent can artists and cultural producers visually interfere with the politics and ethics of such imaging practices? This paper suggests that we should abandon the strategy of interference as *intervention* in favour of a better understanding of interference as the pattern, and hence fabric, subtending many contemporary nonvisual imaging practices. I argue for a transversal *diagrammatic* approach to an aesthetics of the nonvisual image. Here the diagram refers not to the mapping of truth, indices or physical realities but rather to the ways in which force relations between different materialities and processes both hold together *and* dynamically deform into new assemblages. In turn, such diagrammatic aesthetics and art practices remind us that what we take to be fixed and authoritative images – the emotionally ‘lit up’ brain, the identikit photo, the expanded observable universe – are processual, virtual and speculative modes of ‘viewing’ and engaging life.

KEYWORDS

Transmateriality, scientific imaging, nonvisual images, transversality, diagrammatic aesthetics

To begin with, three propositions –none of which purport to be true but all of which should be taken seriously.

1. That the fabric of the contemporary authoritative image – that is, the image that purports to authoritatively shed ‘light’ upon the reality of the world – is fundamentally transmedial and transmaterial.

2. That we undergoing a seismic shift in optics from an orientation toward seeing the visible to a dis-orientation toward invisibility. That is, invisibility as *an optical phenomenon* within the visible domain.

3. That ‘interference’ provides a diagnostic ordering – an interpretative structuring pattern – that generates a range of contemporary scientific imaging, from the very near to the very far; from biological microscopic interaction and development through to astronomical images of plasma nebulae emitted by black holes.

I want to spend some time with these propositions, stepping through the ways in which each of these are unfolding in the domains of scientific and medical visualisation. I am interested in these changes not for their own sake, nor in order to applaud the discoveries of science and their impact upon society or the arts. I certainly do not want to suggest a one-way flow of information or legitimacy from one domain into the other. Rather, I think it is possible to gain a sense, especially of the taken for granted transmateriality of the image by scientists, that will prove useful for tweaking or even resetting aesthetic strategies and tactics. If we take into account the shift I have signalled under proposition ‘two’ toward an optics of the invisible together with the role of interference techniques as generative of pattern or order (or proposition ‘three’), then we might also raise questions about the status and politics of whole areas of aesthetic endeavour such as ‘visual studies’ and aesthetic practices of ‘visualisation’. Much art-science and even much nonscientific visual art misconstrues a number of the directions taken by scientific imaging and takes, for example, ‘visualisation’ to be one of its major aims. Concomitantly, visual arts come to adopt a program that actually misses what the sciences might more radically offer; that is, a kind of speculative imagistic trajectory based upon, among other things, a real virtualisation of optics and, perhaps, a fading away of visibility, indexicality and illustration as imperatives for the image.

But I also want to suggest, via examples of the transmaterialising image in scientific domains, that a range of cross-media art practices are engaged in loosening these imperatives as well. Indeed some practices that specifically engage with the authoritative status of the scientific image amplify or intensify the transmaterial and transmedial relations permeating the assemblage of scientific imaging. This of course is a deliberate aesthetic strategy for unknitting the indexical status that such imaging continues to assume once it travels into the public domain. Other aesthetic practices are concerned with the nonvisible but have displaced it, transversally, so that the dominance of the visual itself subsides a little. I will gesture toward some of these aesthetic practices as I unfold my propositions about the transformations scientific imaging is undergoing. As I do, I also hope to signal that a different aesthetic modality is emerging, which I will call ‘diagrammatic’. My stepping through examples of scientific imaging will lead me to ask about their aesthetic implications; in particular, what are the implications for the way we frame contemporary visual cultures and practices. Indeed I want to ask whether we might not ultimately want to re-orient entirely – away from the ‘visible’ *per se* toward something I will tentatively name, the imperceptible. This, I will suggest, is already coming into expression diagrammatically through these transversal artistic experiments.

Let me begin by exploring my assertion about the constitutive transmateriality of authoritative scientific images of reality. First, a brief explanation on how I am using the idea of ‘transmateriality’ here. I do not mean this is the sense of ‘materials’ that effect transformations as is suggested by, for example Blaine Brownall’s (2006 – 2010), three-volume catalogue of materials from plastic through to digital fabrications, which have been responsible for social, aesthetic and design innovations. The problem with this elaboration of the ‘trans’ is that materiality remains unaffected by its ‘trans’ing; its movement across and between itself and the socio-technical, ethico-aesthetic components with which it conjoins and separates to form and deform assemblages. In Brownall’s account material itself seems to possess properties *to innovate*. Yet we are more likely to find that the material properties of the image – such as ‘light’ considered as wave and/or particle – have already been *transformed* by the very material transductions between different energetic forms that make it into ‘an image’. Transmateriality is first and foremost movements and forces. Hence what I am referring to as transmateriality operates *prior to* any instantiation of ‘a’ material. Here I take off from Mitchell Whitelaw’s observation (2009) that digital transmateriality encompasses *a movement* between its specific material situatedness and the performative illusion of its immateriality. To expand upon this: the transmaterial image is an image whose optical qualities are not so much properties but rather artefacts of the transduction of nonvisual materialities and relations. As we shall see, ‘relations’ here are to be taken seriously as functions that matter. For it is the various relations that dynamically hold between and across (‘betweenness’ and ‘acrossness’ *are* relations) light, sound and algorithmic transform, for instance, that crystallise to become the transmaterial scientific image. Transmateriality, then, is a metastable process that *precedes* any given material individuation. It takes place virtually, in the Simondonian sense, signalling the potentialities

that certain materialities might become, might actualise as, as a result of a transformation of those potentialities in the direction of a structuration (Simondon, 302–4). But it is also processual, actual, immanently inhabiting the movement of materialisation, individuation, singularity. The relations engaging transmateriality, then, are both the metastable, virtual ones of pure difference *and* the processual actualising ones of a ‘thingness’ assembling itself.

The transmateriality of scientific imaging is often obfuscated by the presentation and circulation of certain kinds of images in the public domain and in mainstream media outlets. We see this particularly in the ways in which Functional Magnetic Resonance Imaging is deployed. In *The Shallows*, Nicholas Carr refers to and uses a 2007 study as evidence of – as the book’s subtitle stridently asserts – ‘what the Internet is doing to our brains’ (2010: 120–126). The fMRIs he uses come from a neuro-sociological study by psychiatrist Gary Small who exposed both ‘naive’ and ‘savvy’ participants to online ‘hypermedia’ (Small et.al., 2009). In these studies, Small’s resulting fMRIs function as visual indicators of structural neuro-anatomical change; before and after the brain makeover shots that document the fundamental fact that something has occurred to alter the neuro-anatomical structure of the brain. The second example is a ‘generic’ fMRI image, not from a study but rather ‘a sample’ used to persuade people of the efficacy of a commercially available ‘neuro’ product. [1] This series is a sequence of changing areas of the brain, ‘lit’ up as a result of an fMRI being run on a subject. It sits on the homepage of the *No Lie MRI* company, which hosts a suite of test centres across the US catering increasingly to the legal profession. It appears on the bottom of the ‘Product Overview’ page of No Lie MRI’s website. Here fMRIs are supposed to capture the neural response involved in intentionally telling a lie when a participant is asked a series of questions. The subject’s *in vivo* neural responses are then measured to see if there is a level of excitation of neurons in areas of the brain associated with anticipation and intention, suggesting the subject is about to lie. Here the fMRI operates as a visual index of process – the brain caught in the act of anticipation, of something to come.

Yet what visual processes and what kinds of visualization does an fMRI actually perform? The areas of ‘color’ converted from the original grayscale image are a ‘capture’ of cerebral hemodynamic response. What we see in the image is the surplus of oxyhaemoglobin (oxygenated blood) remaining in the veins as a ratio of the increase to decrease of cerebral blood flows. Before asking ‘what’, we should ask ‘how’ does an fMRI visualize? We should be clear on one thing – an fMRI is not a *visually generated* image. In fact, in order to become image, what is required is the conversion of non-visual data into image space. Like MRIs, fMRIs measure the combination of magnetic signals emitted from hydrogen nuclei in water from the area of the body being imaged (magnetic resonance). Magnetic field gradients are captured in the scanning process, and their frequencies and rate of change are related to the position where the signal is picked up by the scanner. The magnetic signals captured – in fMRIs these are emitted over time as the cerebral blood flow changes in response to stimuli – are composed of a series of sine waves, with individual frequencies and amplitudes. These

frequencies and amplitudes are computed using a process called the Fourier transform, which converts signal from the time domain into the frequency domain. The frequencies are then separated out and their amplitudes are plotted as an image. A number of manipulations in the Fourier transform space that allow for smoothing of the final image data, elimination of noise via, for example, high pass filters and so forth, take place before the ‘image’ of an fMRI is generated. What is being scanned and then what is done computationally to the signal captured are in fundamental ways non-visual and the image/s we eventually see map the *rate of change as a function of time*. What we are looking at, then, is first and foremost a temporally imputed imagescape. As Joseph Dumit has suggested, functional brain imaging at its constitutive level should not be confused with morphological images of the brain, even though such images appear to generate a sense of the brain’s topography (1999: 189).

The areas of ‘color’ we often see are converted from grayscale in the original imaging, map a ‘capture’ of cerebral hemodynamic response. We see the surplus of oxyhemoglobin (oxygenated blood) remaining in the veins, measured as a ratio of the increase to decrease of cerebral blood flows. Active neurons require both glucose and oxygen in order to fire and an fMRI traces the flow of blood transporting glucose and oxygen through the vascular system necessary for firing. But are we seeing the trace of the activity of neurons themselves, for example, or are we seeing the trace of activity caused by neurotransmitters, which likewise require cerebral blood flow? An fMRI cannot distinguish these substantially – it is a mapping of oxygenated blood flow; that is, of process not substance. So, we are looking at a mathematically inflected (the ratio of increase to decrease), re-coloured, afterimage selected out of dynamic processuality. Interestingly, the more the fMRI becomes visual artefact (and especially when it is framed as ‘an’ image or even two comparable images), the less visually indexical it can be said to be, given that its initial data comprises signal generated by electromagnetic waves. As ‘an’ imaging of the brain, then, we need to understand the final startling brain ‘images’ of so-called located emotions or as evidence of rewiring less as things being imaged and more as temporally inflected (data)sets made up of cross-processed transmaterialised signal. What is important in this cross processing is that relations between data variables such as frequency, amplitude and position are maintained. Performing a quick Peircean semiotics of the fMRI image, then, we can see that it recalls less the indexical sign and more the diagram, which he classified as a type of ‘icon’: ‘...a diagram...is nevertheless in the main an Icon of the forms of relations in the constitution of its Object,...’ (Peirce, 1933: 531).

But the fMRI corralled into ‘demonstrating’ neural correlation of behavior has become indexical thereby losing its virtuality. It has lost the potential for the brain to again change in response to...less exposure to the web, exposure to noise in the street, a quick decision to not lie or just to *change ad infinitum*. It has actualized according to a regime of truth, which is *held together by a particular diagram of power* (Foucault: 1977: 205). A diagram that continues to hold together the relations of force at work in our visual regime, and which are

co-extensive with an entire social field of securitization and control. These are relations such as correlation, identification, visibility and so forth. What we need, then, is a way to perceive such neuroimages dynamically, transmaterially, transversally. [2]

Moving now to my second proposition, which concerns the contemporary shift in optics toward invisibility. For many of us this seems to suggest a kind of paradox insofar as our optical devices – eyes – deal with the *visible* spectrum of light behaviour, which in terms of wavelength sits in the range of about 380 to about 740 nanometres. But there are a number of other ranges of nonvisible (for the human) electromagnetic radiation. We are of course already familiar with a range of optical devices such as night vision glasses that generate visibility for human under nonvisible conditions. Such technologies suggest we are experiencing a steady increase in applications that render the ‘invisible’ visible. However, I am more interested in the opposite trajectory – the generation of visible invisibilities.

Yet artists are way ahead of scientific inventions here, the latter struggling with the visibility wavelength spectrum. An example drawn from media arts practice approaches questions of the nonvisible and demonstrates how aesthetics can also invent relations with invisibilities. Particular techniques of aesthetic invention can help us articulate and trace a non ‘optico-centric’ movement in contemporary art practice. In David Rokeby’s *Dark Matter*, a sonic sculpture permeates a completely darkened space, waiting silently for a trigger to activate its sonicity (Rokeby, 2010). Participants must reach out with their hands to shape or sculpt the sound into the space. So from the point of view of the experience of the work, it is entirely nonvisual – the participant is engaged in auditory-kineasthetic-tactile and proprioceptive relations through the piece.

Interestingly enough, though, *Dark Matter* does not reject the visual and we can see this in its generation and composition. Infrared video cameras are positioned within the gallery space at 4 points. They gather positional data based upon the space being divided into thousands of three-dimensional zones. Rokeby has selected a range of these zones and attributed sound behaviours to them. The data from the cameras is cross-referenced, and calculation performed to determine which zones are experiencing the greatest physical activity by participants at any given moment. Sounds linked to those zones are then played in the space. At both the level of the system hardware and at the level of artistic composition, we will see that Rokeby provides us with relations to visibility, all the while composing a work that is fundamentally nonvisual.

Throughout the corpus of his work, stretching back to the early ‘80s, Rokeby has been interested in nonhuman vision systems especially infrared cameras and their potential to ‘survey’ an audience involuntarily (Baltan Laboratories, 2010). In thinking about such vision

he invokes the ancient Greek idea of the eyes beaming ‘rays of perception’ outward to the world rather than receiving images onto the retina. Additionally, he comments upon the design process in *Dark Matter* of attributing sound behaviours to various zones in the room: ‘They were “painted” into the space by hand. Starting with an empty space, the artist placed the sounds in the space by selecting a sound then waving his hand in a particular area to locate the sound’ (Rokeby, 2010). Rokeby reconnects the optical via gesture to painting and its permeation by the haptic. This resonates too in the participant’s experience of the space as she reaches into the ‘painted soundscape’ to touch the invisible sculptural curves and dimensions. Furthermore, we should take note of the title of the work, referring, of course, to that ineffable, unknown astrophysical phenomenon, which can only be inferred from its gravitational effects on matter, including *visible matter*.

What I am most interested in is the way in which Rokeby works to expand and dissipate the visual field in order to push us into an arena in which visuality loses its privileged anthropomorphised status. Yet subsequently it is more nuanced and textured. It becomes instead: a property of the machine; something to be evoked in a transdisciplinary relational manner; and ultimately only capable of being inferred. As we participate with *Dark Matter*, we come to inhabit a space in which, literally by taking away visibility, the visual relaxes and takes on a more relational, diagrammatic feel, modulated and inflected via multimodal and multisensorial deformations. This, I think, points us to a really radical opening for contemporary aesthetics in a direction opposite from that prescribed by, for example, a ‘visual culture approach’, which despite its claims for interdisciplinarity still argues for the determining role of the visual in the wider culture to which it belongs (Mirzoeff, 1999: 4).

Here the aesthetic invention of a diagram for a sonic-haptic space, which nonetheless holds relation to the visual, is light years ahead of the shift into invisibility optics, currently gathering speed in scientific research into ‘metamaterials’. These are systems of artificial materials or rather media whose properties arise from the ‘unit of structure’ rather than any of the actual materials in the unit itself (Cai and Shalaev, 2009: 2). Taken together the metamaterial system – comprising inhomogenous materials – generates optical displacements not occurring naturally. An electromagnetic metamaterial affects electromagnetic waves by having structural features smaller than the wavelength of the respective electromagnetic wave. Metamaterials sit over or around an object to guide or scatter electromagnetic waves around or away from it creating an illusion or cloak of invisibility. Currently, experiments have only been successful with the microwave spectrum and at a very small scale so actual *visible light* invisibility is still some way off but researchers are hoping to break the light barrier soon.

Although we might applaud this kind of research as an exciting shift signalling a new interest in the invisible, we have only to look at the major applications (and of course funding institutions) at the core of such innovation. We need look no further than the US military and NATO as key backers of such research. The military fantasy is to build entire ships, planes

and spy satellite systems that would be enveloped by invisibility. But in the meantime both institutions are already developing applications for remote sensing devices, antennae, cloaks for counter-detection and electromagnetic shielding applications among a growing host of surveillance and missile related projects (RTO Task Group, 2012). This is hardly surprising but it does give us a clear signal that we have not shifted significantly in the diagram of power relations to which an optics of the invisible continues to belong. As it turns out, then, invisibility is as much bound up with the socio-political forces of a regime of force relations that organise to maximise opportunities for societies of control. If, as Kevin Heggarty and Richard Ericson's observed in 2000, a new surveillant assemblage functioned around the 'disappearance of disappearance' (2000: 619) then we are perhaps beginning to experience its flipside: a *reappearance of disappearance*. So to recap briefly here, I want to argue the scientific shift to invisibility within optics participates in a diagram of force relations that is still organised around relations to the visible. This diagram is co-extensive with an entire social-technical field of techniques for pervasive profiling and sensing. In quite a different manner, an aesthetic uptake of the nonvisible in which the visual still diagrammatically (that is relationally) plays a dynamic role, in Rokeby's *Dark Matter*, for example, holds out the possibility for a different sensing of the visual and a different uptake of potential inflection points of that diagram. Here we are talking about repotentialising the virtualities of diagrams via aesthetic invention.

But the optics of invisibility also raises another aspect of the composition of imaging. This aspect holds equivocal possibilities for the political and social directions of both art and science and hence impacts upon the question of the ways in which both participate in a particular diagram of power. The metamaterial effect of cloaking an object in 'invisibility' works because the materials are themselves comprised of components, which have small inhomogeneities. The differential summed response across these components allows the parameters of the electromagnetic wavelengths hitting the object to be variably manipulated. In general, then, (and I am being quite reductive here for the sake of brevity), metamaterial-cloaking produces *interference patterns* across the spectrum of electromagnetic waves, resulting in an 'image' of invisibility. Furthermore, the actual generation of metamaterials themselves out of components often takes place as a result of processes that deploy interference patterns such as 'interference lithography' (Cai and Shalshae, 2009: 42).

Put briefly, interference is a physical phenomenon where waves superimpose to form a resultant wave of greater or lower amplitude. Without spending too much time cataloguing and explaining the importance of this phenomenon for the production of a wide range of scientific images, I do want to note at least a few of these: astronomical interferometry (used in for example Very Large Array telescopes to increase the strength of the electromagnetic signal received), bio-layer interferometry, which I alluded to at the beginning of the talk, used in differential interference contrast microscopy to look at *in vivo* cell structure and

development; and interferometric techniques used in software to adjust the motion-tracking of three-dimensional objects.

Physics, then, as the force behind the generation of a diverse range of scientific imaging from the mid-twentieth century onward, understands interference as pattern rather than as subversion or intervention. I think we need to at least take heed of this understanding if we are to seriously engage with the composition of the contemporary image. In so doing, I do not think we have to simply acquiesce to the scientific framing of interference; that is, we do not need to adopt the orderliness of pattern as *the necessary value* to be derived from interference phenomena. There is a tendency by both artists designing for interaction and in the current discourse around interactivity to want to resolve machinic or participatory interference phenomena in the direction of harmony or co-operation; that is, 'order'. To return to *Dark Matter*, for instance. Rokeby speculates that when multiple participants are present within the *Dark Matter* space, the cacophony of sound produced will lead to a situation where no one knows who or what is controlling the sound (Rokeby in THEMUSEUM, 2012). This will result he suggests in co-operative interaction between the participants in order to create a 'resolved' – read orderly – sound sculpture. But anyone who has watched participants engaged in artistic interactive installations will quickly note that co-operation is a learned behaviour not a naturally recurring result; chaos, surrender and sometimes futility are more common occurrences.

What I am suggesting is that third order homogeneity is not the necessary outcome, especially not a required or desired *aesthetic* outcome, of component inhomogeneities or, to adopt a more sympathetic socio-political term, heterogeneities. I am hoping that in terms of potential aesthetic strategies we might steer a more interesting course than to fall into one or other side of the pattern versus disruption debate. In *Interference*, a web work made in 2008 by Michael Kargl (although now inactive), the aesthetic premise of the piece is interference conceived as a homogenizing phenomenon of networking itself (Kargl, 2008). The image on the start up page of the work immediately directs is a typical schematic of waveform interference, suggesting the multiple scientific dealings with such phenomena: in physics; and further as the artist directs us to note, in pharmacological interactions; and in linguistics, where interference transforms language to allow for new modes of expression. Interference as a generalised experience of concurrence and overlap is the premise, then, for Kargl's work. The point of creating such a work *online* is precisely to point to online networks as, similarly, participants in interference phenomena. To place art online is exactly to make it available for interaction everywhere and for everyone concurrently hence suggesting that the network is a locus for and of interfering aesthetic and media phenomena converging into strata of protocologically ordered patterning.

But should we accept this as the necessary condition for viewing, Kargl's work asks? Launching the site turns out not to be a concurrent event at all but a unique and solitary experience, for only one person can gain access to it at a time. Should another participant try to engage, the script driving the page view launches 'a placeholder page...and the viewer has to wait' (Kargl, 2008). Each instance of *Interference* plays out uniquely as a kind of 'netfilm' for that participant alone. In a rather quiet and nondisruptive manner, Kargl is tackling the diagram of the network in which ubiquity and homogeneity come to be the imperatives toward which its relations of force, hijacked by media and techniques of convergence, stratify. *Interference* makes us wait in line (an undecidedly non-networked experience), returning watching and interacting with the web to a myriad of singular, constitutive viewing instances. We are sifted back, systematically, into our inhomogeneities, producing instead a kind of emergent network of singularities conjoined only in an aesthetic event. This is what we might call, following Guattari, a *transversal* network of interferences:

Transversality...tends to be realized when maximum communication is brought about between different levels and above all in terms of different directions (Guattari 1984, 18)

If we understand the engagement of these diagrammatic art practices – that is, arts which work with aesthetic relations of force co-extensive with the current social field in order to redistribute or re-energise those relations – as transversal engagements with scientific imaging, a productive, inhomogeneous strategy for interference may well begin to emerge.

ENDNOTES

1. The image can be found on the 'Product Overview' page of the *No Lie MRI* website, available at: <http://noliemri.com/products/Overview.htm>

2. In my forthcoming book, *An aesthesia of networks: conjunctive experience in art and technology* (MIT Press, 2013), I discuss the ways in which artists, working with fMRIs transversally interfere with the indexical status neuroimaging takes on as it circulates in popular media. In particular I look at the work of Daniel Margulies and Chris Sharp's *Untitled* (2008) installation. An extract of the audiovisual material for this installation is available at: <https://vimeo.com/9871689>

REFERENCES

- Baltan Laboratories, 2010 'Poeme Numerique Masterclass: Days 5 and 6 with David Rokeby' weblog post, October 30, <http://www.baltanlaboratories.nl/?p=2499>
- Blaine Brownall, 2006. *Transmaterial: A Catalogue of Materials that redefine our physical environment*, vols 1–3, Princeton, Princeton Architectural Press
- Wenshan Cai and Vladimir Shalaev, 2009. *Optical Metamaterials: Fundamentals and Applications*, New York: Springer
- Nicholas Carr, 2010. *The Shallows: What the Internet is doing to our Brains*, New York: W.W. Norton and Co.
- Dumit, Joseph, 2004. *Picturing Personhood: Brain Scans and Biomedical Identity*, Princeton: Princeton University Press
- Michel Foucault, 1977. *Discipline and Punish: The Birth of The Prison*, New York: Knopf Doubleday Publishing Group
- Felix Guattari, 1984. *Molecular Revolutions: Psychiatry and Politics*, Rosemary Sheed trans., New York: Penguin
- Kevin Heggarty and Richard Ericsson, 2000. 'The surveillant assemblage', *British Journal of Sociology*, 51, 4: 605–622
- Michael Kargl, 2008. 'Interference', artist statement on artist website, <http://michaelkargl.com/?p=137>
- Nicholas, Mirzoeff, 1999. *An Introduction to Visual Culture*, London: Routledge
- Charles Sanders Peirce, 1933. *Collected Papers*, Charles Hartshorne and Paul Weiss eds, volume IV, Harvard: Harvard University Press.
- David Rokeby, 2010. 'Dark Matter', artist's website, http://homepage.mac.com/davidrokeby/Dark_Matter.html
- RTO Task Group, 2012. 'Metamaterials for Defense and Security Applications', *NATO Research and Technology Organisation* website, http://www.rto.nato.int/ACTIVITY_META.asp?ACT=SET-181
- Gilbert Simondon, 1992. 'The Genesis of the Individual', *Incorporations*, Johnathon Creary and Sanford Kwinter eds, New York: Zone Books, 297–319
- Gary W. Small, Teena D. Moody, Prabha Siddarth and Susan Y. Bookheimer, 2009. 'Your Brain on Google: Patterns of Cerebral Activation during Internet Searching', *American Association of Geriatric Psychiatry*, 17, 2: 116–126.

THEMUSEUM, 2012. 'David Roskeby explains "Dark Matter" ', online video, available at <http://www.youtube.com/watch?v=QE9NE9n3HTI>

Mitchell Whitelaw, 2009. 'Transduction, Transmateriality, and Expanded Computing', *The Teeming Void*, weblog, <http://teemingvoid.blogspot.com/2009/01/transduction-transmateriality-and.html>

Re_mediations in the Bio_digital

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ABSTRACT

Connections between biomedical and ecological scientific imaging techniques and those of contemporary artistic practice are discussed in relation my art/science research and in the wider context of media art. Through three examples from my transdisciplinary art/science projects - extending through the biomedical sciences to neuroscientific research on the European honey bee - I explore practical models for interference and alternative discourses for media art practice. The selected projects under discussion here: *machina carnis*, *HOST* and *mellifera*, have repositioned scientific image data within an expanded field of artistic critique and audience experience. I will describe my various reinterpretations and recontextualisations of scientific digital image data and the immersive tropes that engendered an intimate, personalised interpretive dynamic. The overall focus of these project examples is on open-ended, transdisciplinary methodologies that disrupt and intervene with scientific constructions of corporeality and fully explore the creative potentials of hybrid media art.

KEYWORDS

Intervention, reinterpretation, recontextualisation, hybrid, corporeality.

INTRODUCTION

As an artist/researcher whose practice is located at the art/science nexus I have consistently interrogated spaces where visual culture and science interface. How an artist might re-interpret and recontextualize scientific research data has been of primary concern during my art/science projects. My transdisciplinary research has involved reinterpreting scientific image data from the perspective of a visual artist and recontextualising contemporary biomedical research in artworks that probe constructs of “humanness” through practical models for interference and alternative discourses for media art. My artistic methodologies have often involved the use of digital image modification and/or the creation of technically programmed participant interactivity that acknowledges observer engagement in the final “reading” of the data and participant “completion” of the artwork. Academic and artist, Anna Munster suggests that digitality provides a set of lived circumstances in which our senses encroach upon us in a different way (Munster 2003) and her premise that different sensory interpretations are enabled by digital methodologies and imaging is one that I frequently incorporate into my artworks. The experimental art/science projects: *machina carnis*, *HOST* and *mellifera* form the basis of discussions in this text since they exemplify innovative methodologies and ground-breaking inter-disciplinary strategies. In the brief overview below,

I give an introductory outline of the ways that my artworks demonstrate my specific use of “interference” and “mediated interventions”.

“Interference” in the *machina carnis* project begins in the laboratory and is a twofold process. Firstly it involves my first-person experimental methodology, contravening accepted scientific protocols, secondly it relates to my subjective rather than objective reading of the scientific documentary image data. This artistically mediated data is recontextualised to form an integral component of the *machina carnis* artwork that concentrates on the impact of the human cellular digital image data on installation participants, rather than its scientific relevance.

The artworks *HOST* and *mellifera* are two different responses to the same long term artist residency with the Visual and Sensory Neuroscience Group, Queensland Brain Institute. In the case of *HOST*, I respond to what was for me an unexpected proximity between human being and honeybee. For the scientists, this interspecies proximity was not a primary focus when carrying out their experiments. My interventions in this experimental space occurred when I created my own experiment where the honeybees were trained to come and feed from my hand and I used the fast-capture cameras to record this honeybee behaviour for artistic rather than scientific purposes. Thus my methodologies and remediated outcomes were an interruption of the usual laboratory processes.

The Australia Council for the Arts Inter-Arts Board awarded the *mellifera* project a MUUVE_IT Initiative grant for its innovative concepts. *Mellifera*'s main aim was to breach the digital, screen-based format of software such as Second Life, which we suggested were a constraining and limiting style of participant engagement. We intended to have real-world gallery components linked to the in-world environment via interactive participant terminals, from which they could make changes in the virtual environment. In this way we were creating a cross-platform engagement that could be termed an interruption of the habitual digital format. *Mellifera* was thus an ambitious, innovative attempt to connect both the the virtual and the gallery environments in a unique, experimental way.

In each of these artworks, laboratory research processes and scientific digital image data are creatively appropriated and disrupted. My critique will expand upon the visual complexities, types of interference and the developing technologies employed and discuss the subsequent emergence of hybridisations and productive transdisciplinary outcomes.

Underlying Historical Perspectives

The historical evolution of increasingly sophisticated scientific research equipment has resulted in ever more complex experiments and imaging technologies. Time-lapse digital video micrograph imaging enables microscopic observations of cellular behaviours that can also be recorded. In *machina carnis*, the initial documentary scientific footage of my adult stem cells *in vitro* changing into cardiac cells over seven days was captured in digital video micrograph time-lapse footage. I subsequently reinterpreted and recontextualised the scientific documentary footage for presentation and individual analysis by installation participants. This involved intervening with the purely scientific reading of the scientific data in order to evoke the kind of subjective interpretations that are usually associated with a personal

collection of photographs for example. My aim was to engender empathy between the human cellular image data and the installation participants, rather than to maintain the customary scientific trope of objective distance.

A pioneering forerunner of honeybee flight recording techniques was Etienne Jules Marey, the French scientist and chronotographer, who explored insect flight and movement the early nineteenth century. Marey's use of the myograph, a machine related to the kymograph, measured muscle responses and enabled him to capture images of the individual wing beats of wasps and other insects (Braun 1992). Returning to the present day, the Visual and Sensory Neuroscience Group's laboratory fast capture cameras enabled me to creatively explore the revelatory fast capture honeybee footage incorporated into my video *HOST*. In contrast to *HOST*, the artwork *mellifera* does not use direct scientific data as such, however it draws on first-hand observations of honeybee experiments and behaviours for creative reinterpretation throughout. *Mellifera* aims to penetrate the hermetic, screen based virtual worlds, generated by the advent of contemporary computer applications such as Second Life (SL).

Whilst insect behaviours and their relevance to media art histories is not the focus of this paper, the recent book by Jussi Parikka on insect media has many insightful applications relevant to my research. Parikka has a particular interest in the historical background of nineteenth century socio-cultural fascination with insects, and links this to today's applications of insect behaviours to media art technologies and the military (Parikka 2010). I will return to Parikka's theories on honeybee behaviours later in this paper during the more detailed descriptions of my artwork examples that follow.

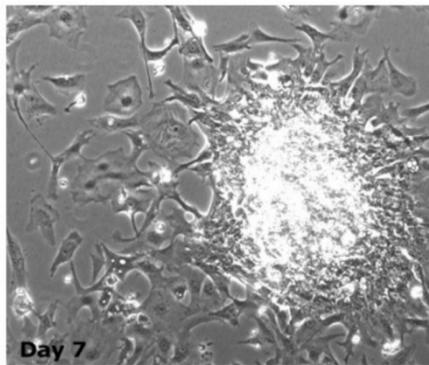
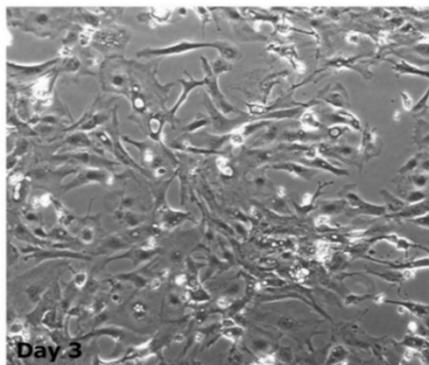
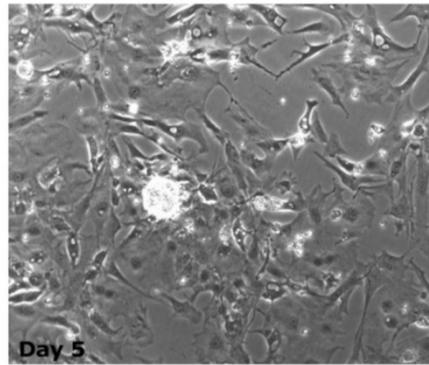
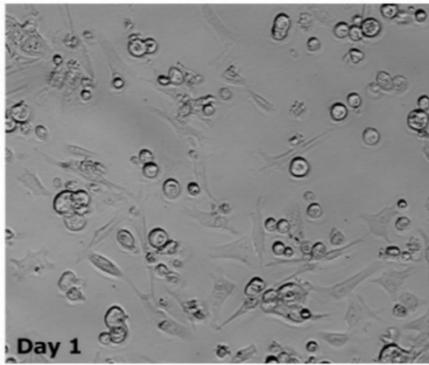
Machina Carnis: Scientific Background

The *machina carnis* project was developed in response to the groundbreaking scientific discovery that adult stem cells are capable of 'changing their fates' and becoming other types of cells. 'Changing fates' is the term used by biomedical scientists to describe the scientific processes that modify the development of some adult stem cells in order to change them into other types of cells. Adult stem cells that respond to this mutation are termed 'pluripotent' – meaning that they are cells that are capable of differentiating into other types of cell. This landmark breakthrough in adult stem cell research was reviewed in the December 1999 issue of the journal '*Science*', which described it as the 'scientific discovery of the year' (Vogel 1999). The discovery of the pluripotent characteristics of some adult stem cells has overturned the prevailing orthodoxy that – once adult – the destiny of a stem cell is fixed and cannot be changed. The ability to chemically modify the development of adult stem cells has the potential to enable doctors and scientists to avoid the ethically controversial use of embryonic stem cells in medical treatments and scientific experiments. Also, significantly, adult stem cells harvested from a patient's own body and then cultured and returned to their body to repair tissue or organ damage, are not rejected by the individual's immune system. Whilst the wide ranging medical implications of adult stem cell technologies are of major importance, from an artistic perspective, the possibility of growing human organs is both confronting and thought-provoking in relation to future concepts of corporeality and the "self". Numerous questions arise relating to shifting definitions of corporeality when sections of the physical body can be modified, added to or replaced by components created in a laboratory. We are obliged to consider how we will define the "self" in these circumstances,

when bodies may evolve and mutate beyond the usual configuration of what we have previously known or indeed what we were born with! The *machina carnis* project aimed to probe the possible consequences of this groundbreaking development in biomedical science and query their potential repercussions.

Machina Carnis: Ethical Clearance

In 2002, when the *machina carnis* project began, use of unscreened human material for artistic purposes was a significant “interference” in the usual scientific protocols and it caused prolonged delays in the ethical clearance process. The University ethics committee were mindful of issues relating to donor permission for the use of human tissue and to concerns about the risk of infection when unscreened human cells were put in University incubators and equipment. Much of the caution exhibited in the award of ethical clearance stemmed from the landmark case of Henrietta Lacks. Briefly, in 1951 the cancerous cells of a low income coloured woman: Henrietta Lacks, were appropriated without her permission to culture *in vitro* for supply to scientific laboratories. The culture strain, known as He-La, proliferated world-wide from 1951 to the present day. Indeed, it is so entrenched in the research system that it is suggested that some scientific experimenters have even ceased to regard the He-La cells as originally human (Skloot 2010). Since I was committed to using an immersive project model that would create participant emotional identification I was determined to find a way to satisfy the ethics requirements. The solution was provided by my scientific collaborator: Dr Victor Nurcombe, who suggested using adult stem cells from my blood rather than from my epidermis, thus avoiding the required hospital biopsy. This shift in the source site for the experimental material meant that the University ethics committee requirements could be met by having a sample of my blood taken by a doctor on campus at the nearby School of Human Movement, where the necessary ethical protocols were already in place for the regular collection of athletes’ blood samples for research purposes. After almost a year, the *machina carnis* project was awarded University ethical clearance and the scientific experimental processes began with the separation of the adult stem cells from my blood sample in the laboratory at the School of Biomedical Sciences, The University of Queensland.



Digital videomicrograph still images of Adams' adult stem cells 'changing fates' into beating cardiac cells *in vitro* over 7 days. Documentary footage: Dr. Victor Nurcombe.

Machina Carnis: First-person Methodology

The *machina carnis* project posed the question: 'What will occur if a visual artist engages with biomedical engineering as a first-person researcher?' Scientific precedents do exist for first-person scientific research and a recent example is the Australian Nobel Laureate: Professor Barry Marshall who drank bacteria in his efforts to prove that bacteria, not stress, cause stomach ulcers (Swan 2008). However self-experimentation is an unusual scientific practice which is frequently carried out as a last resort, since it contravenes accepted scientific protocols of objectivity and distance. For *machina carnis*, a first-person participatory methodology was central to my exploration of what constitutes corporeality when contemporary biotechnology, neuroscience and virtual systems are rapidly changing the ways we see ourselves and actively remodelling the human body. Adopting an immersive strategy of participatory engagement in the role of artist/researcher has allowed me to 'probe the technology whilst existing in the new contexts created by it' (Wilson 1991: 433). In other words, when cellular material from my body becomes the site for cutting edge, biomedical experimental research I am able to complicate the so-called 'Cartesian dualism' of the 'disembodied eye' (Jay 1993: 81) by immersing myself in the entire process in the roles of "human guinea pig" and artist/researcher. Dr Nurcombe, describes my immersion in the whole project as follows: 'You have entered into the heart of a research project as a core participant. You were at once subject and object, forced to be objective about your very "ground state" – your own material...' (Nurcombe 2005). This immersive methodology does not emulate the so-called objective research processes that are identified with established scientific practice and, throughout the project; I acknowledge my personal involvement and perspective as artistic interventions. It has never been my intention to create new scientific

knowledge during my art/science collaborations, rather I intend to intervene and develop ‘findings’ that reflected my artistic perspective and interpretations.

Machina Carnis: The Interactive Installation

The immersive scientific methodologies were mirrored in the 2005 art installation: *machina carnis* through the use of interactive digital technologies that promoted sensory viewer involvement. Artistic interventions with the scientific digital image data and its’ recontextualisation in the interactive installation thus enabled installation participants to experience its impact for themselves. A loop of digital videomicrograph scientific image data showing the adult stem cells changing into beating cardiac cells was created for the installation. This video clip of cardiac cellular digital image data was visible on the monitor above the participant. In addition, an appropriately situated webcam digitally captured the participant’s facial image and overlaid it indistinctly in the cellular image frame visible on the monitor. This was intended to increase the sense of personal engagement experienced by the participant. *Machina carnis* was programmed to respond to one participant at a time, encapsulated in a proscribed relationship with the installation to experience an intimate, personal interaction. In order to bring the installation to life individuals participated and took the specially modified stethoscope and placed it on the bare skin over their heart. When the participant located their heart in this way the sound of their heartbeats resonated around the gallery. At the same time the programmed installation technology responded by synchronising the beating of the time-lapse digital videomicrograph cardiac cellular image data with the individual participant’s heart beat. This synchronisation physiologically individualised participant engagement, since every person’s heartbeat, like fingerprints, is unique. These interactive interventions emphasised the phenomenological impact and the emotive responses evoked by the sound of participant heart beats in unison with the moving images. In this embodied structural relationship the viewer became a network participant who is receptive to the multi-sensory impact of the artwork environment.



An installation participant uses the modified stethoscope to find her heart and looks at the video loop of beating cardiac cells on the monitor above her. Documentary images: Ben Wikes.

Host: An Exploration of Inter-Species Relations

During the *machina carnis* scientific experiments I observed cellular behaviour at a microscopic level. The apparent sentience displayed by the cells led me to enquire further into cellular behaviours by becoming visiting artist with the Visual and Sensory Neuroscience

group, The University of Queensland. Although it may seem quite a shift from the biomedical sciences, the Visual and Sensory Neuroscience group carry out their research on the European honeybee in order to shed light on human brain functions and cognition. Many of these experiments take place in the largest indoor bee facility in Australia where the bees fly around freely from hives to experimental sites and, to my surprise, protective clothing is not routinely worn. After a lifetime of avoiding bees, I initially found the experience of being surrounded by bees in an enclosed environment without any protective clothing quite challenging but gradually I became used to the proximity. In this environment the honeybees and human beings co-existed side by side in their parallel operational spheres. When Parikka refers to the bodily, affective relationship between insects and their environment he is expanding on a 1920s text by Jakob von Uexküll that suggests insect movements are defined by immediate perception, sensation and orientation to their environment (Parikka 2010). For me, the research environment, where the honeybees appeared to focus directly on their immediate environment and honeybees and humans functioned alongside each other, was certainly an example this type of behavioural relationship. The experience of intersecting interspecies domains had a very powerful impact on me and it inspired the video: *HOST*. For this artwork, I intervened in the experiments being carried out and developed my own research methodology where the scientists trained the honeybees to come and feed on sweet liquid on the palm of my hand. I seized the opportunity to make use of the available scientific technologies: fast capture cameras, to record the flights of the honeybees at 250 frames per second, resulting in slow-motion digital visual data. When the bees landed on my hand to eat they entered into an unusual symbiosis with a human being – a poignant example of interspecies contiguity. Reviewing the raw footage that had been captured I observed that in close-up shots my hand appeared disproportionately immense in relation to the insect's bodies and that the honeybees were falling and stumbling about. Although I remained vulnerable, since the bees could sting me at any moment, the bees also gave the appearance of vulnerability as they struggled to climb over the alien, fleshy terrain of my magnified palm in search of food. *HOST* draws attention to the vulnerability of both the human and the honeybee, and their closely linked, delicate, ecological connection through the reinterpretation and repositioning of the image data within an expanded field of audience experience.



European honey bees feed on sugar water on Adams' hand. *HOST* video still, Trish Adams

Mellifera: Interfaces Between Real and Virtual Worlds

Mellifera, the second project that developed out of my residency with the Visual & Sensory Neuroscience Group, was carried out in collaboration with artist/researcher: Dr. Andrew Burrell. We created *mellifera* as an innovative, ecologically sensitive mixed reality project consisting of an on-line interactive environment in Second Life (SL) which was linked to a complimentary series of real-time exhibitions in gallery spaces. Central to this artwork was our direct engagement with various aspects of honeybee behaviour and the research into cognition, navigation and communications in the honeybee that inspired *mellifera's* experimental series of human/computer interfaces. These provided modes of sensory delivery for both virtual and real-world participant interactivity. As mentioned in the earlier section, Underlying Historical Perspectives, a primary rationale behind this project was our desire to find interactive tropes and strategies that would provide artwork participants with an interface which enabled them to seamlessly intervene with the virtual environment. We were conscious of the limitations presented by software systems such as SL, in particular the constraints inherent in its closed structure, as we strove to create a contemporary artwork that pushed these digital boundaries.



Gallery goers explore the interactive terminals at the *mellifera* installation whilst the interactive *terra.mellifera* environment is projected as a large scale live feed behind them. Installation shots: Keith Novak.

With our shared interest in the “self” and its construction in physical and virtual environments, we set about intervening in the spatial and physical systems associated with virtual platforms and corporeality. *Mellifera* was an artwork aimed to disrupt the virtual world of SL whilst reinterpreting our scientific observations of European honeybees in a poetic and creative way. The introduction of real-time interactive terminals in the gallery enabled participants to actively engage with custom made interfaces in order to intervene and change to the in-world eco-system. Sensory participant input such as touch, breath and bodily presence activated the gallery terminals and breached the digital divide by bringing about responses in the *terra.mellifera* digital SL world. Thus the SL fantasy environment: *terra.mellifera* consisted of a generated, balanced ecosystem that accommodated remote participation via avatars and also the mediated physical interventions of remote gallery goers. Whilst first hand observations of the European honeybee experiments and behaviours were vital at the outset of the *mellifera* project and formed the basis of the systems that were developed, we did not simply want to recreate a honeybee in the virtual world. Our interventions in the way the scientific data was interpreted created a unique self generating system from which the individual creatures and life forms native to that environment emerged. In other words, we were investigating creating a creature with aspects of “beeness” that was very much a native of the *terra.mellifera* virtual ecology and could only exist in that environment. In this way, our imaginative interventions with the scientific data allowed us to move beyond a didactic presentation of fact into an imaginative realm of virtual and digital interactivity and potentiality.

SUMMARY

The overall focus of *machina carnis*, *HOST* and *mellifera* is on open-ended, transdisciplinary methodologies that disrupt accepted scientific protocols, “intervene” with the “reading” of scientific data and explore the creative potentials of hybrid media art. In *machina carnis* the

intervention was carried out on several levels. Assuming the role of both first-person researcher and experimental subject allowed me to immerse myself more deeply in the entire project. The reinterpretation and recontextualising of the scientific image data itself personalised what is usually “read” from a scientific and purportedly objective viewpoint. Acknowledging the human origin of the image data and the personal, emotional aspects of the whole project created an artwork where participants could both empathise with the human cellular data and analyse its wider implications. *HOST* also took scientific image data, gathered with the use of the fast capture cameras, and personalised it to emphasise the inter-species dependency between human being and honeybee. *Mellifera* began with observations and experiments on the honeybee and then diverged as the artists creatively reinterpreted their observations. As the imaginary world: *terra.mellifera* was created in Second Life, so the virtual honeybees – or *mellifera* – came into being. Once again the artwork began with scientific observations and data collection from which it creatively diverged. These artworks provide examples of significant interventions in scientific image data and protocols that open up the field to wider interpretations and to participant engagement. The outcomes provide hybrid products of transdisciplinary methodologies and processes in the field of media arts.

REFERENCES

- Braun, Marta. *Picturing Time: The work of Etienne-Jules Marey*, Chicago: University of Chicago Press, 1992.
- Jay, Martin. *Downcast Eyes: the Denigration of Vision in Twentieth Century French Thought*. Berkley: University of California Press, 1993.
- Munster, Anna “This Fanciful and Colourful Image: The Image of New Media Within the Contemporary Art – Science Nexus.” *Culture Magazine* 5 (2003): 1-13, accessed November 23, 2011. <http://www.culturemachine.net/index.php/cm/article/view/253/236>
- Nurcombe, Victor, e-interview in Adams, Patricia. “The Implications for Artistic Expressions and Representations of Corporeality of the Experimental Techniques of Biomedical Engineering.” DVA diss., Griffith University, appendix v, 2005.
- Parikka, Jussi. *Insect Media*. Minneapolis: University of Minnesota Press, 2010.
- Skloot, Rebecca. *The Immortal Life of Henrietta Lacks*. New York: Crown Publishing, 2010.
- Swan, Norman, interview with Barry Marshall (2008) accessed November 22, 2011. <http://www.science.org.au/scientist/interviews/m/marshall.html>
- Vogel, Gretchen. “Capturing the Promise of Youth.” *Science* 286 5448 (1999): 2238-2239.
- Wilson, Stephen “Technological Research and Development as a Source of Ideas and Inspiration for Artists.” *LEONARDO* 24 4 (1991): 433-440.

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The original cinematography for *HOST* was recorded by Carla Evangelista and Peter Kraft. The section in this paper describing *mellifera* incorporates a collaborative discussion with Dr. Andrew Burrell.

Various ideas in this paper have been expanded upon by the author at previous Conferences and Symposia and in other scholarly publications.

BIOGRAPHY

Trish Adams is a Postdoctoral Research Fellow, RMIT University School of Art, Melbourne. Through her research and artworks Trish poses questions about what it means to be human in the twenty-first century, and the ways in which our understanding of ourselves will be changed by contemporary biotechnical developments and interspecies proximity. The *machina carnis* project probed the issues surrounding the mutation of adult stem cells. More recently, Trish participated in experiments on cognition and navigation strategies in the European Honey bee; highlighting the ecological issues faced by the endangered honey bees and contemporary explorations into inter-species proximity. In addition to her publications Trish has presented at conferences such as: *New Constellations: Art, Science & Society*, M.C.A. Sydney, 2006; Perth Digital Art & Culture Conference, 2007; ISEA2008, Singapore; *Eye of the Storm*, Tate Britain, U.K. 2009; *Virtual Anatomies*, The University of Queensland, 2011; ISEA2011, Istanbul, Turkey and Rewire2011, Liverpool, U.K.

The (New) Accident of Art.

Dr. Su Ballard

University of Wollongong

ABSTRACT

Accidental encounters in the art gallery occupy a critical space that moves visitors beyond established behaviours and expectations. Accidents are crucial to everyday encounters with art objects and tend to occur in the interval between images. The emergence of the ‘New Aesthetic’ in March 2012 contributed to a more generalised interest in spotting and documenting moments where the digital intercedes in the everyday. The New Aesthetic suggests that it is possible to see accidental spaces of machinic vision. But what happens when the viewer is also not human? Does the robot machine employed by GoogleArtProject to patrol the major galleries of the world suggest new methods for engaging with art? If, as has been argued by both Aristotle and Virilio each machine contains a concept of accident, encounters that recognize the creative potential of failure and instability will introduce a new model for machinic aesthetics within the gallery space. In reality any unexpected encounter in GoogleArtProject is more likely to be with a blurred virtual force than something framed and labelled as art. In using Aby Warburg’s “iconology of the interval” to discuss GoogleArtProject I suggest it is the accidental encounter that marks the vibrancy of the space, time, bodies, machines and architectures that make up the art gallery and perhaps contributes a critical prehistory to the New Aesthetic.

KEYWORDS

Art Gallery, Accident, GoogleArtProject, New Aesthetic, Aby Warburg

A robot machine walks through an art gallery. Slowly over one evening it views the entire contents of an art gallery, not just the major art works, but everything: the fire hydrants, the exits signs, the washbasins. To the robot, everything it sees is the same. It forms images that bear relationships to other images, that together will make a network of more images, that will connect to other networks of images formed in other galleries, and then to viewers. Humans, not allowed into the galleries at night spend their evenings watching and reviewing what it is that the machine sees. The images the machine draws are the result of a long process, they are stitched together by machine and checked for anomalies before humans can view them, some are astounding but sometimes errors occur. The machine encounters unexpected objects, and forms images of things that are not art, yet inhabit the spaces of an art gallery. These accidental encounters in the art gallery occupy a critical space that moves

viewers beyond established behaviours and expectations. The accidents both caused and caught by the machine are crucial to everyday encounters with art objects in the art gallery. These misunderstood moments offer up shared and transformative experiences, and like any encounter they set things in motion. An art gallery claims to be a public space, somewhere where almost anyone can walk off the street and experience something. But there are limits. Galleries are social and transformational, but what if we no longer need to step through their doors? What if we let a machine do the walking, looking, and experiencing on our behalf?

GoogleArtProject has now been live for just over a year and has been met with general applause, particularly by curators of the galleries it has documented. For example, Beth Harris (in Proctor, 2011) from the Museum of Modern Art says that GoogleArtProject “allows visitors to avoid the crowds, physical fatigue, and self-consciousness” that she sees museum visitors struggling with. However, StreetView technologies when moved inside create jittery and grainy images. Trundling through art galleries opened specially for it in the early hours of the morning, the Google camera has the space to itself and watching from our desktops we follow the eye view of a machine standardised to an average human height of 170cm as if it is tracking an invisible adversary. It watches and scans the interior environment. The jerky movements replicate the hand held video camera footage favoured in horror movies from the late 1990s such as *The Blair Witch Project*. As Alastair Sooke (2011) commented in *The Telegraph*, this is ‘a “look” that is surely anathema to the carefully orchestrated clarity of the galleries in reality.’ Every exhibition is viewed at an equivalent scrolling pace, works are apprehended from the same distance, video works are freeze framed, and there are moments where the camera zooms forward producing a rapid movement into the next room, when fragments are glimpsed out of the corner of the eye, yet stepping back renders them invisible. In reality any unexpected (horrific) encounter in GoogleArtProject is more likely to be with a blurred virtual force than something framed and labelled as art. Occasionally it is possible to catch glimpses of things reflected in mirrors and windows, objects that seem to have shadows but not presence. These documented accidental works become highly speculative objects within the gallery.

The major public galleries of the world are now inhabited by these robot machines that are capable of looking closer and in more detail than their human companions. With their noses pressed against the glass, the robot machines document the invisible, allowing anyone anywhere to see more and access more via the digital networks that now connect galleries and their collections to each other. But with this new aesthetic must come a warning. To use Rancière’s term, not everything a machine sees is “sensible” (Rancière, 2009).

In the late Eighteenth century it was the leisured classes who had time to hone their aesthetic judgements at public art galleries. Twenty years before Kant wrote “Observations on the Feeling of the Beautiful and Sublime” the swiss watchmaker Pierre Jaquet-Droz built a series

of automata. Surviving today are a pianist and a writer; both are occupied with skilled activities that mimic those of a knowledgeable creative human individual. Jaquet-Droz's automata were magical figures that stood in for humans, and undertook aesthetic tasks. The concept of a robot as a slave or servant did not emerge for a further 150 years. In 1920 Czech playwrights Josef and Karel Capek imagined a group of robots originally intended for servitude, who develop desire and resistance and rise up to destroy humanity. Early in Act 1 of *Rossum's Universal Robots* the possibility of robot aesthetics is raised by Helena Glory, a representative of the Humanity League. She suggests that the robots might receive wages in order to "buy ... what they need ... what pleases them." Helman the chief-psychologist for the Robots replies: "That would be very nice, Miss Glory, only there's nothing that does please the Robots. Good heavens what are they to buy? ... They've no interest in anything, Miss Glory ... No passion. No soul" (Capek, 1961, pp.22).

The Capeks did not record robots looking at or making art. These kinds of developments in machine aesthetics were left for later generations. In the early twenty-first century machines do a lot of looking on our behalf. Recently, questions have been asked: what happens when machines make art? (Dohm and Stahlhut 2007). Are we amidst an image revolution? (Scholz 2012). What is it like to be a bonobo or a satellite or a pixel? (Bogost 2012). If Jaquet-Droz's machines began making art in the Eighteenth century, in the twenty-first they seem to have shifted towards the generation of machine aesthetics. This is more than a general cultural condition, but a combination of digital machines and the humans who watch and experience these machines and their outputs over time. It would be possible to continue this paper with a genealogy of moments in which machines have looked, or look: a camera obscura flipped the world into an upside down colour shadow of itself; as soon as the photographic camera was invented it was taken up into the sky so it could see from above; and, in St Petersburg Dziga Vertov became one with his movie camera. "I am kino-eye, I am a mechanical eye, I, a machine, show you the world as only I can see it ... my path leads to the creation of a fresh perception of the world I decipher in a new way unknown to you." (Michelson, 1984, p.17) However this kind of listing does not offer much more to think about the robot we left exploring art galleries. For this we need to return to the aesthetics of the sensible and human relationships with the machinic environment.

The cataloguing of machine aesthetics reached obsessive proportions in April 2012, when Bruce Sterling wrote an article in *Wired* both critiquing and celebrating the work of James Bridle and the notion of the "new aesthetic" (Sterling, 2012.). Although Sterling labeled the New Aesthetic a "glitch-hunt" Sterling's article lead credence to the tumblr log and the activities of its collectors. The collection of images gathered together under the new aesthetic seemed to imply that there is a level of decision making, if not consciousness, to machines as they look. Dan Catt (2012) summarises the new aesthetic as the inspiration behind computer vision; because the "digital and the physical are moving closer together." Kyle Chayka describes the new aesthetic as not a revolutionary art movement out to shock society, but

something operating in reverse. He says, it responds “to a shocked society” (Watz, 2012). Chayka continues “We will not just observe how machines act and perceive, but integrate how they act and perceive into our own sensory experiences and creative processes.” Chayka begins with something that sounds like an argument for digital materiality, but quickly slips into utopian imaginings for the future. Catt continued: “As the digital and the physical move closer and closer, that combination will eventually look less like a hybrid and more like a united whole, the new aesthetic reality.” Crowd sourcing moments of digital ephemera and convergences where glitch overlaps with the everyday, made for a new and somewhat spectacular, cabinet of curiosities. Three months later, the new aesthetic remains a fast moving collaborative catalogue, made up of a twitter feed, a now closed tumblr log, and a collection of blog entries that circulate around each other.

It seems easy enough to dismiss. Except, that as we look at the ongoing influence of Walter Benjamin’s unfinished *Arcades Project* or Aby Warburg’s also unfinished *Mnemosyne Atlas* it is worth considering if the image based gathering practices of the new aesthetic are more than an accidental convergence. In the catalogue for his recent exhibition at Reina Sofia in Madrid and ZKM that examined the influence of early art historian Aby Warburg, Georges Didi-Huberman (2011) argued for a return to earlier methods of art history that involves piecing together “visual forms of knowledge” without teleological narration. Warburg’s *Mnemosyne Atlas* brought together thousands of images to demonstrate the “iconography of the interval”. From 1924 to 1929 Warburg constructed seventy-nine wooden panels that he covered in black fabric, each with groupings of reproductions, totalling over two thousand images. The panels themselves are now lost, but Warburg’s final arrangement of the Atlas survives, however, as a series of 79 photographs (Dillon, 2004). Between and across the panels were movements. In focusing on emergent points where ideas could be found to appear in-between the images on his panels, Warburg generated a diagram of gesture and energy. His methodology is described by Giorgio Agamben (2000) as “an art of remembrance that shows the development of forms of expression.” And in this manner, Warburg’s practice is often cited as core to the new discipline of art history. However, his own work was not focused on the interpretation of the meanings of the images, but on their complex and autonomous interrelationship and arrangement (Michaud, p.252). Agamben continues: Warburg’s “‘atlas’ was a kind of gigantic condenser that gathered together all the energetic currents that had animated and continued to animate Europe’s memory, taking form in its ‘ghosts’”. In between each image is a black field that serves to both isolate and frame the images. In the interval Warburg saw faultlines, these irregular black spaces separated and isolated the images at the same time as organised their relationships. Rather than links and nodes, Warburg produced a cartographic relief upon which the images floated, as if constellations of thought (Michaud, 2004, p.253). The panels are formed from reproductions that do much more than juxtapose; they are productive and generative.

Warburg described this relationship with images as a confrontation either lethal or vitalizing. The atlas itself was a freeze frame of these relationships. Brian Dillon (2004) describes it as images held “in a paradoxical pose of frenzied immobility.” Art history was understood as a network of images within which there are stored enormous energies. For Warburg the art historian was someone who conjured up this energy from the past to give it a new life. Warburg activated dynamic properties, and following on from his research with German psychologist Richard Semon he argued that it is in these spaces in-between that memory functioned (Michaud, 2004). Is this in-between activation of memory what is happening on the new aesthetic tumblr log? And is this new life also now caught in the gallery spaces of the GoogleArtProject?

We cannot yet remember the new aesthetic. For now, a machine collects and logs, and people are the contributors but not the keepers of the images. In some cases spaces in-between generate new aesthetic moments as different pages spring up either in response to Sterling or to Bridle. But these are not yet dynamic or accidental (although many contain a superficial aesthetics of the accident as glitch or error). Philippe-Alain Michaud says that “The conception of the images in Mnemosyne, [is a] silent conception based in pure dynamic relationships and phenomena of visual attraction and repulsion (Michaud, 2004, p.246)” And here the inadequacies of the new aesthetic logs become apparent. In short, the log is an archive not an atlas. The tumblr log of the new aesthetic collects without mapping, without drawing relations. In describing his exhibition Atlas, based on Warburg’s work, Didi-Huberman says that the atlas is a visual tool, the links it makes are “not a link of similarity, but a secret link between two different things” (museureinasofia, 2010). The images in an atlas are not located in time, as they are with an archive, instead there is a “confrontation and a co-existence of different times” (museureinasofia, 2010). This confrontation is central to a journey through a gallery formed through images of images that do not discriminate but include the accidental as encounter. In letting the machines loose in the gallery, GoogleArtProject allows viewers to form their own attractions and repulsions. This is a different form of reproduction, and a different process of accumulation to that undertaken by Warburg, but as viewers we find ourselves making decisions, identifying similarities and revising details.

Greg Borenstein was among the first to suggest that the new aesthetic resonates with other recent trends in speculative thought, and in particular with the philosophical momentum called object-oriented ontology (ooo):

The New Aesthetic is a visible eruption of the mutual empathy between us and a class of new objects that are native to the twenty-first century. It consists of visual artefacts we make to help us imagine the inner lives of our digital objects and also of the visual representations produced by our digital objects as a kind of pigeon language between their inaccessible inner lives and ours. (Watz, 2012).

There is a tension here. The new aesthetic seeks to make digital objects visible, to suggest that within the accident or the glitch there are overlooked moments of literal and aesthetic 'beauty'. OOO suggests that objects have ways of apprehending the world that are not necessarily human, or defined by the human, and thus do not really need us to recognize them, but that we should leave them to their own nonhuman ways. I'm purposely reducing large and complex arguments here, because if the new aesthetic is to be a useful method for understanding nonhuman (and in particular *digital* objects) its objects need to remain invisible, they need to transform into the pieces of black linen peeping between Warburg's reproductions, and remain un-romanticized. Even un-aestheticized. To trace the (new) accident of art we need to return with much more certainty to Warburg's unnamed science, and rather than proclaim the visibility of machine aesthetics too quickly, spend some time looking at the intervals.

Aristotle suggested that the accidental "does not inhere in the constitutive essence of a thing, being, or event" (Schwartz, 2011, p.547). The accidental is more a case of its relationships with other things, beings or events. This accident as relationship revealed the substance of something, what it could do. It is through the accident that the thing, being, or event presents itself to others. In the contemporary world, machines bring their own accidents with them. Paul Virilio (2005) says that the accident of art results from a proliferation of images that has led to complex relations between seeing, knowing, and imagining a world: the accident is now generalized. In identifying a shift from the accidental as caused by essential yet mistaken relations between bodies (the specific accident), towards the intended affects of that body, Virilio's generalised accident also elides the difference between accident and attack. The contemporary mediated accident of art is the eradication of these distinctions. The lurking presence of catastrophe became the focus of Virilio's 'Museum of Accidents' project at the Cartier Foundation in Paris in 2002 in which the aestheticising of the events 9/11 resulted in a romantic sheen over the horror produced by accidental encounters between machines and architectures (Cubitt, 1999).

In Virilio's 'Museum of Accidents' images are placed together and archived in order to discover some kind of essential connections; links between the nodes. The problem is that the nodes are not in themselves positioned as transformative, but become fixed images. In harvesting machines or media into the service of accident, there is the risk of aestheticising extreme harm. The imaging machine cannot acknowledge the accident and despite what ooo offers it still seems a mistake to attribute some kind of agency to the machine independent of the human. In Virilio's museum as well as in the new aesthetics tumblr log, the intervals become invisible rather than visible.

Ranciere's aesthetics of the sensible and Warburg's iconology of the interval suggest a different kind of accident, what Agamben calls the "unnamed science". An accident where

there is a coming together of the aesthetics of the sensible and machinic aesthetics, in the art gallery.

The robot that roams the galleries at night is not unlike the fox in Francis Alÿs' *Night Watch* (2004). The robot follows paths, maps routes and does the walking for us. The fox is a creature out of place, reminding us that we are always being watched, and suggesting new forms of movement within gallery architecture. As I have said the GoogleArtProject depends on a robot looking machine. This aesthetic machine is a totally different form of digital material that has entered into what have for a long time been quiet still spaces for human, and not machine, contemplation. The digital matter the machine is formed from is flawed and what it sees is potentially error-ridden. If, as has been argued by both Aristotle and Virilio, in its relations each machine contains an accident; encounters that recognise the interval between the image and instability might actually introduce new affective productions within the gallery space. This means that rather than archive and document the gallery, the GoogleArtProject is constructing an atlas of the spaces in-between. GoogleArtProject picks up objects that misbehave and maps the transformation of both machines and architectures. Agamben describes the spaces between the images in Warburg's Atlas as "the dark demon of an unnamed science whose contours we are only today beginning to glimpse (Agamben 1999, p.90)." There is a difference between Warburg's careful atlas of relationships where accidents emerge in the interval, and GoogleArtProject's gathering together of invisible interferences, visible only to those who choose to look. Rather than collate and archive images, the new accident of art traces the unnamed science of the interval with more care. Warburg called his atlas a "ghost story for adults" (Michaud, 2004) the images produced by GoogleArtProject are also a ghost story: a machinic aesthetics formed in accidental intervals.

REFERENCES

Agamben, Giorgio. 1999. 'Aby Warburg and the Nameless Science', in *Potentialities*, trans. Daniel Heller-Roazen, Stanford: Stanford University Press.

Bogost, Ian. 2012. The New Aesthetic Needs to Get Weirder. *The Atlantic*. Accessed 26 June 2012. <http://www.theatlantic.com/technology/archive/2012/04/the-new-aesthetic-needs-to-get-weirder/255838/>

Capek, J. and K. Capek (1961 [1923]). *R.U.R. and The Insect Play*. London, Oxford University Press.

- Catt, Dan. 2012. "Why the New Aesthetic isn't about 8bit retro, the Robot Readable World, computer vision and pirates." *revdancatt.com* Accessed 26 June 2012. <http://revdancatt.com/2012/04/07/why-the-new-aesthetic-isnt-about-8bit-retro-the-robot-readable-world-computer-vision-and-pirates/>
- Cubitt, Sean. 1999. "Unnatural Reality: Review of Paul Virilio The Vision Machine." *Film-Philosophy* no. 3 (9 February). Accessed 26 June 2012. <http://www.film-philosophy.com/vol3-1999/n9cubitt>
- Didi-Huberman, Georges. 2011. *ATLAS. How to carry the world on one's back*. Reina Sofia and Karlsruhe: Museo Nacional Centro de Arte Reina Sofia and ZKM.
- Dillon, Brian. 2004. "Collected works: Aby Warburg's Mnemosyne Atlas." *Frieze* no. 80 (February). Accessed 26 June 2012. http://www.frieze.com/issue/article/collected_works/
- Dohm, Katharina and Stahlhut, Heinz. 2007. *Art Machines Machine Art*. Heidelberg: Kehrer Verlag
- Lotringer, Sylvere, and Paul Virilio. 2005. *The Accident of Art, Semiotext(e)/ Foreign Agents*. Cambridge, MA: MIT Press.
- Michaud, Philippe-Alain. 2004. *Aby Warburg and the Image in Motion*. Translated by Sophie Hawkes. New York: Zone Books.
- Michelson, Annette. 1984. *Kino-Eye: The writings of Dziga Vertov*. Los Angeles: University of California Press.
- museoreinasofia. 2010. ATLAS Entrevista con Georges Didi-Huberman. *YouTube*. Accessed 26 June 2012. <http://www.youtube.com/watch?v=WwVMni3b2Zo>

O'Doherty, Brian. 1999. *Inside the White Cube: The Ideology of the Gallery Space*. Expanded Edition ed. Berkeley, Los Angeles, London: University of California Press.

Proctor, Nancy. 2011. "A New Generation of Museums on the Web?" in *Curator. The Museum Journal*, March 2. Accessed 26 June 2012. <http://www.curatorjournal.org/archives/635>

Rancière, Jacques. 2009. "Aesthetic Separation, Aesthetic Community" in *The Emancipated Spectator*, London and New York: Verso, p.51-63.

Rancière, Jacques. 2006. *The Politics of Aesthetics: The Distribution of the Sensible*. Translated by Gabriel Rockhill. London and New York: Continuum.

Scholz, T. (2012). New Literacies for a New Aesthetic. post to gmane.culture.media.idc list. https://docs.google.com/document/d/1Iq3BjgG_BfN2EJE2IFgeGM26kJXOkKIItBoMb6F8VJI/edit?pli=1

Schwartz, Hillel. 2011. *Making Noise from Babel to the Big Bang and Beyond*. New York: Zone Books.

Sky Rehberg, Vivian. 2011. "Atlas: How to Carry the World on One's Back (review)." *Frieze* no. 142 (October). Accessed 26 June 2012. <http://www.frieze.com/issue/review/atlas-how-to-carry-the-world-on-ones-back/>

Sooke, Alastair. 2011. "The problem with Google's Art Project." *The Telegraph*, 1 Feb. Accessed 26 June 2012. <http://www.telegraph.co.uk/culture/art/art-news/8296251/The-problem-with-Googles-Art-Project.html>

Sterling, Bruce. 2012. "An Essay on the New Aesthetic." *Wired* April 2. Accessed 26 June 2012. http://www.wired.com/beyond_the_beyond/2012/04/an-essay-on-the-new-aesthetic/

Virilio, Paul. 2004. "The Museum of Accidents" in Steve Redhead. *The Paul Virilio Reader*. New York: Columbia University Press, p.255-262.

Watz, Marius, Kyle Chayka, Jonathan Minard, Greg Borenstein, James George, and Kyle McDonald. 2012. "In Response to Bruce Sterling's "Essay on the New Aesthetic"". *The Creators Project*, edited by Julia Kaganskiy. Accessed 26 June 2012. <http://www.thecreatorsproject.com/blog/in-response-to-bruce-sterlings-essay-on-the-new-aesthetic>

BIOGRAPHICAL NOTE:

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Transposon Painting

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ABSTRACT

This paper is founded on an important emergent conceptual premise within contemporary painting discourses. This is the idea that painting is not a fixed or traditionally circumscribed form of visual philosophy but rather is an incessantly transposable genre. What is significant about this paper is that it presents a unique critique on the contemporary transposable position of painting through an innovative interdisciplinary frame of reference known as 'Bioart'. This involves a novel interpretation of Bioart processes as agency of extended painting. Understanding the transformative properties of Bioart mediation in painting through recombination using transgenic protocols as transposable painting events is the central tenant of my idea of expanded painting. Adapting recombinant strategies and molecular substrates for expanded painting via Bioart applications changes the Bioart genotype to an instance of expanded painting medium as a transgenic and transposable idea.

So the argument advanced in this paper is a novel notion of expanded painting in terms of medium specificity towards the 'idea' of painting as a transposable medium through the agency of Bioart. This has been realized as a literal transposon event using molecular biology rather than an asomatous idea. As such this interpretation is divergent to any extant notion of medium specificity in painting. As I have reasoned, what this translates into in terms of transposon painting as idea is a transposable event, instantiated aesthetically, conceptually, philosophically and in practice.

KEY WORDS

Transposon, Bioart, expanded painting, transposable medium idea

INTRODUCTION

Transposons have a restless lifestyle, often shuttling themselves from one chromosome to another. It is now clear that in their travels, they are disseminating crucial genetic innovations around the genome.⁵⁵ (Mikkelsen 2007)

⁵⁵ Mikkelsen, Tarjei S. et al. 2007. "Genome of the marsupial *Monodelphis domestica* reveals innovation in non-coding sequences". *Nature*, 2007/05/10, Volume 447, Issue 7141, 167-77.

This paper presents a novel philosophical argument on painting in the expanded field. Firstly I outline the contextual basis for the discussion and what I mean by expanded painting as idea with reference to Krauss' theoretical precedent on the expanded field (Krauss 2000). This essentially involves my adaptation of her redefinition of medium specificity in her concept of the "Post-Medium Condition".⁵⁶

I then put forward my novel proposition of expanded painting called *Transposon Painting* which I have developed using a practice-based approach to the argument. I argue how the transposable idea of expanded painting is demonstrated specifically in relation to process-based biotechnological art using an actual biological molecular transposable element. So throughout the discussion I show how this conceptually interconnects the idea of an expanded field, painting, biotechnological art and molecular biology instantiating a new transposable painting medium.

The scientific premise embedded in my novel concept of expanded painting is introduced. This involves presenting the literal transposable molecular element with its associated properties.

I conclude this discussion with one translation of expanded painting as transposable painting using a Bioart adaptation applied in practice. This is realized as a transposable event, painting as idea aesthetically, conceptually and practically determined by this painter at the molecular level.

Expanded field Context

One of the fundamental characteristics of the contemporary discourse that is painting is the idea that painting is and has demonstrably always been unstable. Academic, writer and artist Mark Titmarsh has provided convincing and fecund argument on how this can be understood in relation to conceptualizing colour. This was evidenced in this same conference with his paper entitled, "The Autopoiesis of Colour in the Age of Machinic Shine". This condition of instability drawn out in my paper however specifically assumes a transposable guise as explained in the context of expanded painting.

Krauss' critical writing on the "Post-Medium Condition" provides context for the idea of the expanded field for any media. My interpretation of this is confined to what I consider to be itinerant properties found in her argument. These are emergent, unfolding, interconnected properties involving the productive space between and over different media, which are characteristic of a trans-media. For me this is transposable media as *idea*. So the ambulant quality of these has been used to contextualize and establish connectivity to my own expanded media painting position as transposable idea. Krauss' notion of an expanded field becomes something, which has enabled the material and ideological basis of my interpretation of

⁵⁶ Krauss, Rosalind. "A Voyage on the North Sea: Art in the Age of the Post-Medium Condition". London: Thames & Hudson, 2000.

expanded painting as idea. In terms of Krauss' thinking, this has been adapted for my argument here rather than used as an illustration of hers.

The Post-Medium Condition

In her concept of the Post-Medium Condition, Krauss argues that the specificity of any medium can never be simply collapsed into the physicality of their support. She does so in reflection on the modernist position established by Greenberg in relation to his seminal discourses on media specificity.

Choosing to eschew Greenberg's terminal trope of material specificity i.e. painting equals oil on canvas, Krauss sets about reasserting the value of medium specificity as rooted in difference but in a different way including the importance of a notion of medium. She does so by essentially re-conceptualising *medium as a positional idea*. As has been noted by many, Krauss therefore identifies what can be considered as the productive space between media difference centering questions of medium. For example, Mary Ann Doane (2007) observes Krauss' position as,

A medium is a medium by virtue of its positive qualities (visibility, color, texture of paint, for instance) and also its limitations, gaps, incompletions (the flatness of the canvas, the finite enclosure insured by the frame). 57

Rosemary Hawker (2009) also notes,

Krauss avoids any direct association between the medium and its physical characteristics, and instead highlights the significance of certain artistic expressions, which call into question the effect of a medium's constraints and thereby reconfigure it as an open field for the interplay of 'conventions' and 'possibilities'.⁵⁸

Hawker (2009) adds,

Hence Krauss' notion of a medium as a 'supporting structure' reconciles the requirement for the material and technical specificity of a distinct medium with the formal and conceptual diversity of artistic creation.⁵⁹

So these aspects of Krauss are essentially what I have taken as a point of creative departure for my adaptation of the *medium as transposable idea*. This is located within and between media and not in a void. It is the interplay of the relational position of layers of media i.e. painting

⁵⁷ Doane, MaryAnn. 2007. 'The indexical and the concept of medium specificity', *Differences: a Journal of Feminist Cultural Studies*, vol.18, no.1, special issue 'Indexicality: trace and sign', 130.

⁵⁸ Hawker, Rosemary. 2009. "Idiom Post-medium: Richter Painting Photography", Oxford Uni Press, Oxford Art Journal, Vol. 32(2), 263-280.

⁵⁹ Ibid.

within painting and to other media, which sets up a peculiar type of medium as idea which I have modified relative to Kraus.

Here I have adapted the ‘divergent specificity’ situated by Krauss (2000) as the supporting structure medium form, which she finds in the manifold interacting, layers within and between media reclamations works by Broodthaers for example. Instead for me this notion of divergent specificity is specifically re-imagined as process based ambulant idea interactions within and between particular media.⁶⁰

I argue this idea of a transposable medium idea is a transposable event wherein this equates to a supporting structure medium, which is called into question in each relational instance. This is because it is a divergent specificity. Here this is reconfigured for the interactions in painting relational to particular Bioart based iterations, which I call Transposable Painting ideas.

In such a context I propose that Bioartists work, namely technologically mediated art undertaken via any number of biotechnologies, can be considered to be more than just ‘Bioart’.⁶¹

Bioart as a trans-media is a methodologically divergent but process-based art/science vector. In being a process-based vector, it accommodates the notion of specificity of medium as being a process-based event as idea. In the space of activity relative to Bioart then, the Bio-medium is the agency of painting as idea in the expanded field. i.e. a *Transposable Painting*.

As evidence of the plausibility of this interpretation of Krauss I point out that Hawker (2009) also observes,

In searching for the differences separating the medium from itself, Krauss’s focus on a differential specificity links it more generally to a shift in the experience of the medium as medium support whereby works share a conceptual attitude based on a reflective distance to the medium underpinning them.⁶²

So the transposable argument adaptation I develop, connects to an emergent predisposition of Bioart and painting process relations as Krauss suggests, is an interplay of possibilities as the medium. While Krauss may not say that this means medium equates to idea, for me this idea raises the question and relational position of the medium thereby separating it out as a specific medium to become the idea instantiated between each . This is a specificity of media as transposable idea as painting event which must specifically be material and process based so as not to be just a conceptual premise.

⁶⁰ Ibid., Krauss, R. 56.

⁶¹ More aptly termed as far as this author is concerned, as ‘Bio-tech’ art. However, in terms of international recognition and currency of usage it is referred to here as ‘Bioart.’

⁶² Ibid., Hawker, R., 263-280.

The relationship of media as based on differences a relational differentiation that as Krauss (2000) says, 'heightens, rather than reduces, the importance of the concept of the media.' 'the medium as an aggregative 'network' or 'complex' of media.'⁶³

Adapting Krauss argument, the trans-medium here is the reconfigured transposable molecular genetic compositional complex of Bioart as painting as a positional idea of medium.

A novel proposition of Expanded painting

So the argument advanced in this idea called *Transposon Painting* adapting from Krauss, suggests that painting can and should be considered more in terms of activity and process of intervention in any given media context or discourse. For me this approximates rather than describes what Krauss explains as the supporting structure, her notion of medium. So to recap at this juncture, in this paper it instantiates the new transposable medium idea of expanded painting as event because it is a transposable medium, a positional idea of medium i.e a supportive structure.

So these are the performative determinants of the permutable forms that painting assumes as a trans-medium critical practice as 'idea'. Seen, as an expanded genealogy comprised of a transposable specifically recombinant genomic constitution is the transposable idea of painting. Fundamentally therefore, this proposition of expanded painting as transposable idea offers a novel biotechnological conceptual and theoretical framework and set of principles explaining transposable appearance, structure, function and significance. Structurally, functionally and in terms of significance, this transposable idea is never other than a recombinant attitude and process. I discuss the scientific premise of this lab-based practice in the next section. This includes how media as positional idea relative to the biotechnology activity of recombination in *Transposon Painting*.⁶⁴

I propose that Bioart can be considered to be a new instance of the transposable idea of expanded painting. However as suggested above , this is a positional i.e performative idea and not merely a conceptual premise.

As academic artist and musician Sean Lowry (2011) has stated,

⁶³ Ibid., Krauss, R.,56.

⁶⁴ Note, this is a novel visual philosophy argument on painting in the expanded field, it is not a scientific exegesis.

This *idea* of painting is now potentially instantiated as a structural place, a performative action, a remediated form or even as anti-formations containing no independent essence other than being ‘not painting.’⁶⁵

Here Lowry is referring to his perspective on media specificity in painting in the expanded field.

However this is unlike Morgan Falconer (2003) who earlier observed, “Side by side with the notion of painting’s expansion has been the idea that it is a mode of thought, rather than simply a medium of art practice”.⁶⁶

This is different because Lowry’s argument indicates painting as idea, is a medium.

Significantly my transposable idea has, as has Lowry’s been developed in and through painting practice and not just as a theoretical argument. In my case this is specifically within the biological sciences laboratory. So from the perspective of this author, I shall emphasize this importance further as it amounts to my interpretation of a peculiar medium specificity. My interpretation aligns with Krauss in that medium specificity cannot exist only as a disembodied philosophical proposition. Rather, it needs the self-reflexive relational position of being a process-based infrastructure activity, a trans-medium. In this case involving relational processes of Bioart and painting.

More specifically I argue that through experiences and practice in painting and in molecular biology processes i.e both at a molecular recombinant elemental compositional level, this material spatial reconfiguration idea is the medium. It is a supportive structure that is the idea of medium as a positional medium involving divergent media manifestations adapted as a specific painting medium. Bioart is now proposed to be a new bio-transposable modulator and positional instance idea of expanded painting called *Transposon Painting*. To assist in understanding this novel idea it is necessary to introduce some basic artist’s understanding behind the science I have used for my novel interpretation.

Scientific premise

So I now introduce the scientific premise concerning transposable elements for the argument of expanded painting as a transposable idea. This posits the idea as a biological instance of the expanded medium for painting through practice.

⁶⁵ This was part of the conceptual premise, which Dr Sean Lowry developed in 2011 for the successful proposal behind *Re-extended Painting*, which he jointly contributed to. This was shown at MOP Gallery, Sydney in January-February 2012.

⁶⁶ Falconer, Morgan. 2003. “The Undead”, *Art Monthly* (UK), vol. 1, no. 270, 4.

Biotechnology based Bioart involves working with certain forms of developmental biotechnology protocols. In *Transposon Painting* these are undertaken at the molecular genetic level dealing with the structure and activity of genetic material.⁶⁷

Bioart as expanded idea of painting here focused on the molecular level is with particular reference to two types of transposable recombinant DNA media and processes. The first is a called molecular DNA 'transposon'. The second is another type of ambulant molecule called an 'intron' which are explained below.

Transformative notions of biotechnology mediation on living materials specifically at the molecular level including using transposons involve protocols collectively called recombination. Recombination means recombining molecular elements including DNA transposons in a given gene sequence of interest from either different parts of a genome or from another genome outside. Later recombinations entail transgenic protocols but either can effect changes in both phenotype i.e. appearance and in genotype i.e. genetic composition within living material In this transposable event as idea, my molecular expanded painting specifically involves using an actual transposable molecule called a transposon. In *Transposon Painting* it also is a novel recombinant molecule because it is recombined in conjunction with another ambulant material called an 'intron'. Recombination is therefore intrinsic to transposon protocols in the lab.

The defining property of transposable elements is their mobility. They are genetic constructs of DNA/RNA sequences that can move i.e. self-transpose from one position to another in the genome. Beyond the common property of mobility, transposable elements show considerable diversity. Some move by DNA intermediaries and others move by RNA intermediaries. "Some transposable elements move in a replicative manner, whereas others are nonreplicative, i.e. they move without making a copy of themselves."⁶⁸

Transposable elements can influence gene expression in many ways. The affects can be positive or negative by causing deletions or inversions of DNA and also in causing mutations for example. Humans are products of transposon mutations. They also can encode for drug resistance i.e. antibiotic used as a marker, which is helpful as a selective tool for genes of interest in genetic research.

According to molecular geneticist Dr Ian Grainge my current scientific collaborator, approximately 15-16% of the human DNA is currently comprised of transposable elements such as transposons. Transposable elements have constituted as much as around 40% of genomic material during the overarching passage of human evolution meaning they embody much of the transposable complexity that is Homo sapiens. I propose therefore that Humans for one are transposable events.

⁶⁷ This molecular biotechnology applied through art creates what the author and other artists have referred to as a particular type of Bioart called 'Genetic' art. It should be noted that this is not the same as other so-called 'Genetic art', which is genetic algorithmic based art.

⁶⁸ <http://www.personal.psu.edu/rch8/workmg/TranspositionCh9.htm> Downloaded 21.06.12

Transposons ability to copy and propagate themselves has evolved over long periods and most transposons are short in length, which facilitates their mobility. Relative to human genome 3 billion base pairs they range in size from 2500 to 21,000 base pairs.

Different transposons move around chromosomes to new locations with different specificity as they look for certain chemical bases or preferred sites. How they do this is essentially by the transposon DNA sequence encoding an enzyme that catalyzes what constitutes a transposition event. So because they have naturally occurring ambulant properties sometimes they randomly insert themselves into different locations in vivo.⁶⁹

The mechanism of transposition can be either "copy and paste" or "cut and paste" in order to self-relocate. Therefore there are essentially two kinds of transposon mechanisms, which can be orchestrated by an organism.

In the first kind, transposons copy themselves in two stages, first from DNA to RNA by transcription, then from RNA back to DNA by reverse transcription. The DNA copy construct is then inserted into the genome in a new position. These are called retro-transposons, which act like a virus, and because they are copied they amplify their number.

The second method is a cut-and-paste transposition mechanism. It does not involve an RNA intermediary. Various types of transposase enzymes catalyze the transpositions. Some transposases can bind non-specifically to any target site, while others bind to specific sequence targets. These are called DNA transposons.

Furthermore there are essentially two main protocols for working with transposons, either in vivo and in vitro as is described simply here.

The in vivo protocol entails the transposon being inserted into the cell's membrane and this is taken up by the nucleus in a random manner. This is preferable for larger quantities of transposon material to be realized but is less accurate for specific transposon events according to Dr Grainge.

The in vitro protocol essentially entails the transposon construct all being assembled outside of the cell. Stated very approximately, the transposon was cut by a purified enzyme called a transposase and for my protocol it also involved pasting an intron into the transposon construct. This was cut into a DNA plasmid by further enzymes at another stage. This is subsequently introduced into the cell membrane by means of a massive electric shock to the cell.

⁶⁹ These ambulant elements are the discovery of Barbara McClintock (McClintock 1950) an American Cytogeneticist who first proposed the existence of what she called 'jumping genes' early in her career in the 1940s. This was based on her research into corn, which she eventually earned a Nobel Prize for in 1983
McClintock, B. (1950). "The origin and behavior of mutable loci in maize". *Proc Natl Acad Sci U S A*. 36 (6): June, 344–355

So transposition can create sensory evident changes i.e. phenotypic as well as significant changes in a genome composition i.e. genotype as just described. This is what makes these transposition events a pertinent adaptation for a transposable idea of expanded painting in practice.

Transposon Painting Adaptation

As such I used the second method for my transposon painting adaptation in the lab. This entailed painting in, i.e. literally adding additional genetic material namely intron sequences from the Beta globin gene (B~globin), into my DNA transposon. This formed the main part of a novel transposon construct executed in vivo cloned and engineered into a plasmid and into the cell where it was expressed in the nucleus. Validation of this was by visual means i.e the familiar banding patterns arrived at via auto-radiographs to be followed by international data-based (BLAST) cross-references.

So in terms of creative transposable agenda beyond the DNA transposon I also used another type of transposable element called an intron incorporated inside the transposon.

Introns are not coding genes so have been assumed to be inactive. However their performative functions reveal that they also undertake feats of transposable creativity in the genome. The affect is an altered chromosome genetic complexity i.e. genotype.

The fact that introns have been used during evolution to evolve alternatively as a process to regulate gene expression has made it possible to build new genes in different combinations. These are creative transposable medium specific events within the biological canon. Hence my Bioart interpretations are a transposable creative idea of painting as medium specific event used for the expanded field of painting.

So the particular translation of the transposon protocol as painting idea was unique through its incorporation of a B~globin gene intron. This was 200 bases long and derived from the from human blood cells which are collectively an ambulant medium in the expanded corpus that are living entities. This was the essential material substance of transposable expression in this instance of *Transposon Painting*. This constitutes the idea of a novel layered transposable process as expanded painting event because this DNA transposon is comprised of another novel type of transposable element the intron. Used in the context of my argument this is the medium specific bio-layered painting event, an interpretation of a positional medium or supportive structure. This was expressed both as a science event and art event occupying a new position in the composition of the gene of a living organism, i.e. E.coli. That is as part of the larger medium specific complexity idea for an expanded field painting.

CONCLUSION

Understanding the transformative properties of Bioart mediation in painting through recombination using transgenic protocols as transposable painting events is the central tenant of my idea of expanded painting. Adapting recombinant strategies and molecular substrates for expanded painting via Bioart applications changes the Bioart genotype to an instance of expanded painting medium as a transgenic and transposable idea. The transposable bio-agency event as idea is an intrinsically recombinant and layered specific medium.

In terms of the expanded field, painting like DNA is always emerging from any extant configuration or molecular constituency at any given time as medium transposer of new means of its construction. It is a re-positional medium.

What has been advanced in this paper is a novel notion of expanded painting in terms of medium specificity towards the 'idea' of painting as a transposable medium through the agency of Bio-art. This has been realized as a literal transposon event using molecular biology materiality rather than an asomatous idea. As such this interpretation is divergent to any extant notion of medium specificity in painting. As I have also reasoned, what this translates into in terms of transposon painting as idea is a transposable event, incorporating a type of re-positional medium incorporating a type of 'divergent specificity'.¹⁶ This is a peculiar medium specific adaptation rather than adoption, referencing Krauss' expanded field and her idea of a 'supporting structure. This interpretation is instantiated aesthetically, conceptually, philosophically and in practice as expanded painting.¹⁷

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¹⁶ Ibid., Krauss, R.,56.

¹⁷ Ibid.

Inferences Through Interferences

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ABSTRACT

In physics, interferences are created through diffraction, the bending of waves (e.g. light, water, electromagnetic, x-ray, radio waves), which pass through small objects such as slits or apertures in gratings. Haraway (1997) and Barad (2007) employ this approach metaphorically in their thinking as a form of critical consciousness. Reading and writing diffractively creates differences, offers new perspectives and various points of entry for interpretation and sense making. Bending or the *elastification* of visual (and ultimately conceptual) information occurs in a material-semiotic perspective on several levels: Firstly, through the technical production of imagery (e.g. shot, rendered, manufactured). The usage of filters and algorithms constitutes an additional level of transformation in this production process. Secondly, by the technical transmission and mediation of information, and lastly the practice of translation, therefore reading, decoding and sense making, negotiating and evaluating the information by situating it in related contexts (Latour & Woolgar 1986, Law 1991) and interpreting it according to respective schemes (Lenk 2003). Technology allows for layers of diffraction, which can be exploited for interpretation and for the discovery of underlying patterns therefore for the production of meaning at a greater and different extend. To speak boldly: The elasticity of interferences is a tactic that leads to new inferences through differences within their schematic references.

KEYWORDS

Diffraction, Elastification, Structure, Inscription, Interpretation

This paper examines questions of a ground potential within an epistemological understanding by linking different areas for interpretation branching from social studies, physics and anthropology to philosophy. The supposition that experiences and perceptions oscillate in a tension field between frameworks and reference points on several levels (physically in the natural and technological world, phenomenologically in human perception and sociologically in politics) is the guiding thought for this paper. This basic structural tension in the system requires us permanently to adjust and align our practice of sense making and keeps us in a

constant disposition and practice of analysis, interpretation, hence synthesis of knowledge and understanding, integrating the production of imagery and metaphors for respective theories. Within these processes I'm introducing the term *elastification*. I employ this materialised description of the process of perception and cognition to emphasise the vivid, agile quality of adapting, comparing and negotiating information versus the context-related dependency of sense making.

On diffraction and interference

One indication for a basic tension can be found in Haraway's idea of *situated knowledge* with the notion of a basic contingency throughout different contexts and situations. Within her concept, Haraway includes the social situatedness and the context relatedness of the researcher. Situated knowledge in this sense is always local, partial and cannot be indicative for the whole world. In her concept, the conjunction of different perspectives is key and the contextual inquiry and method of approach to any kind of research question allows for a transdisciplinary mode of operation. In this undertaking she invented *diffraction* as a category of semantics in the process of making sense and inferring. She employed an optical metaphor and instrument for a better vision on a material and abstract level: "Diffraction patterns record the history of interaction, interference, reinforcement, difference. Diffraction is about heterogeneous history ... a metaphor for another kind of critical consciousness ... Diffraction is a narrative, graphic, psychological, spiritual, and political technology for making consequential meanings" (Haraway 1997, 273). By reading, thinking and writing diffractively, Haraway provokes a "difference in the material-semiotic apparatuses", which allows for "promising interference patterns" (1997, 16). Even with things, where we do not perceive any structure at the first sight such as white, undiffracted light, an underlying pattern becomes available to be tampered with. These patterns register changes in interaction firstly within the bending waves passing through slits in the scientific experimental test setup in the lab environment and secondly in the semiological and hermeneutic modes of critical inquiry through examination, deconstruction, decoding and consequently interpretation. Furthermore, Haraway emphasises the "persistence of vision" and the importance of images with their predominance towards which we need to keep a sophisticated representational attitude. A critical practice is impossible without representations. A generative vision is necessary for a multilateral perspective: "Vision can be good for avoiding binary oppositions" (Haraway 1988, 581). In this regard, Haraway claims that a social, psychological and technical understanding about the visual systems is needed and she calls into question: "How to see? Where to see from? What limits to vision? What to see for? Whom to see with? Who gets to have more than one point of view? Who gets blinkered? Who wears blinkers? Who interprets the visual field? What other sensory powers do we wish to cultivate besides vision?" (1988, 587)

Already in her concept of *Situated Knowledge* in 1988 she developed a related idea to diffraction – here she termed it “splitting, not being” and referred to “heterogeneous multiplicities” and a multidimensional vision, where the split self investigates different positions. Within the process of critical inquiry the object of knowledge itself is “pictured as an actor and agent, not as a screen or a ground or a resource” (Haraway 1988, 592). She emphasises the agential character of knowledge, its representation and visualisation. Following Haraway’s usage of diffraction, Barad employs the diffractive method in *Meeting the Universe Halfway – Quantum Physics and the Entanglement of Matter and Meaning*. Referring to Haraway’s suggestion, diffraction is a contrasting option for the metaphor of reflection. Reflection “invites the illusion of essential, fixed positions, while diffraction trains us to more subtle vision“ (Haraway quoted in Barad 2007, 29). For Barad, an apparatus of diffraction allows for the reading of entanglements of differences, which stands for the multiple qualities of this method: “Diffraction not only brings the reality of entanglements to light, it is itself an entangled phenomenon“ (Barad 2007, 73). Characteristic for the emerging patterns through the process of diffraction is the alternating wave intensity. In a thorough comparison, Barad reveals the differences between reflection and diffraction and brings out the dynamic, performative, transdisciplinary and differentiating qualities of the latter. For Barad’s agential realism, the method of diffraction allows for “different (inter)disciplinary practices in conversation with one another” (2007, 92). In this respect she suggests a dynamic relationality of a material-discursive nature. An essential part of her theory is the notion of *agential realism*, where the world is comprised of enmeshments of “social” and “natural” agencies and the distinction between them evolves out of respective intra-actions as an infinite dynamic that arranges and rearranges the relational structure between time, space and matter. Barad employs agential realism in her interpretation of quantum physics. Here as well we find the linked practice of interfering and inferring – in the procreative scientific practice and in the reflection on science.

The elastic qualities within the stress field of circumstances and relations create a steady imbalance and difference. This disparity ensures process and movement, change and flow. The alternating pattern of interferences is an indication for this ambiguous quality inherent in the system. But it is not a pattern with sharp, rigid lines and shapes. What we perceive are soft borders, zones of transition, “gradients” – a word, which Latour stresses for example in *Technology is society made durable* for the shifting quality of statements and the various interpretations for a vacuum. He introduces the term “variable geometry” to describe these shifts in definitions (Latour 1991). “Mixing my metaphors, I would say that it has to be as a gradient that registers variations in the stability of entities from event to essence” (1991, 85). Latour stands for Actor-Network-Theory, which is a specific approach to social theory within science studies. It is about the mapping of relations between things, concepts, humans and non-humans, which are all considered as actors within a network. A characteristic element of networks is stress and tension. Latour compares the metaphor of networks with the idea of spheres, a concept from Sloterdijk. The notion of spheres already implicates a softer, more bendable, vivid material. In the recent essay *Spheres and Networks* Latour points out what

both authors allow and support with their theories: Firstly, with the employment of these metaphors and models of thought a localisation of the discourse, hence a spatial orientation is offered, but not in a hierarchical way. Secondly, these thought models allow for space, for room to manoeuvre, to interpret and to manipulate. With their theories, both authors emphasise multiplicity, hybridity and flexibility within the construction of reality. This idea of a variable, plastic space within a structure, semiotically and materially, allows for change and interpretation. Latour states:

I am more and more convinced that the answer lies in this extremely short formula: lack of space. Paradoxically, the whole enterprise around spheres and networks - which superficially looks like a reduction, a limitation, to tiny local scenes - is in effect a search for space, for a vastly more comfortably inhabitable space” (2009, 141).

This difference or space in-between is needed as latitude and leeway for processes of thought and practice. The inferential process of making sense through interpretation in the model of a stress field within a network of different agencies, describes the role of an interpreter or mediator being in the middle between the influencing forces and impressions of a context or situation. This mediating role in-between is that of providing a framework while stimulating change and allowing for process and flow. In this stress field of agencies new knowledge skills and insights are developed and stretched, therefore views, theses and ideas are tested. The *lack of space* as Latour describes it, is caused by the “confusion of space with paper” (2009, 141). Manipulations on paper or screens and the respective graphics are thought to be translatable to material things. But here the inscribing devices (e.g. measurement instruments, lasers, computers, printers etc.) are just small parts within the spheres and networks. Relational thinking and specific localisation while taking the hybridity, complexity and agency of the inscription devices into account correlates with Haraway’s and Barad’s promotion of a critical consciousness through diffraction.

On interpretation and inference

The following part of the paper is about the practice of sense making - *inferring*. In *Grasping Reality: An Interpretation-Realistic Epistemology* Lenk is developing an action- and interpretation-oriented, epistemological approach “stimulated by a modernised version of the Kantian epistemology” by linking realism and constructivism (2003, ix). He is wondering if “the circumstances governing the understanding and devising of quantum experiments turn out to be rather the general case characterising to some degree all the ways of capturing and grasping, knowing and manipulating *realities*?” (Lenk 2003, vi). His approach centres on the concept of *grasping* and again an author is emphasising the twofold active and passive connotations of a term: “We actively *grasp* a thing or an abstract object(ive); or we rather passively *grasp* the latter’s content, reference, or meaning” (ibid.). This duality or concept of double meaning represents a characteristic trait of knowledge and actions. According to Lenk’s elaboration, both are structured, therefore schematic or schematised. “We have indeed

no absolutely description-free, language-free and interpretation-free access to reality as such to test the adequacy of descriptions and statements of truth with respect to different approaches by referring to an independent method not availing itself of any theory, language etc. i.e. of schematisation and interpretation of whatever sorts” (Lenk 2003, 93). Constructs and accepted rules play a fundamental role in descriptions, language and interpretations. Being interested in the process of diffraction, therefore the creation of interferences within structures, constructs, rules and conventions, the concept of schematised forms of representation stands out in this approach as potential material or organised pattern, which can be bent, diffracted and interfered with. Theories, constructions, conceptions, societal and cultural rules, norms and standards are schematised forms of representation and their active formation. Even natural phenomena and discoveries in nature ask for description and explanation in a scientific context, which is contingent on theoretical constructions. These dependencies emphasise the tension field of agencies to which I referred earlier. Lenk states in this regard: “Any view of reality depends on theoretical conceptions, which are involved in our basic scientific convictions or fundamental intuitions including the formation of concepts, axioms, formal and linguistic instruments” (ibid., 4). Lenk bases his approach of a *Systematic Scheme-Interpretationism* on the concept of schema within epistemology as developed by Kant in *Critique of Pure Reason*. Lenk explains that Kant developed the concept of *schema* as an operation of the sensual and conceptual forming and framing of sensory perception as well as the notional concretisation of the concepts of reason, which are *categories* in Kant’s terms. Cognitive psychology describes this concept of schemata as “imaginative” cognitive constructs and Lenk refers to Rumelhart’s “building blocks of cognition” (2003, 9). The process of inference can be described as a cognitive, mental stress test, therefore the negotiation and matching of configurations, constellations and organisation of new data and new perceptions with information from a memorised database. Lenk specifies this as an “active process of searching for and structuring information” (2003, 4). Processes of grasping, cognition and action are interpretations based on schemata. These operations are cognitive constructions.

Lenk develops in this theory six levels of interpretation and emphasises that these layers are not to be taken as absolute. They serve merely as an analytical framework of orientation and differentiation, therefore the notion of a grating or perforation plate in the diffraction process. Some of these levels are considered as stable or stylised whereas others are flexible: Level one are “primary interpretations” (2003, 12), which are biologically and genetically activated such as the human perception of differences in dark or light areas. These perceptions cannot be adjusted arbitrarily. Interpretations according to level two are “habitual, prelinguistic interpretations” (ibid.) where the perception of similitudes between shapes and colours and all *modus operandi* beyond reflex-actions take place. Lenk describes the remaining four levels with increasing flexibility and variability, where level three forms “conventional concepts” such as “symbols” (ibid.) communicated by social, cultural norms and traditions. The application of intentional and classifying evaluations like the operations of categorising and describing comprise level four. Understanding, justifying and explaining reasons constitute layer five while the sixth level is termed “the epistemological level of meta-interpretations of methods, results and instruments” (ibid.). This last layer is also the

reflective meta-level where interpretive constructs themselves are developed and analysed. The layers of schemata can be grasped as interference patterns as described before.

Lenk attempts to offer a methodological approach with the notion of rendered constructs bridging transdisciplinarily between theoretical projections in every day life and explicit theories in the sciences. The notion of interpretation allows in the concept of diffractive manipulations for an idea of flexibility of thought and sense making as well as an unfixed and multiple character of an interpretation itself. Discussing different *interpretations* of quantum theory the author is underlining the *rainbow* quality of entities. Similar to a rainbow, which is not an object but an occurrence, which can be recorded, photographed and visually perceived, quantum objects are the documentary results of measurements but not objects in a traditional sense. Both phenomena, rainbows and quantum objects, depend on the perspective and respective conditions; therefore both phenomena are relational, dependent matters. The term *interpretation* emphasises the active, mobile and versatile practice of bending and moving between and within a pattern, schemata, category and relation whereas the human being is one active participant in the process of rearranging and manipulating the kaleidoscopic becoming. Inference through interpretation is an active negotiation process by the constituting differentiation and reification of an observation and by interrelating different aspects of this observation within a respective context. In the words of Haraway: “A splitting of senses, a confusion of voice and sight, rather than clear and distinct ideas, becomes the metaphor for the ground of the rational” (1988, 590).

Conclusion

Art practice aims in these regards for an *elastification* of our mindsets, models and metaphors and can motivate relational, agile thinking and acting. Therefore art practice evokes a dynamic point of view in contrast to a static, classifying and delimiting perspective. In this context, art (if we still keep categories, disciplines and functions) has the capability to develop and provide new thought models and potential ways of sensing and seeing. Technology and artworks in these terms are tools and devices for further diffraction, manipulation and reading. This performative, kneading and negotiating practice takes place on several levels and areas. The scientist employs this practice in the experimental test setup while flexing and changing parameters of a phenomenon likewise the artist, experimenting, exploring and linking diverse areas.

The flexibility of perception and the shift towards an understanding of the relational and mutable contingent quality of our practices and constructed reality lies at the ground of artistic practice. Metaphorically, the stretching and contracting of the aspect ratio of streamed images, interfering with common ways of seeing while providing new meanings through the distortion or composition of images depending on the respective bandwidth, makes usage of

this space within interference patterns: The web based installation *Crank the Web* (2001) from Jonah Brucker-Cohen (Jonah Brucker-Cohen, Interactive Networked Projects) and the interactive installation *Khronos Projector* (2006) by Alvaro Cassinelli (Alvaro Cassinelli, Ishikawa Oku Laboratory) are explicit examples for these kind of pattern manipulation.

My own work is inspired by both projects. In the context of distortion and composition of visual information an application (working title: *Tense*) compresses or extends the visual content on common screen sized appliances (laptop, TV, smart phone) depending on external, unknown factors such as power consumption, water usage, weather conditions or sound level. At first view this application appears absurd and pointless while the elastic movements of the changing framing provoke the user or viewer to develop own interpretations caused by primarily ambiguous, visual deformations. The structural material of imagery is constituted by differences and we perceive a change in a schema or pattern, which we interpret as bendable, deformable and lively matter. The agency of previously insignificant or immobile things and relations becomes perceptible. The conventions of seeing and understanding are changed and influenced in a series of translation processes. The application of the diffractive tactic as a representational practice to remediated, expanded, networked imagery and objects is an investigation in the flexibility of systems and standards, and in the manipulation of the respective inscription devices, which pertain both content and form. The notion of diffraction shifts fixed congruencies and opens up a constructive trajectory, which demand divergent practices and encounters to translate the ideas into action.

Interference patterns point out the momentary, temporary quality of experience. These patterns can be discovered, created and experienced on several levels and layers. The transdisciplinarity of these patterns is therefore not only found horizontally across various fields and disciplines, but also vertically across various levels of engagement in the production, perception and interpretation of information. “What is needed is a diffraction apparatus to study these entanglements” (Barad 2007, 30). In this regard technology allows for interferences, which lead to inferences.

References:

Barad, Karen. 2007. *Meeting the universe halfway: quantum physics and the entanglement of matter*

and meaning. Durham: Duke University Press.

Brucker-Cohen, Jonah. 2001. Interactive Networked Projects. *Crank the Web*.

<http://www.coin-operated.com/>

Cassinelli, Alvaro. 2006. Ishikawa Oku Laboratory, Alvaro Cassinelli, *Khronos Projector*.

<http://www.k2.t.u-tokyo.ac.jp/members/alvaro/Khronos/>

Haraway, Donna. 1988. *Situated Knowledges : The Science Question in Feminism and the Privilege of*

Partial Perspective. In *Feminist Studies*, Vol. 14, No. 3 (Autumn, 1988), pp. 575-599

Haraway, Donna. 1997. *Modest_witness@second_millennium.FemaleMan[©]_meets_Onco Mouse TM:*

feminism and technoscience. London: Routledge.

Latour, Bruno & Woolgar, Stève. 1986. *Laboratory life. The social construction of scientific facts*.

Beverly Hills, California, London: Sage Publications

Latour, Bruno. 1991. *Technology is Society Made Durable*. In J. Law, (ed.), *A Sociology of Monsters*.

Essays on Power, Technology and Domination. London: Routledge.

Latour, Bruno. 2009. *Spheres and Networks: Two Ways to reinterpret Globalization*. In *Harvard Design*

Magazine 30 (Spring/Summer 2009), pp.138-144

Lenk, Hans. 2003. *Grasping Reality - An Interpretation-Realistic Epistemology*. Singapore: World

Scientific Publishing.

BIOGRAPHICAL NOTE

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Merge/Multiplex

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ABSTRACT

The tradition of modern and contemporary art seems to be characterised by an endless pushing back of the boundaries separating art and everyday life, art and the sphere of the social. This is typically interpreted in terms of a work of merging and blurring – an effort of interference that affects dimensions of both art and life. This paper suggests an alternative conception. Drawing upon the metaphor of electronic multiplexing, it argues that, while never simply absolutely distant from one another, art and the sphere of lived relations and social interaction are closely interleaved and yet retain a sense of distinct, differentiated identity. The energy of their relation, their potential to suggest new relations, depends upon an interplay of heterogeneous and always contingently determinable component signals.

KEYWORDS

everyday, socially engaged art, interference, multiplexing

INTRODUCTION

This paper addresses the issue of interference in another context. Not in terms of the spectre of a machinic economy of the image, in which visibility precisely is put at risk, but in terms of the aesthetic identity of socially engaged art. I am thinking of interference specifically as a form of blurring – the apparent obfuscation of identity. There is the conventional sense, for instance, in which contemporary socially engaged art blurs the lines both between art and ordinary social life and between art and other disciplines (ethnography, social work, etc.). Despite this specific focus, I am hoping that the issues I raise have more general implications, addressing not only the limits of art but also the limits of strategies of interference. Towards the end of this paper, my aim is to propose an alternative to the blurring of boundaries, to suggest the possibility of another way of drawing into relation multiple signals – not interference, but multiplexing. Multiplexing involves the spatial or temporal interleaving of multiple signals within an overall signal. The signals are combined but maintain their distinct identities and can at any time be separated into their component parts. This provides a means of conceiving socially engaged art practice differently, less necessarily as a site of aesthetic ambiguity than as one of unexpected clarification. Indeed these tendencies are not so easily opposed.

Everyday Practice

The title of a recent book on socially engaged art practice, “Living as Form” (Thompson 2012), suggests a contemporary transition beyond ordinary artistic means and ordinary

contexts of art. Life itself now takes shape as a form of artistic practice. Of course the danger here, in this specific context of blurring and interference, is the one-sidedness of the relation. Rather than equitably merging, life appears to be sublated within art. The title suggests a very conventional Hegelian framework in which art discovers a relation to its other, consumes its other and renders the other in its own terms. This issue of which of the two dissolves into the other, or how precisely they can find means to collapse together in a non-subsuming manner, is always fraught and never easy to resolve. Of course this title and the modes of social engaged art that concern it link to a very long tradition of utopian avant-garde practice that aims to disrupt the boundaries between art and everyday life and to foster new contexts for engaged living.

In his *Theory of the Avant-Garde*, for instance, Peter Burger argues,

The European avant-garde movements can be defined as an attack on the status of art in bourgeois society. What is negated is not an earlier form of art (a style) but art as an institution that is unassociated with the life of men. (Burger 1984, 49)

We can find all sorts of evidence for this in the manifestos of the early 20th century avant-garde, from the Italian Futurist, Umberto Boccioni's, call for a "[l]iving art" that "draws its life from the surrounding environment" (Danchev 2011, 11) to the Russian Constructivists, Naum Gabo and Anton Pevzner's, insistence that "[a]rt should attend us everywhere that life flows and acts...at the bench, at the table, at work, at rest, at play" (Danchev 2011, 193). It is evident, as well, in French Surrealist, Andre Breton's, summoning of an "absolute reality, a surreality" (Danchev 2011, 247), in which dreaming and living are combined, and in Romanian and French Dadaist, Tristan Tzara's, proclamation, "Freedom: DADA DADA DADA, a roaring of tense colours, and interlacing of opposites and of all contradictions, grotesques, inconsistencies: LIFE" (Danchev 2011, 144). For my purposes, the interesting thing about these early examples is that they suggest less a seamless merging of art and life than an abrasive, energising interrelation. They acknowledge that life has its own richness and poetry. The relation, in other words, is not unequal, is not predicated on an assumed division between a dynamic, healing sphere of aesthetics and a moribund sphere of ordinary life. On the contrary, if anything, art risks its notional and disabling integrity to engage with a dynamism that exceeds and attracts it.

Later, of course, things appear a bit different as the initial integration of art and everyday life fails and, more generally, as the experience of vibrant industrial modernity passes into the experience of commodity capitalism. Theodor Adorno famously cautions against conflating art and dimensions of direct social existence, arguing that "art becomes social by its opposition to society, and it occupies this position only as autonomous art" (Adorno 1997, 296). Art, in his view, necessarily inhabits a contradictory space – it withdraws in order to engage. Any effort to reconcile the distinction between art and life would only serve to obscure the genuine bases of antagonism, the genuine forces that make reconciliation impossible:

By emphatically separating themselves from the empirical world, their other, they [art works] bear witness that the world itself should be other than it is; they are the unconscious schemata of that world's transformation. (Adorno 1997, 233)

But this hardly puts a stop to efforts at aesthetic intervention. In the wake of Henri Lefebvre's foregrounding of the sphere of everyday life, in which he portrays a profoundly elusive and

ambiguous layer of experience, which figures as both a site of alienation (shaped by the spectre of consumption) and as a site of utopian potential (a realm of interference, in which the schemata of capitalist relations come unstuck as they are played out, as they are lived) (Lefebvre 1961, Sherringham 2006), Guy Debord emphasises the need for strategic intervention in the everyday. He begins by acknowledging its central importance, “Everyday life is the measure of all things: of the (non)fulfillment of human relations; of the use of lived time; of artistic experimentation; and of revolutionary politics” (Debord 2006, 92), but moves on to argue that, as a sphere of “separation and spectacle”, everyday life lacks adequate means on its own to serve as a genuine site of resistance. There is a need for conscious, radical, critical agents to intervene within the everyday and transform it. The urgent task is to “replace the present ghetto with a constantly moving frontier; to work ceaselessly toward the organization of new chances” (Debord 2006, 95). While initially this was conceived in terms of artistic strategies of unitary urbanism, *detournement* and *derive*, the Situationists are famous for shifting beyond aesthetic intervention, for refashioning their critique and their modes of resistance in more explicitly political terms. Their work engages a tension between their commitment to pass away from the language of spectacle (whether cast in aesthetic, political or consumerist terms) into the realm of direct action and their awareness that every situation, every effort at subversion, is inevitably subject to recuperation (becomes an image, becomes distanced from its immediate, vital social energy). In this sense, despite serving as a continuing model for currents of activist art, the spectacle of the Situationist International disrupts any neat sense of subversive artistic agency. Art and agency are awkwardly configured, even opposed.

The 'activities' of Allan Kaprow, which involve the re-performance of everyday actions (brushing teeth, etc.) in an attentive, engaged manner, may seem very distant from Debord's more politically charged conception of the 'situation', yet they share a common assumption that the everyday requires active intervention, that it dissolves into habit and routine if left to its own devices. Although apparently emblematic of a concern to merge art and everyday life, his activities establish a tense and uncertain relation between the two. He describes his activities as having a paradoxical relation to art. They are performed, he argues, without any particular thought of art at all: “I could, of course, have said to myself, ‘Now I’m making art!!’ But in actual practice, I didn’t think much about it” (Kaprow 1986). What is it then that links the notion of the activity to art? Kaprow acknowledges its logical position in the tradition of historical avant-garde resistance to the field of autonomous art (“developments within modernism itself led to art’s dissolution into its life sources” (Kaprow 1986)). In this fashion, his non-art activities have a kind of inevitable relevance to art – they bear the imprint of art’s own motion of self-critique. Yet there seems to be more to it than just this. The very act of re-performing the everyday has very evident aesthetic implications. It involves a work of making strange, of fostering heightened perceptual awareness. It follows a legibly conventional avant-garde critical model: life, the experience of life, has become empty and routinised; there is a vital need to renew it from within, to discover means to lead it to fully engaged reflective apperception. In short, the aim is to re-animate life, but this can only occur through a strategic withdrawal – if not via the traditional means of drawing, painting and sculpture then through the insertion of the slightest layer of difference within the texture of ordinary activities; the sense of re-performance rather than the blindness of action as such. Despite Kaprow’s resistance to the field of art-objects, to the autonomy of images, he describes this layer of difference precisely in terms of the language of images:

This was an eye-opener to my privacy and to my humanity. An unremarkable picture of myself was beginning to surface, and [sic] image I’d created but never examined. It

colored the images I made of the world and influenced how I dealt with my images of others. I saw this little by little. (Kaprow 1986)

The metaphors are all of images. They all relate to a coming to visibility, as well as a shift away from the specific to the general. Kaprow recognises this. He catches himself slipping into the terrain of the aesthetic, so insists on bringing things back to the specific aesthetically alienated field of the activity itself:

But if this wider domain of resonance, spreading from the mere process of brushing my teeth, seems too far from its starting point, I should say immediately that it never left the bathroom. (Kaprow 1986)

Overall, Kaprow struggles to position his activities beyond the frame of art, or just across its exterior threshold, but it could be argued that this alternation, this shift back and forth between interior and exterior, image and non-image, experience and reflective apperception, specificity and generality is the very motion of the aesthetic itself.

I lack the scope in this short essay to trace this history of ambivalent relation between art and everyday life, art and social action, convincingly through currents of conceptual, post-object, feminist, community and relational art to contemporary social engaged art and so-called social practice (the latter abandoning the mention of art altogether), but many of the main thematic contours are in place. It is worth mentioning, however, that different, less grand, conceptions of resistance have emerged. Apart from Nicolas Bourriaud's (2002) social models and micro-utopias, there is also Jacques Ranciere's notion of an aesthetically grounded politics of "*dissensus*", involving conflicts "between two regimes of sense, two sensory worlds" (Ranciere 2006, 56), which inevitably suspends dimensions of cause and effect, which, in a manner not altogether dissimilar to Adorno, brackets any simple, unmediated relation between art and the social. Also worth mentioning the efforts by critics such as Grant Kester (2004) and Ben Highmore (2011) to reconceptualise the aesthetic, not as a terrain of separation and distance, but as fundamentally founded in the sphere of everyday experience and dialogic interaction. Finally, and most saliently for my purposes, is the Austrian philosopher, Gerald Raunig's, Deleuzian and Guattarian conception of the transversal relation between art and political activism; "[c]ontrary to models of totally diffusing and confusing art and life", Raunig "investigates other practices [...] in which transitions, overlaps and concatenations of art and revolution become possible for a limited time, but without synthesis and identification" (Raunig 2007, 17-18). However, rather than pursuing these various debates in depth, it may be more useful to consider two contemporary examples of socially engaged art which demonstrate, as Claire Bishop suggests, that "art and the social are not to be reconciled or collapsed, but sustained in continual tension" (Bishop 2012, 40-41).

Game Over

In March 2011 the Belgian-Mexican artist, Francis Alys, produced a short video entitled *Game Over* (Alys 2011). It documents the process of the artist crashing an old VW beetle into a tree at the botanical gardens in Culiacan, Mexico, then getting out of the car and walking off. This is followed by a brief inter-title explanation and a concluding statement, "Nature will do the rest."

The botanic gardens commissioned Alys to produce the work, which he conceived as a kind of road movie, in which he'd drive his car the entire way up to Culiacan only to crash it into a tree. He initially pitched it in terms of its capacity to establish "empathy between nature and culture": "[t]he plan was for the car to remain in the site and devolve into a sort of giant flowerpot for the garden's flora and fauna, becoming integrated with the local ecosystem" (Faesler 2011).

However, the absurdity and violence of the act clearly lends it wider implications. The town of Culiacan and Sinaloa state generally are notorious for drug-related crime. But even more than acknowledging this violent social background, the work emerges as a reflection on the dilemmas of socially engaged art. As he is driving intently towards the "wretched tree", Alys describes a sudden moment of realisation: "[i]t was as if I'd been punched in the chest by the absurdity and tragedy of this art mission in this lost town of Sinaloa. I don't know; a lot came to my mind . . ." (Faesler 2011). The work pointedly confronts an awkward and unresolved problem. It acknowledges that fond dreams of art-driven, ecologically inflected, social amelioration fail to adequately speak to the complex and intractable local situation. It interferes then by suspending interference, by representing it instead as a moment of bathos and indirection. In this manner *Game Over* takes shape as a charged crystallisation of the contradictory forces which shape it.

In its relatively discreet insertion into the more general tissue of social events, *Game Over* also corresponds to my notion of multiplexing. Rather than confronting the social field directly, the work is interleaved within it, yet without abandoning its sense of separate, forlorn and impertinent identity.

Shelter for Drug-Addicted Women

The work of Austrian art collective, *WochenKlausur*, appears very different. The group produce tactical activist work that aims to intervene within society and improve it. They have an unashamedly instrumental orientation, employing art as a means of achieving what they regard as socially useful ends. *Shelter for Drug-Addicted Women* (*WochenKlausur* nd (a)), one of their early works, was produced in 1994 in Zurich, Switzerland. As the title indicates, the work involved setting up a day-time shelter for Zurich's drug-addicted and typically homeless prostitutes. The role of *WochenKlausur* was to act as an innovative social catalyst. They arranged a series of meetings in boats on Lake Zurich, in which politicians, journalists, legal and medical professionals came together to consider possible solutions. In short, *WochenKlausur*, produced a novel context for social policy dialogue that led to the development of an appropriate solution – the establishment of a women's shelter.

This would seem a clear example of a work in which the limits of art have become ambiguous, in which art has effectively merged into ordinary political activism. Yet the issue is not as straightforward as it seems. I would argue instead that *WochenKlausur* have discovered a very specific niche for intervening within society. They speak very clearly of taking advantage of the cultural prestige of art and its peculiar freedom to accomplish practical tasks (*WochenKlausur* nd (b)). So at the very same time that they are subverting the autonomy of art, they draw upon that autonomy for instrumental purposes. In this manner, they effectively play a trick on both art and society. This dimension of trickery, of employing all available means, whether in terms of adhering to the institutional demands of institutional art, publicising their actions in the media, manipulating local officials or conspiring with community groups, suggests a very different notion of interference. Not the interference of a

pure and exterior form of artistic resistance, but the complicit, embedded interference of a tactically positioned cultural actor. Rather than fundamentally blurring the relation between art and the social, *WochenKlausur* suggest a new social identity for art and a new play of integration and distance. The gap between art and non-art is at once both exploited and rendered less pertinent. The important features now are skills, goals, tactical advantage and institutional authority. Within this context it is more important to pay attention to the multiple streams of differentiated social signals, to recognise their endless multiplexing and demultiplexing, than to describe merging, blurring and ambiguity per se.

CONCLUSION

This paper has suggested that throughout the history of avant-garde art practice and even within the context of contemporary transdisciplinary and socially-instrumental art projects there is still a gap evident between the art signal and the signal flow of the social as such. It is not that art lies beyond the social – that it supervenes and intervenes from without – but rather that it preserves dimensions of distinct identity within an overall, complex and multiply stranded field. Socially engaged art works more to stage its own dissolution than to literally enact it. It obtains its critical force precisely in terms of the limit play it opens up between artistically marked social actions and social actions generally. Multiplexing indicates not only an alternative way of conceiving the relation between art and the social, emphasising dimensions of interleaving and distinct identity, but also a specific artistic strategy that shifts away from notions of interference - whether conceived in terms of blurring or in terms of some capacity for integral subversion – envisaging, instead, a more discreet and cunning etiquette of attachment and separation, correspondence and sidelong glances.

REFERENCES

Adorno, Theodor. 1997. *Aesthetic Theory* (trans. Robert Hullot-Kentor). London and New York: Continuum. Originally published in 1970.

Alys, Francis. 2011. “*Game Over*”. Accessed 17th June 2012.
<http://www.francisalys.com/public/gameover.html>.

Bishop, Claire. 2012. “Participation and Spectacle: Where are We Now?”. In *Living as Form: Socially Engaged Art from 1991-2011*, edited by Nato Thompson. New York: Creative Time Books. Cambridge Massachusetts and London England: MIT Press.

Bourriaud, Nicolas. 2002. *Relational Aesthetics*, Paris: *Les Presses Du Reel*.

Burger, Peter. 1984. *Theory of the Avant-Garde* (trans. Michael Shaw). Minneapolis: University of Minnesota Press.

Danchev, Alex, editor. 2011 *100 Artists' Manifestos: From the Futurists to the Stuckists*. Great Britain: Penguin Modern Classics.

Debord, Guy. 1995. "Perspectives for Conscious Changes in Everyday Life". In Ken Knabb, trans. *Situationist International Anthology*. Berkeley California: Bureau of Public Secrets. 90-99. Article originally published in 1961.

Faesler, Carla. 2011. "Francis Alys". *BOMB* 116/Summer. Accessed 17th June 2012
<http://bombsite.com/issues/116/articles/5109>.

Highmore, Ben. 2011. *Ordinary Lives: Studies in the Everyday*. Oxfordshire and New York: Routledge.

Kaprow, Allan. 1986. "Art Which Can't Be Art". Accessed 17th June 2012.
danm.ucsc.edu/~dustin/library/ArtWhichCantBeArt-Kaprow.pdf

Kester, Grant. 2004. *Conversation Pieces: Community + Communication in Modern Art*. Berkeley: University of California Press.

Lefebvre, Henri. 2002. *Critique of Everyday Life* (vol.2). New York and London: Verso.

Ranciere, Jacques. 2009. *The Emancipated Spectator*. London and New York: Verso Books.

Raunig Gerald. 2007. *Art and Revolution: Transversal Activism in the Long Twentieth Century*. Los Angeles: Semiotext(e)

Sherringham, Michael. 2006. *Everyday Life: Theories and Practices from Surrealism to the Present*. Oxford: Oxford University Press.

Thompson, Nato, editor. 2012. *Living as Form: Socially Engaged Art from 1991-2011*. New York : Creative Time Books, Cambridge Massachusetts and London England: MIT Press.

WochenKlausur. nd (a). "Shelter for Drug-Addicted Women". Accessed 17th June 2012.
<http://www.wochenklausur.at/projekt.php?lang=en&id=4>.

WochenKlausur. nd (b). "Why must a sociopolitical intervention be art? Can it not simply remain what it is?". Accessed 17th June 2012

http://www.wochenklausur.at/faq_detail.php?lang=en&id=17.

BIOGRAPHICAL NOTES

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Corpse-Bride

Edward Colless

Corpses are not simply dead bodies. Corpses are problematic, reticent, and obstinate. The corpse may epitomize the entropic processes of self-digestion or autolysis, bloated decomposition and putrefaction in the steady, fateful slide into dank manure, slime and sewage; but the corpse also is paradoxically a ghastly icon of arrested rigor and ceremonial rigidity. As the problematic “stiff” in crime stories, the corpse has a colloquial phallic exhibitionism and obduracy, associated with awkward practical problems of disposal and with concealing guilt. And, of course, “stiffs” keep popping back up in these stories with the discomforting if not horrifying homecoming of a disavowed secret: floating to the surface in a black lake, exposed by accident in the boot of a car in transit, roused from a fetid tomb or clawing their way from an unholy grave. And sometimes, too, with blackly comic impropriety. Hitchcock’s 1955 movie *The Trouble with Harry* plays wry sport with the embarrassing persistence of the guilty secret embodied in the well-dressed and forever immaculately neat male corpse lying in a meadow, whose death every member of the nearby tiny New England community separately believe they must have somehow caused, and whose corpse each person furtively drags from view in repeatedly failed attempts to cover up their complicity. The corpse in Ted Kotcheff’s *Weekend at Bernie’s* (1989) has a similarly stubborn and unspoiled conspicuousness. Bernie is the unscrupulous head of a corporation who has been murdered by a Mafia colleague at his beach house retreat. Two young innocent employees who have arrived for a weekend party at Bernie’s witness the crime, and must keep the pretence of Bernie being alive in order to escape death themselves. Bernie’s corpse is handled like a puppet, much to the maddening bewilderment of the hit-man who, despite repeated efforts, cannot put Bernie down.

Why insist on the implacable designation of “corpse” for the protagonist in this sort of *danse macabre* rather than the more supple and chic term “body”? It’s not pedantry. The corpse is a residual indecency of life that remains paradoxically *unincorporated*; that’s to say, resistant to embodiment even as decay. A corpse is the atrocity, or perhaps the expletive of a body: the “curse” that diverts an oath from a pledge into a swearword, but it’s also something that ludicrously or offensively sticks out of the form of the body. Stiff with erotic concentration but without the motivating surge of tumescence, the corpse stands spastically and forever at attention as a zombie soldier guarding a memorial flame of animate life or vitality, and attending this memorial in a hideous formal pantomime or pageant of the death it commemorates. Or, in another scenario, the corpse is the cadaverous “lich” sustained by a curse, like the damned sailors of the legendary Flying Dutchman or Hector Barbossa’s skeletal crew on the Black Pearl in *Pirates of the Caribbean: At World’s End* (2007). Mummified or desiccated in a golden reliquary and in rotting lace or linen, the corpse is an enduring and magical artefact fabricated and maintained by a priestly caste or cult; an article

so potent it must be locked away in secret; unseen, but guarded by spells and repeated rituals for the eternity it survives. Corpses are exquisitely blighted by an exclusion from both life and death. In the current popular jargon of vampiric and zombie fantasy, we would call this exclusion the protocol of the undead. Yet, as we intuitively acknowledge, corpses—certainly those farcical mannequins like Harry and Bernie—are worse than undead, more pathetic, less romantic. In comparison with any kind of corpse however, bodies are infinitely more flexible and inclusive, informal and mobile. They come and they go without ceremony.

Corpses may seem to be a subcategory of bodies; but where the corpse is a grotesque mockery, black magical ornament or irony of lifelessness, the body is anything and everything that is opposed to this specific state of the corpse. This is nominally so, because a “body” can name structures of living as well as dead flesh, while also designating any extensive ensemble of things concrete (organic or inorganic) or abstractions becoming material or tangible. Embodiment involves incorporation: the constitutive formation of complex but unified substance. Compellingly, as a property of substances, “body” always implies a volume if not fullness, a strength if not intensiveness, and weight if not ripeness...even in its morbid connotations. A body of water, a body of work, a body of evidence, even the bodies of plague victims piled in a cart: these have an agency and animation that the corpse—as the *cul-de-sac* of the *corpus* (which in its ancient and modern senses is a mass and massing together of working material, the stuffing of form)—no longer possesses. The Latin locution that the Vulgate Gospel of John renders for the dying Christ could be the nihilist slogan for all corpses: “*Consummatum est*”, it is finished, my work is done.⁷⁰ But this has to be understood, however, not with the triumphal signification of Biblical concordances that identify this finish as consummation (fulfilment of passion), nor as consummate utterance (perfect in its fidelity to prophesies of the messianic mission).⁷¹ Instead, we would treat the *Corpus Christi* as a black magic of the corpse, and the miraculous transubstantiation of the sacrificial body as an interference with death comparable to the putridly voracious, hellishly unfulfilled, unresurrected zombie. The paradoxical reticence of the corpse’s “consummation” is an exquisite diabolical spell.

Bodies on the other hand are loquacious, even garrulous. They can be vivaciously original, sporting customized and unique aesthetic adornments and modifications, or can be subsumed in anonymous victimization or mass conformity. They can be tossed like debris within the

⁷⁰ *Gospel of John*, chapter 19, verse 30. The full verse is *cum ergo accepisset Iesus acetum dixit consummatum est et inclinato capite tradidit spiritum* (The King James Version translates as: “When Jesus therefore had received the vinegar [sour wine], he said, It is finished: and he bowed his head and gave up the ghost.” The Revised Standard Version translates the last clause as “gave up his spirit”.) The phrase *consummatum est* is derived from the Greek original, *tetelstai* which invokes a stock term used in the completion of an economic, or financial, transaction equivalent to “paid in full”, and which would in the gospel text would refer to a blood debt having been accounted for.

⁷¹ The Vulgate Gospel indicates the genealogy of the prophesied sacrifice in chapter 19, verse 28: *postea sciens Iesus quia iam omnia consummata sunt ut consummaretur scriptura dicit sitio* (“Afterwards, Jesus knowing that all things were accomplished, that the scripture might be fulfilled, said: I thirst.” KJV.)

fury of a tsunami; flow in ecstatic rage through streets or stadiums as inspired torrents; submit to masochistic objectification on grandly militaristic and on intimately tender scales of behaviour; they can entwine in rawness, hunger, affection and compassion with seeping volatility or with taut density and severity. Whatever they get to up or submit to, suffer from or are suffused with, however they may be interned or interred, bodies are garrulous, mutable and performative in ways that corpses are not. This is dramatically demonstrated in the ascendancy of performance art through the second half of the twentieth-century, comfortably aligned with the emergence of the philosophical discipline of biopolitics and also strikingly coincident with the critical and pedagogical eclipse of the genre of the nude. By the mid-1970s the nude and the life classes that trained artists in this genre were politically noxious art historical relics, eclipsed by the bodily acting out of desires, sexual and gender identities, appetites, regressions, transgressions, perversions, sensualities, dietary or exercise regimes, therapeutics, and so forth. By the turn of the millennium, the polymorphous, polysexual, performative and performance-enhanced body had become the commodified core of lifestyle marketing as well as of the cultural studies industry.

It doesn't seem that surprising to encounter the hordes of the undead clamouring for enfranchisement within the liberal social and cultural policy that admits, emancipates or empowers this superabundant morphology and mutability and traffic of bodies. But the corpse doesn't quite meet any criteria for citizenship in a republic of bodies. Ironically, bodies are bound to their prolix properties. They multiply, proliferate and configure populations, demographic clusters, species and genera. Even in death their numbers accrue. In comparison, to this voluble if multifarious kinship of bodies, the corpse is an abhorrently exotic object, unassimilable, wretchedly hermetic. One might even go so far to say that the corpse could be the enemy of the body. Its worst enemy. And it may be time to shut the body up by confronting it with its corpse. But if there is anything timely about putting a case for the corpse against the cultural cornucopia of bodies, it could be in the terms of this conference through which we might regard the image of the corpse as an interference with the effusive cultural studies of the body. This manoeuvre requires thinking of the corpse as an object that is "un-embodied". Yet this term is not as daunting, or as nonsensical as it might at first sound.

Such a weird, unembodied, object appears in Byzantine theology and aesthetics and is known to us by a now obscure Greek term as an *acheiropoieton*. This translates as "not made by hand", but its more beguiling meaning is literally "unmanufactured".⁷² *Acheiropoieta* were

⁷² The miraculous authority of *acheiropoieta* may have an analogy if not source in material practices such as the use of clay seals for authenticity of imperial proclamations and legal testimonials, or cast images in imperial coinage, as well as the indelible pattern left in dyed cloth after it has been washed. See Trilling, James, "The Image Not Made by Hands and the Byzantine Way of Seeing", in Kessler, Herbert L. And Gerhard Wolf, eds. *The Holy Face and the Paradox of Representation* (Bologna: Nuova Alfa Editoriale, 1998). A startling extrapolation of the dyed image is the suggestion that the *acheiropoieton* known as Veronica's veil or the *mandylion*, bearing the face of Christ during the Passion, is associated with menstruation, identifying the Christian blood debt and

allegedly miraculous, indexical images of divinity, the most famous of these today being the Shroud of Turin: an alleged monoprnt left on the funereal shroud of Jesus Christ, stained not by his corpse's blood loss nor by bodily secretions associated with putrescence of the cadaver (which would of course be a blasphemous explanation, since the corpse of Christ did not decompose), but deposited like a photographic print through the action of a divine, immaterial radiance. It's still postulated by stubborn apologists for the authenticity of the Shroud that rather than being a hoax produced with a fabric dye, the image may have been created by a mode of primitive camera-less photography, somewhere between a Rayogram and a Roentgen ray or X-ray. But there is a further point here that makes even this attempted explanation falter, and yet which shifts the theological doctrine into occult speculation. The theology of an *acheiropoieton* such as the Turin Shroud not only demands that the image cannot be made by hand (by human labour) but also it cannot be made by nature.⁷³ It cannot be a natural wonder, for instance, since a meteor shower isn't really an image other than when it is illustrated by hand; and it cannot be a wondrous sign, which can be accounted for as a natural phenomenon such as a burning bush through which a god presents itself. Hence the quasi-photographic technical explanation of the Shroud ends up attempting to be a secular and rather banal demystification or disenchantment of the occulted sign of the *acheiropoieton*; banal, because what accords the *acheiropoieton* with its weird semiology as well as weird ontology is that it must be an un-made object, and an un-embodied portrait.

Let us treat the *acheiropoieton* as an artefact of media archaeology; granting that it is a provocation to speculate on what the medium of a "miraculous" image might be and, further, that such an image—if we can call it that—would be an occulting of aesthetics and thus our media archaeology is a consciously fabricated cypto-archaeology.⁷⁴ Let us take this back to the complaint against the effusive performativity of the recent aesthetics of the body with a contrast to the aesthetics of the corpse. To do so, we should be just as anachronistic as considering the *acheiropoieton* as a media artefact. The *acheiropoieton* belongs with

sacrifice with the *mandil* as a menstrual towel. See Kuryluk, Ewa, *Veronica and Her Cloth: History, Symbolism, and structure of a "True" Image*, (Cambridge, Mass. and Oxford, UK: Basil Blackwell, 1991). And in comparison see Cameron, Avril, "The Mandylion and Byzantine Iconoclasm", and Kessler, Herbert L., "Configuring the Invisible by Copying the Holy Face", both in Kessler and Wolf, 1998; and Hamburger, Jeffrey, "Vision and the Veronica", *The Visual and the Visionary* (New York: Zone Books, 1998). On the signification of the untouched and the impure touch in manufacturing the image, see Mondzain, Marie José, "The Holy Shroud: How Invisible Hands Weave the Undecideable", in Latour, Bruno and Peter Weibel (eds.), *Iconoclasm: Beyond the Image Wars in Science, Religion, and Art* (Karlsruhe, Germany: ZKM and Cambridge, Mass: Massachusetts Institute of Technology, 2002).

⁷³ Archeological and forensic assessments of the Turin Shroud are detailed in Cormack, Robin, *Painting the Soul: Icons, Death Masks and Shrouds* (London: Reaktion Books, 1997), pp. 89 – 132. On the centuries-long debates, generally called the iconoclastic controversy, over the possible iconolatry or idolatry of *acheiropoieta* in Byzantine theology and aesthetics, see Freedberg, David, *The Power of Images* (Chicago and London: University of Chicago Press, 1989), pp. 392 – 399, and Barasch, Moshe, *Icon: Studies in the History of an Idea* (New York and London: New York University Press, 1992).

⁷⁴ My own contribution to this field was presented at the first Transdisciplinary Imaging Conference, held in Sydney at Artspace, 5-6 November, 2010; subsequently published in the proceedings as "Iconicity: the medium of miraculous images", in Baker, Su, Melanie Oliver and Paul Thomas, eds. *New Imaging: Transdisciplinary strategies for art beyond the new media* [special issue *Column 7*] (Sydney: Artspace, 2011), pp. 66 –75.

supernatural phenomena that were categorized as *eidola*, which were not generally “images” as the Greek is casually translated, but particular types of images that could be called “double images” or spectres. In the Homeric idiom of pre-classical semiology, there are three cases of supernatural images like this: firstly, the phantom image (or *phasma*) which is a ghostly simulacrum created by a god in the semblance of a living person and which you encounter when you are fully awake (epiphanies or encounters with gods could fit this bill); secondly there is the dream image (*oneiros*), which is the apparition of a real being, perceived when you are unconscious, and sent by the gods as messenger or companion or tormentor (and which could, at a stretch, fit into Freudian and Surrealist topographies); and lastly, and most intriguing, the soul (*psuche*), which is the phantom of the dead—and which has the appearance of the living being but does not have its essential property: life. *Psuche* is the contradictory state of Being-without-essence, in other words of un-being rather than nothingness or non-being; and thus as un-being *psuche* is not a dissimulation or concealment of life but a dissimulation (or perhaps simulacrum) of nothingness.⁷⁵ We might say that, as with divinity mediated through the *acheiropoieton*, *psuche* is not non-existent so much as “in-existent”. And, again comparable to the *acheiropoieton*, *psuche* is an image only insofar as it is a stain or blot that occludes the image of life. Inasmuch as un-being is an unidentifiable macula or blot rather than a hole or absence, we could say, that the corpse is a body seen against the transit of *psuche*. *Sic transit*.⁷⁶

Obviously, in the Homeric world, *psuche* is not the soul as the animating life-force nor is it cause of the vitality of an organism (associated, for instance, with *pneuma*), such as it appears later in Aristotelian empiricism, and where it becomes a principle of generation or composition, of change, and also of decomposition or compost; and where it is necessary for a being to decay as much as grow in order to be of its own essence. Nor, evidently, is *psuche* in this archaic sense the flourish of an intelligibility of essence: of Being as the possession of an inalienable identity.⁷⁷ In the legends that are canonized through the Homeric stories, a living being does not possess a *psuche*; once dead they become a *psuche*. However, this “becoming-*psuche*” is not a process of living but the advent of un-being and of life being undone, other than itself. Thus the Homeric, archaic *psuche* is neither an index to nor a potentiality of life since it plays no role in life and has no relevant relation to it, other than that it is identifiable in its rotting double, the corpse. *Psuche* is outside this corpse as an un-being, yet identified with it in the way that in a morgue a witness is asked to identify a dead body: duplicitously invoking the verb “to be”: yes, this *is* so-and-so, but only if one adds it *is*

⁷⁵ On the distinctions between these three modes of supernatural imaging, see Vernant, Jean-Pierre, ‘*Psuche: Simulacrum of the Body or Image of the Divine*’, *Mortals and Immortals*, trans. Froma I. Zeitlin, Princeton University Press, Princeton, 1991.

⁷⁶ *Sic transit gloria mundi* (“Thus passes worldly glory”) is, of course, the keystone to funereal homilies and valediction as well as having a ceremonial utterance in papal coronations, and is likely derived from Thomas à Kempis’s *Imitation of Christ* (1418): *O quam cito transit gloria mundi*. My truncation of the phrase isolates the inevitability of the unpredicated passing as a crossing, obscuring or eclipse rather than a passing away or loss.

⁷⁷ For a new interpretation of Aristotle’s *psuche* as the entelechy or realization of essence of a body that “serves as its instrument”, see Bos, A.P., *The Soul and its Instrumental Body: A Reinterpretation of Aristotle’s Philosophy of Living Nature* (Leiden: Brill, 2003).

no longer them as well. What *is no longer* is not pictured as a divorcing of life and body but as a wedding of body and corpse, an alchemical wedding in which the corpse is the blackening introduction of the bride. This compromised recognition of the corpse could not occur if *psuche* were an immortal entity; what we identify as the archaic un-being of a body—as *psuche*—is rather an un-mortal image of the corpse. *Psuche* is the image of a death in transit (not a life in transit, not life moving to another state of its being), and that transit is an interference of images by occultation: we might say that *psuche* is a black cloud, and might dub *psychic* images as “clouding”.

But we must quickly add that this psychic image is not in any way an affirmation of life-after-death, not an evanescence of the animate spirit, nor indeed of any spirituality at all. Outside but occulting that decaying and disappearing thing that it identifies, *psuche* is beside itself: it is the literal ecstasy of the corpse. I’ll borrow a phrase from Reza Negarestani—admittedly in a cavalier act, out of context—in his brilliant exposition of the mode of execution, mentioned in Virgil’s *Aeneid* among other ancient sources as a practice of the so-called barbarous and piratical Etruscans, dubbed “the corpse-bride” in which a putrefying, blackening corpse is tethered to the living victim in an intimate face-to-face embrace, if not in actual copulation.⁷⁸ The amorous, sexual embrace of the corpse and living body occasions an exquisitely horrific image, and which desecrates not only the transfiguring sanctity of marriage but also those spiritualizing aspirations of the alchemical wedding recited in hermetic science, in which a blackening of substance in the alembic precedes the revelation of the philosopher’s stone. Exploiting this desanctified miracle, I would describe the interference of the *psychic* black cloud (abducting the phrase from Negarestani) as “an epiphenomenon of necrophilic intimacy.”⁷⁹ More bizarrely, if more technically, this ecstatic position of the corpse-bride could be a cypto-archaeological media artefact: an image of *psychic* blackening, which could in turn be dubbed, casually adopting a term of diverse mathematical and philosophical currency, *a singularity*. The singular, in my white-dwarf and perverted contraction of this usage, is a situation of the subject subtracted from any particularities, or from particular knowledge of the subject. A singularity, suggests Alain Badiou, is a situation of the subject as an “upsurge” or advent, an exception, rather than a

⁷⁸ “...The Lydians,/Renowned in war, in the old days settled there/On the Etruscan ridges, and for years/The city flourished, till an arrogant king,/Mezentius, ruled it barbarously by force./How shall I tell of carnage beyond telling,/Beastly crimes this tyrant carried out?/Requite them, gods, on his own head and on/His children! He would even couple carcasses/with living bodies as a form of torture/ Hand to hand and face to face, he made them/Suffer corruption, oozing gore and slime/In that wretched embrace, and a slow death.” Virgil, *The Aeneid*, trans. Robert Fitzgerald (New York, London, Toronto: Alfred A. Knopf/Everyman’s Library, 1992), Book VIII, lines 644 – 656. The reference to this practice occurs in several lost sources from antiquity: such as the florid oratory of Quintus Hortensius Hortalus (1st century BCE), reported by Cicero in his lost dialogue *Hortensius*, and which St Augustine in turn reports on. Cicero also cites a reference to the corpse-bride in Aristotle as an analogy for the amalgam of body and soul; which in later Pauline language becomes the Christian soul shackled to the mortal flesh of the body.

⁷⁹ Negarestani, Reza, “The Corpse Bride: Thinking with *Nigredo*”, *Collapse IV: Concept Horror*, May 2008 (Urbanomics) pp. 134 – 135.

condition of being or of predicated meaning.⁸⁰ We might think of this grammatically rather than in the more difficult logical terms of Badiou's remarks, and say that in a sentence that has a subject and a predicate, such as "the cat sat on the mat", the singularity is the subject subtracted from its predicated knowledge (that it is "the cat *that* sat on the mat"). Singularity is an interference with the ontological intelligibility of the sentence. Paradoxical as it sounds, the singularity will be universal since it excludes anything particular about the cat, but this is not the eternal "essence" of *cat* we are talking about, not "catness" (since that essence can include the knowledge that "cats are beings that sit on mats"). Singularity (and here the term may have opportunistic coincidence with its use in astrophysics) involves not the revelation of essence but an exceptional disappearance or obscuring of it. The singularity is the exceptional situation of the cat without its particular identifications that would identify and would make it appear as a being. In other words, that render it as a un-being.

I would say the singularity of the subject—and consequently, the image of *psuche* as an ontological interference—is beautifully eventful in the Cheshire's cat's ecstatic grin from *Alice in Wonderland*; the grin which importunately and obscenely lingers beyond the disappearance of its predicate. The facetious obstinacy of this grin suggests the incomprehensible predatory un-being of the living dead who don't stay within their graves or memorials, or the ghostly persistence of an importunate property outside its body, as an afterimage with the aesthetic effrontery of a hallucination that haunts and horrifies. The Cheshire cat's smile is obscenely un-worldly. Partly this is because it is sinister—in the way all cats' expressions seem elusively, disdainfully, deceptively enigmatic (captured expertly in Tenniel's original illustrations of the first publication of *Alice in Wonderland*, but not in any many other versions, such as the Disney animations). And partly also this is because it is ominous. The Cheshire cat in *Wonderland* is an oracle: it tells the adventurer Alice, with mischievous unintelligibility, what will happen and which way to go; and this advice, in a world where one's size telescopes like a concertina, where one must run as fast as possible to stay in the same place, where at the Mad Hatter's table it is tea-time all the time, advice about which way to go is not so much less than useful but more than useless. In its ecstatic state, extended beyond and yet subtracted from its nature and its being, does the cat's grin belong to it any longer? Is not the extent and the exclusion of this smile a hideous intimacy with the cat? Is not such a smile the very emblem of *psuche*, and thus a miraculous un-worldly image? This smile is the mischievous horror of the corpse's un-embodiment.

⁸⁰ Badiou, Alain and Slavoj Žižek, *Philosophy in the Present*, ed. Peter Engelmann; trans. Peter Thomas and Alberto Toscano (Cambridge, UK: Polity Press, 2009), pp. 26 – 48.

The case of Biophilia: a collective composition of goals and distributed action

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ABSTRACT

Rather than follow the machinations of a singular artist in the production and exhibition of an interactive artwork. This paper uses an actor-network approach to collectively hold to account a whole host of actors that literally make a difference in the production of an interactive artwork, Biophilia (2004-2007). My main argument, is that in order for any action to take place both humans and nonhumans must on some level collectively work together, or, in actor-network terms translate one another. This has implications for reconceptualising practice not only in terms of who is actually involved, why they are involved but problematizes our assumptions about how 'production' happens at all.

Translation is important for rethinking production because it usually involves the introduction of a new actor, to replace another actor to help solve a problem. However, such new relations are predicated and indeed just as dependent on and what these new actors are willing to give up as it is to do with what they can offer. Needless to say that when the negotiations are momentarily over, actors give up individual goals and compel others to collectively form new definitions, new intentions and new goals with each interaction. In other words, the 'work' represents neither the beginning nor the end of a particular event, but is described more as a continually shifting and cumulative series of distributed actions. When production is reconfigured in actor-network terms the interactive artwork resembles something more akin to a temporary collective along a vast timeline. Where with each translation a new level of competency emerges and whose distributed actions will cumulatively engineer the artwork over time.

KEYWORDS

Actor-Network Theory, translation, trans-action, art practice, distributed action

In an application form addressed to the Siggraph 2006 "Intersections" Gallery, the artist must describe his interactive artwork. The form states:

The installation *Biophilia* will enable participants to interact with and generate organic forms based upon the distortion of the user's shadow. Coined in 1984 by sociobiologist Edward O. Wilson, *Biophilia* refers to the need of living things to connect with others - even those of different species. On one level, *Biophilia* critiques Wilson's notion that western culture desires a connection with nature, even though that same desire belies a deep unconscious fear of all things natural. With these ideas in mind the installation *Biophilia* attempts to absorb and synthesize users and their contexts, producing unpredictable patterns of propagation and hybridity.

Although short, this simple paragraph, like many others about the work, belies the complexity of relations that have enabled such a reference to be made.

For the moment though, complexity is not important. The statement must have enough impact to catch the attention and interest of Siggraph and the judges who work on its behalf.

The form together with the inscriptions and reference images, imply a desire for a connection to form, or a movement from disinterest to one of interest.

Several months later, the artist receives an email that accepts the proposal.

Now unbeknown to the artist and the judges, they have just formed the first step in translating the art work *Biophilia*, and the chain of actors that support it, into a binding sociotechnical relation, even though the artist is in Australia and Siggraph and its judges are in North America. In the end, the written form and its inscribed references were enough to convince all the actors involved that a relation can be made. The effect will be that the artist's CV will get bigger, Siggraph will also get greater international participation and *Biophilia* will be more attractive to other judges, festivals and curators in the future. In a sense, both actor-networks are now able to achieve effects that would not have been possible on their own.

Several days later the artist receives another email from the Siggraph "Art Show Chair":

I am concerned about the amount of walk space between your booth and the art walls below it in the plan. We need more space so people can stand back and view the art plus the Fire Marshal does not like us to have close passageways.

Several emails later it is clear that some negotiation over space is required, if the embryonic relation between Biophilia and Siggraph is to be sustained.

This description of the trials of strength inherent in the construction and exhibition of an artwork may have started in a rather strange place but it demonstrates the co-defining nature when actors begin to form relations. In actor-network terms, the elemental affiliation that enables a network to form is the process called translation. Michel Callon (1991, 143) describes translation as:

To say that actor A translates actor B, implies that A defines or explains B. However, translation does not imply that A has total control. For A will act in relation to past translations and this history will affect the form of future relations. Both actors A or B could be human or nonhuman, the distinction is not important. What is important is that all relations and the processes of mutual definition are described.

The trajectory and relative makeup of a translation can be mapped when we consider the amount of associations and substitutions that go into making a relation stable and thus viable. This process can also be expressed in Figure 1.

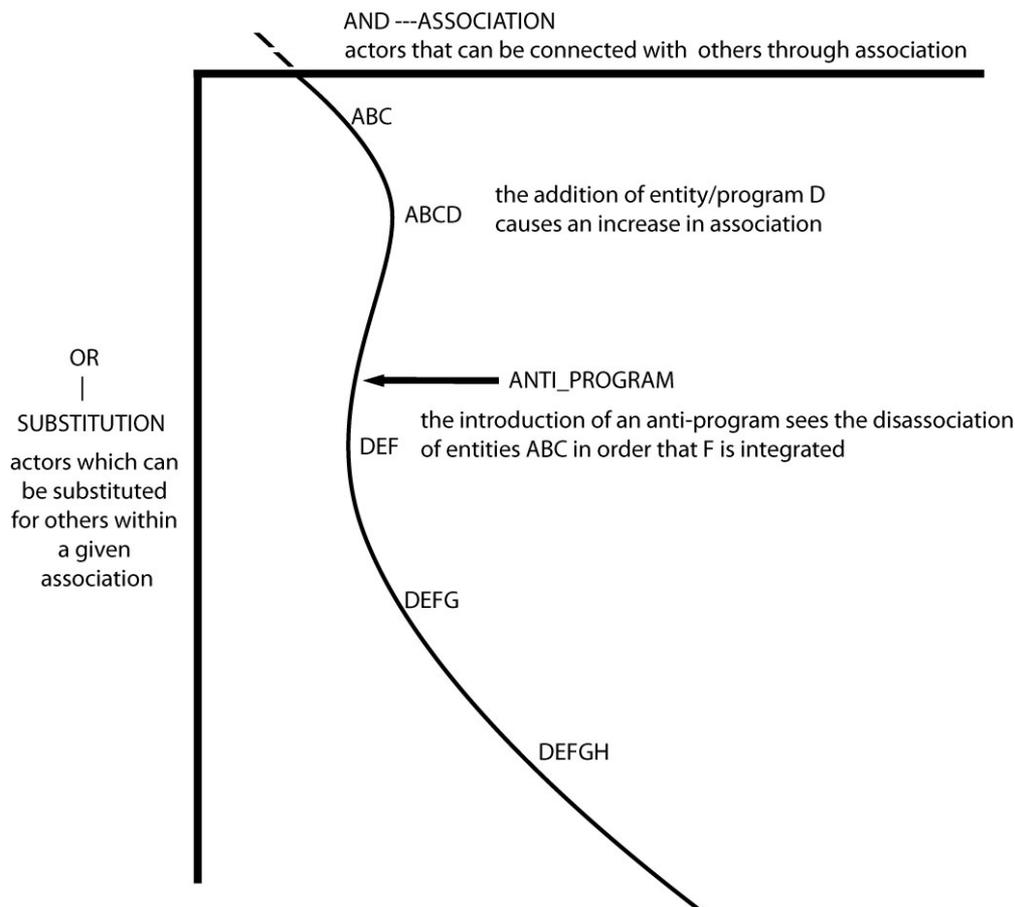


Figure 1. Translation Diagram; (Latour 1994a, 172). Innovation can be traced by both its AND, or, OR positions that successively define the modification of ingredients that compose a translation it. It is impossible to move in any direction without paying a price in the AND or OR direction. Copyright: Bruno Latour.

So what an actor in translation gains in one area is a result of having lost something in another. It's in this way that all translation requires a series of trans-actions. That is, Biophilia will disengage weak or threatening entities whilst incorporating those that are sustaining. It is the nature of these trans-actions, that defines the strength or weakness of a given translation and will contribute to the explicit shaping of the artwork, (Law 1987, 237); apart from the intentions of the artist. Therefore, a collective entity like Biophilia cannot be entirely defined by its 'essence' or what we see on the surface in a representation at anyone particular time. Rather, translation as observed in Biophilia produces a unique mediatory signature of a specific association of entities at work at any given moment, as is shown in Figure 2.

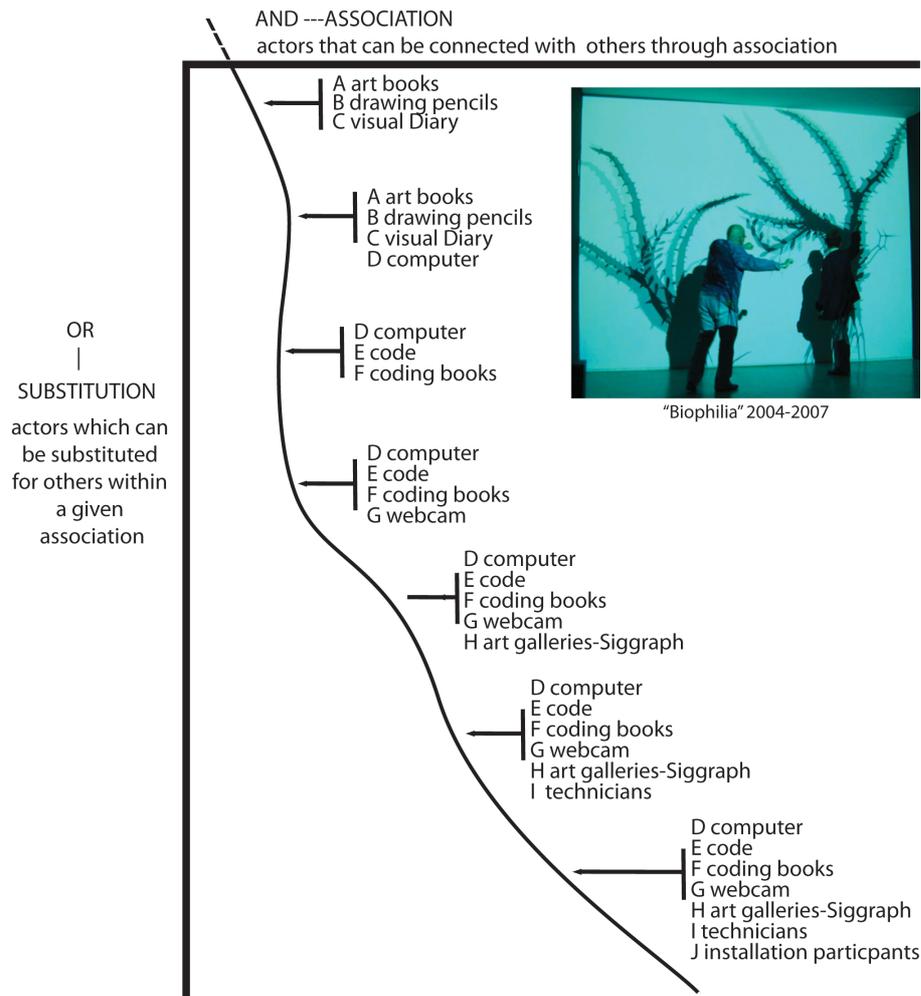


Figure 2. Mapping the Collective: Biophilia.

The notion of translation demonstrates that the problem solving involved in art practice, is a deeply intertwined sociotechnical process. When we see the artist take his position at a desk and begin to work on the problem of Siggraph's lack of space, he will need the desk, the computer and a whole host of other entities to be compelled to solve the problem. But of course in order for this problem-solving process to work it will require that technical components are already socialised for use. Computer vision is socialised, it enables the computer to 'see', and the computer and camera can 'talk' to each other, just as computer code is compatible with reading. What at first seems like a highly complex objective process with sophisticated technological components is made compatible with social ways of coding and reading (Latour 1994, 796). It is in this way that properties are borrowed from the social and inscribed into nonhumans. At the same time, this process will also extend nonhuman influence in the social. Whereby, humans will equally absorb nonhuman properties; that is, take the position of sitting and using a mouse, submit to the limits of the technical components, follow structured software patterns or read feedback given, in order to establish

a working relation. So much so that what the artist will learn from the production process is the result of contact with nonhumans, which is then re-imported back into the social as conceptual and afforded content through the artwork.

The computer, code and technical components lend their nonhuman properties to what was previously a scattered and unordered bunch of parts and loose intentions. The intersection of nonhuman influence will allow these actors to align and their relations to harden. So much so that the sociotechnical hybrid Biophilia will eventually submit to the fire laws of Boston, measured by firewardens, held accountable by the Chair of the art gallery and be granted a social life, worthy of its place in the Siggraph "Intersections" exhibition (Latour 1994, 799).

When we observe the so called 'social' actions of the artist sitting and at work at the computer, trying to solve this problem, it looks as if the human does the 'work'. However, when we take into account the vast amount of translation in the construction of Biophilia our observations are undermined. Translation shifts the focus to a vast assembly of actors who are directly related by function, material and ontological inseparability, recombined in a specific time, space, actorial and material sequence, who are also doing the work.

The Prototype

Try as he might, the artist is unable to solve the increasing complexity of the code. The computer is not able to 'talk' sufficiently fast enough to the camera, so yet another actor a 'technician', is associated. After meeting with the technician, it is decided that a scale prototype of the artwork will be constructed. This will accommodate the testing of new goals and new configurations of Biophilia and indeed Siggraph's dimensions for its exhibition space.

John Law describes the construction of space in relation to the actor-network as one in which objects are co-constituted with the surrounding space. This means that "spatial relations are also being enacted at the same time [as translation]... Or, to put it more concisely ..., spaces are made with objects" (Law 2002, 96). The relation to space, to the actor-network and/or possible actions, seems to fit well with Callon and Latour's (1981, 286) early definition of actors as:

Any element which bends space around itself, makes other elements depend upon itself and translates their will into a language of its own. Before the elements

dominated by an actor could escape in any direction, but now this is no longer possible. Instead of swarms of possibilities, we find lines of force, obligatory passage points, directions and deductions.

In this way, actors and space are mutually dependent and as such mutually constituted in translation. Prototypes, much like institutions such as galleries, are exemplars of this kind of compelling space. Galleries, installation spaces and indeed prototypes not only regulate physical and material movement but also the cognitive, political and ideological rhythms of the many actors constituted in their frame of reference.

The spatial relations generated by institutions (much like the collectives at work in the construction of Biophilia) not only control the networks between inside and outside. They also shape the political, material and practical participation actors have in those spaces. As John Law (2002, 102) states, "spatial systems ... are political because they make objects and subjects with particular shapes Because they set limits to the conditions of object possibility. Yet this relationship is not a one-way affair. As much as Biophilia submits to the limits imposed by the Siggraph gallery, it also pushes Siggraph to negotiate and open the institutional and regulatory boundaries imposed on it. Until both networks become re-aligned each negotiation pushes Biophilia and Siggraph to a unique sociotechnical collective that will occupy a distinct spatial topology at a particular point in time. Therefore, Biophilia becomes much more than an artwork defined by a singular interaction/representation and more like a nexus of relations that shapes objective, subjective, cognitive, social and institutional associations (Yaneva 2003, 176). In other words, the 'work' represents neither the beginning nor the end of a particular event, but is described more as a continually shifting and cumulative series of distributed actions.

"Intersections" Exhibition, Siggraph Art Gallery, Boston, USA

Before the participant arrives, she is already 'prepared' for involvement by various marketing materials and previous 'interactive' experiences. As she steps off the crowded bus, handrails and human attendants guide her to the entrance to Siggraph. On entering the 'gallery', the space is dark and quiet, and the participant's pass is checked and stamped. The darkened gallery space, gallery attendants and didactic information about each installation ensure that by the time the participants come in contact with the artwork they already know, in part, the role they must play.

At a more intimate level, the point at which the participant enters the installation space of Biophilia and begins to interact signifies a change in behaviour. The gallery visitor is now redefined as a 'participant'. The cavernous Boston Convention Centre becomes the Siggraph Intersections Gallery. Siggraph lives up to its promised brand and Biophilia becomes truly 'interactive'. The participant literally learns in real time, that they, in association with the artwork are "an interface that becomes more and more describable as [each actor] learns to be affected by more and more elements" (Latour 2004, 206). Moreover, the participant's

objectives to engage the artwork, begins to identify with the physical affordance of Biophilia, to the point that the user's intentions are shaped, both in a positive and negative sense of enabling and constraining certain behaviours (Malafouris 2008, 33). In other words, a certain level of influence is distributed throughout the act of engaging with participatory artworks that alters each actors definition, ontological makeup and associated goals and objectives.

This is represented in diagrammatic form as goal translation in Figure 4.

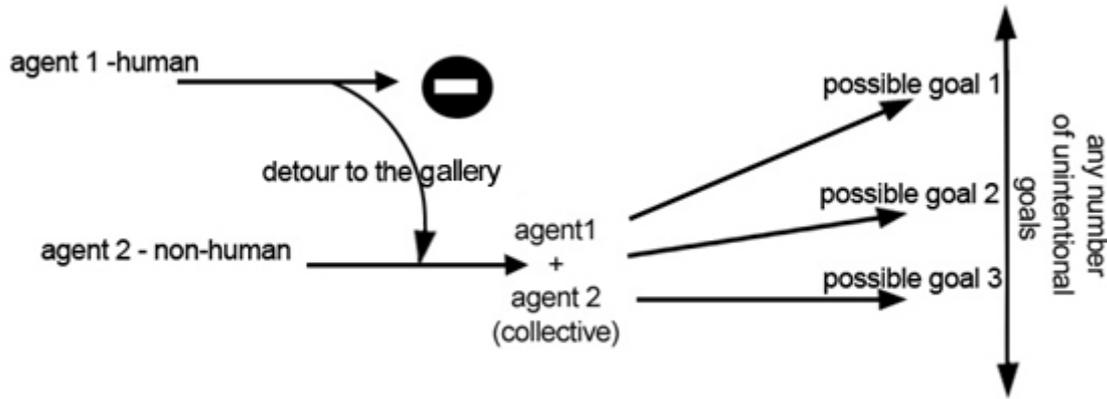


Figure 4. Goal Translation. adapted from Latour (1999, 179) The explosion in unintentional goals is a result of different combinations of actors interacting. One can never really know what is going to happen, because we can never really know all the elements activated in a given association or context beforehand. Copyright: Bruno Latour.

Goal translation represents a symmetrical example of how, through interaction, competencies, objectives and possible actions are co-constituted. Both the human participant and the artwork's goals are translated into a collective program of action, in which any number of unintentional consequences could result. In other words, action is shared amongst those in the collective and is in part uncontrollable by any one element, human or otherwise.

This kind of unpredictability is brought to bear by such translations and is used by the artist (whether he recognises it or not) to take advantage of the volatile collective action produced when a multitude of entities come together. It is no wonder then, that Frank Popper conceptualised such phenomena in electronic art works as "neocommunicability [as] an event - full with unaccustomed possibilities..." (Nechvatal 2004). The uncontrollability of relations in an interactive event is a small articulation of what many artists come into contact with every day. That is, to act means to be perpetually overtaken by the thing you are supposedly building (Latour 1996).

In this way goal translation as evidenced in both the construction and interaction with Biophilia demonstrates that there is no prime mover of an action and that a new, distributed, and nested series of practices allows all kinds of unintentional actions, ontological variability and exchanges to develop. The implication then is that action can be redefined as

not a property of humans, but of an association of actants [human or nonhuman agents]...[Whereby] provisional "actorial" roles may be attributed to actants

only because actants are in the process of exchanging competencies, offering one another new possibilities, new goals, new functions Latour (1999, 182)

This kind of distributed action not only highlights the implausibility of humans and nonhumans acting alone but that the whole process of gaining some kind of competency is underwritten by exchange. As Latour (1996) further explains:

Interaction cannot serve as the point of departure, since for humans it is always situated in a framework which is always erased by networks going over in all directions ... the attribution of a skill to an actant always follows the realization by that actor of what it can do ... when others than itself have proceeded to action. Even the everyday usage of 'action' cannot serve here, since it presupposes a point of origin ... which [is] completely improbable.

Action and indeed agency is always shared and distributed amongst other entities. The ability to act is therefore mediated by others' actions that have come before it. Such cumulative influence can be illustrated in Figures 5 and 6 below.

Cumulative influence of the Collective

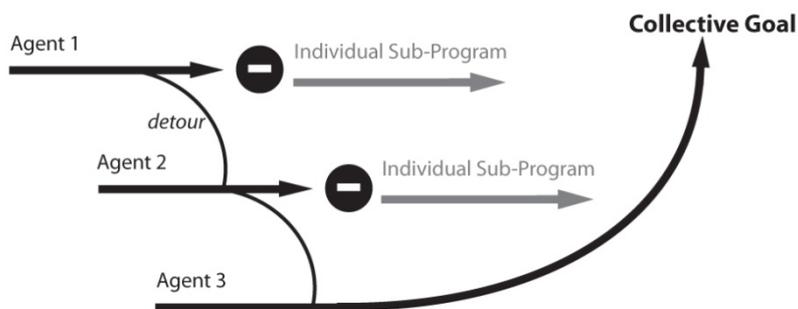


Figure 5. Individual sub-programs (Latour1999, 181) of action are bent towards a collective goal. Copyright: Bruno Latour.

Cumulative influence of the Collective

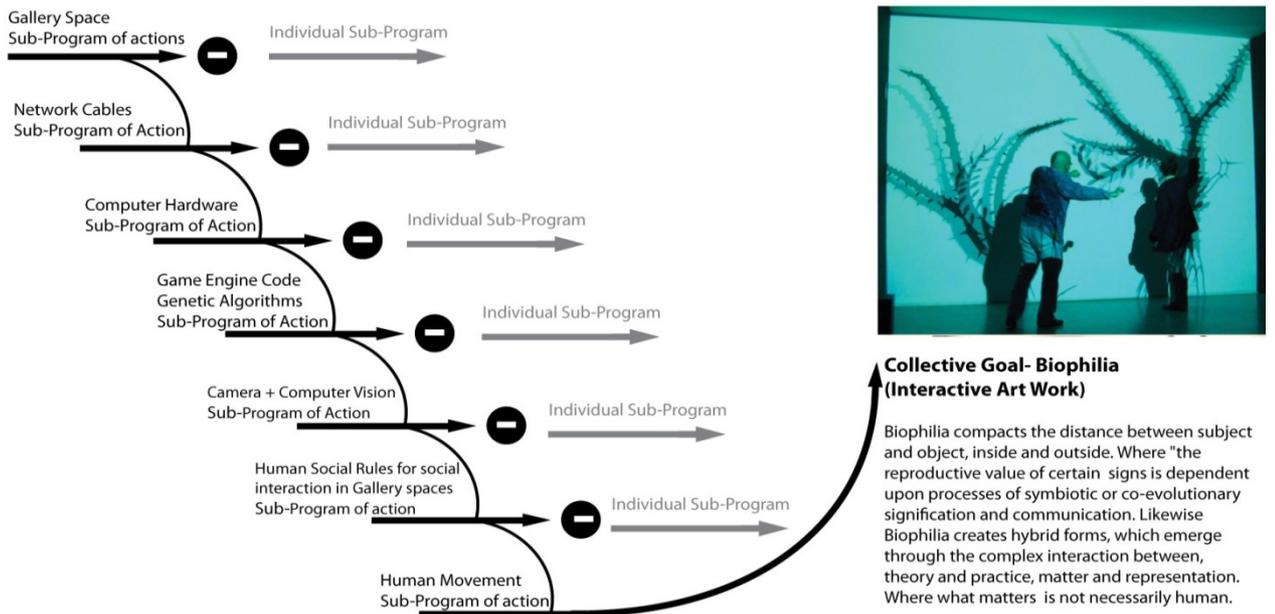


Figure 6. The composition of new goals is made possible by the colonising of many sub-programs which are then cumulatively bent towards the collective goal for Biophilia.

As Figures 5 and 6 illustrate, there is a long chain of actors that contain their own sub-programs of action. The nature of each subsequent movement not only requires new associations. But it also means that individual sub programs (intentions and motivations) are trans-acted, if not subject to "modes of ordering" (Law 2009) implicated in the process of translation and required for a collective goal to be successful.

The means by which collectives like Biophilia apply these kinds of enforced behaviours is recognised as a sort of agency. For Lambros Malafouris (2004, 34), agency

cannot be reduced to any of the human–nonhuman components of action ... It cannot be too strongly emphasized that neither brains nor things in isolation can do much ... Agency is in constant flux, an in-between state that constantly violates and transgresses the physical boundaries of the elements that constitute it. Agency is a temporal and interactively emergent property of activity not an innate and fixed attribute of the human condition. The ultimate cause of action in this chain of micro and macro events is none of the supposed agents, humans or non-humans; it is the flow of activity itself .

By examining Biophilia as much more than a discrete artwork in itself we begin to see that the competencies and functions of each actor begin to lose their distinctions in order that the 'work' is made.

In this way, the intentions of the artist are significantly translated and thus altered to the extent that all the actors in the development and exhibition of the artwork shape the conceptual and physical aspects of Biophilia. In a sense, the long tail of the sociotechnical translations shape the type of cognitive and functional operations that are possible. As Edwin Hutchins (1995, 159) states, "One cannot perform the computations without constructing the setting; thus, in some sense, constructing the setting is part of the computation" (Just as the gallery and the installation space are dependent on the sociotechnical systems (bricks, mortar, funding bodies, committees, community support) that sustain the types of movements within it. So too are participants' actions, intentions and cognition similarly shaped as an effect of the "modes of ordering" (Law 2009) implied by the framing aspect of galleries and indeed the installation itself. Therefore, for the artwork to emerge the individual goals and functions of each actor must merge into a larger if not distributed action.

CONCLUSION

From an actor-network approach, actual interactions with participatory art works (much like still images of the event) are not a departure point, but one point of many in a chain of associative links. As is seen in the various translations in Biophilia, interaction consists of agents that can only act by and through association with others. As these actors associate and thus work together, their initial goals are colonised for the greater good of the collective. It is in this manner that the interactions, and indeed the intentions to act in the production, exhibition and interaction with interactive artworks, is considered collective and distributed.

REFERENCES

Callon, Michel and Bruno Latour. 1981. "Unscrewing the big Leviathan: How actors macro-structure reality and how sociologists help them to do so." *Advances in social theory and*

methodology: Toward an integration of micro and macro sociologies, edited by. K. Knorr and A. Cicourel, London: Routledge and Kegan Paul.

Callon, M. 1991. "Techno-economic networks and irreversibility." *Sociology of Monsters:Essays on power, technology and domination*, edited by J. Law. London: Routledge.

Hutchins, E. 1995. *Cognition in the Wild*. Cambridge, MIT Press.

Latour, B. 1994. "Where are the Missing Masses? the Sociology of a few Mundane Artifacts". *Shaping Technology / Building Society: Studies in Sociotechnical Change*, edited by B. Wiebe and L. John. Chicago: MIT Press.

Latour, B. 1999. *Pandora's Hope. Essays on the Reality of Science Studies*, Cambridge: Harvard University Press.

Latour, B. 2004. "How to talk about the body? The normative dimension of science studies". *Special issue of Body and Society*, edited by Madeleine Akrich and Marc Berg_10(2/3): 205-229.

Law, J. 1987. "On the social explanation of Technical Change: The case of the Portugese Maritime Expansion ". *Technology and Culture* 28(2).

Law, J. 2002. "Objects and Spaces." *Theory, Culture & Society* 19(5-6): 91-105.

Law, J. 2009. "Actor Network Theory and Material Semiotics". *The New Blackwell Companion to Social Theory*, edited by T. B.S. Malden, USA: Wiley-Blackwell

Malafouris, L. 2008. "At the Potter's Wheel: An Argument for Material Agency". *Material Agency Towards a Non-Anthropocentric Approach*, edited by C. Knappett and L. Malafouris. New York: Springer.

Nechvatal, J. 2004. "Origins of Virtualism: An Interview with Frank Popper." *CAA Art Journal_Spring*: 62-77.

Yaneva, A. 2003. "Chalk Steps on the Museum Floor; The 'Pulses' of Objects in an Art Installation." *Journal of Material Culture* 8(2): 169-188.

Click If You Like This, or OCCUPY as Spectacle: a Technological Derive.

Glenn D’Cruz & Dirk de Bruyn

Deakin University

ABSTRACT

This paper is the textual component of a dialogic, performative, multi-media lecture that re-reads Guy Debord’s, *The Society of the Spectacle* (1967) with reference to the global Occupy movement, and the role social media, and the proliferation of digital images play in the facilitation and hindrance of this recent form of political activism. It explicitly addresses the connections between global capitalism, public space and digital technology by responding to selective quotations from Debord’s book in creative and anecdotal registers.

Using the multiple functions and staggering proliferation of various image making technologies used to record and represent OCCUPY actions as a starting point, we ask questions about the status of social media as a spectacular technology *par excellence*. The presentation, on which this paper is based, *enacts* various situationist strategies of ‘artistic interference’ — such as the *dérive* and *détournement* — in order to generate a series of interrogations and provocations about the politics of place, the degradation of social space, networked images and the ubiquity of contemporary ‘spectacular’ technologies, which have colonized all forms of everyday life. This paper must be read in conjunction with the film ‘Click if You Like This.’

A more expansive version of this paper, which includes links to the integral audio-visual component of the presentation, can be found here: <http://clickifyoulikethis.wordpress.com/>

Because of the limitations of space, we have provided abridged quotations from Debord’s text. Readers can find Debord’s book on-line:

http://library.nothingness.org/articles/SI/en/pub_contents/4

INTRODUCTION

This paper is a metaphor for the break down or colonization of traditional notions of narrative, complicity, place and social space in the age of social media. In broad terms, it invites a critical (re)engagement with Guy Debord's *The Society of the Spectacle* by using selective quotations from the book to initiate a series of reflections on the commodification of social space and political activism. Part reflective essay, part critical analysis, and part memoir, 'Click if You Like This' uses various situationist strategies of 'artistic interference' — such as the *dérive* and *détournement* — to generate a series of questions and provocations about the politics of place, the degradation of social space, networked images and the ubiquity of contemporary 'spectacular' technologies, which have colonized all forms of everyday life. The paper questions whether contemporary strategies of 'interference' are the same as their historical precedents, and invites its readers to contribute their own responses to Debord's writings.

4.The spectacle is not a collection of images, but a social relation among people, mediated by images.



Everywhere we go

This thin blue line

This thin blue line

This thin blue line **comes with us**

NO ONE KNOWS

more about our *STRUGGLE* than you **do**

You do, you do, you do, you do

Think about it, think about it,

THINK ABOUT IT.

(we got the point monkey man)

Figure 1. The Megaphone Man at Occupy Melbourne, copyright Glenn D'Cruz

Click, Click, Click.

The crowd gathers round the man with the megaphone. Outstretched arms capture his image with ubiquitous cameras. Some are equipped with professional DSLR technology, long telephoto lenses protruding from bulky camera bodies in aggressive phallic salute, poised to record the grand parade for posterity; others unceremoniously brandish their multifunction smart phones, raising them like cigarette lighters at a rock concert. Where will these images be displayed? How will they be distributed, consumed, and interpreted, and by whom, and to what ends?

I am part of the crowd, I, too, hoist my camera in righteous salutation, hoping to document the megaphone man's testimony, which echoes around the streets of Melbourne, its signal strengthened by the 'human megaphone', the throng of chorused voices that repeat every utterance as a droning prayer, a solemn, monotone chant devoid of expression, but suffused with rhythm, a music of the masses.

No doubt, some are casually hanging around, hoping to see a fire starter, hoping to see a blood red river flow through the streets of their city, just like on TV, or the Internet, or on the gigantic high definition screens found in plazas and piazzas, just like in those far away places where the ground is stained with human gore, and the prospect of revolution palpably imminent.

It's not clear who is protesting, and who is merely observing. The faces are predominantly young — some earnest, excited, and sober; others mildly curious, or vaguely distracted by the promise of diversion from mundane chores, and the daily bump and grind of alienated labour.

I hear the roar of the football horde, I hear the compliant grumble of totalitarian fear, and, perhaps, the faintest murmur of the multitude, a coming community, a blind giant wrestling with the contradictions of the collective, a bond of belonging not predicated on any particular identity (Agamben, 1993). I hear the confused whispers of a disorganized rabble waiting for something to appear. Waiting for something to happen. Waiting for the ultimate photo opportunity. Waiting for the end of history, perhaps, or eagerly anticipating the moment when they can upload images of the carnival to the digital cloud, so they can function as expressions of political solidarity, manifestations of personality, symbols of potent potentiality. Click, if you like this, Facebook friends, for I was there, and I really care. Hey, I raised my tightly clenched fists in the crisp morning air, didn't I?

Political kitsch, said Kundera, the cynical, reluctant dissident, is the absence of shit on the royal road to equality and justice. The identity of kitsch comes not from a political strategy but from images, metaphors, and vocabulary.’ (Kundera 1984, 261)

I’ve seen these poses before, I’ve chanted these slogans and sung these same songs many years ago with passionate intensity, and an unerring sense of justice. We are the 99per cent, brothers and sisters!

Click, Click, Click.

165. Capitalist production has unified space, breaking down the boundaries between one society and the next. This unification is at the same time an extensive and intensive process of banalization ...This homogenizing power is the heavy artillery that has battered down all the walls of China.

One of my three sons sent me a text message a few weeks ago from Shanghai: ‘I am pretty sure a few people were crushed to death on trains this morning. At Jingan Temple there was no room on the platform to use the escalator. I waited 30 minutes — only 2 trains came in that time. When I finally got on, the scene was just as bad at People’s Square. There was no room for people to even get off the train without yelps from the platform.’

I sent back the disempowered invocation of a parent’s love: look after yourself! This bit of information hit me as disarmingly real. It was news from the front, a slither of visceral energy slipping through the surface of the normalised amnesic news cacophony. I myself did little more. Look after yourself?

The globalized hallucinations that my stuttering criticism drowns in day-to-day had struck me dumb. Inside the fogged concern for my son’s safety, this mass of straightjacketed constricted yelps got to me.

I had been in Shanghai a few months earlier visiting Abe, having moved through and filmed inside Jingan Temple and People’s Square Underground stations. I had devised a means of shooting these crowds in the subway with time exposure at the exit gates, getting these masses of bodies blurring into each other with animated faces stretched out like a Francis Bacon painting. When told by an official that filming was illegal I moved on without

hesitation. But I already had my catch. In these short animations the blur that in analogue times resided in the landscape outside the train window was now contained in clusters of ghosted bodies moving through the subway. Later together we wrote words with light at night on the Jingan Temple itself and captured the streak of cars at the traffic lights. This city could have been in Europe.



Figure 2. Copyright, Dirk de Bruyn.

On this trip I had also performed with voice and film at a local gallery, manipulating three strands of images in a 50-minute piece with mirrors and shadows, punctuated with guttural screams that assaulted the audience, pre-cogging the effect on my young audience that I now felt.

It had been difficult getting 16mm projectors for my performance, finally getting two for an outrageous \$200 a day. I could buy 2 projectors for that in Australia, taken them to Shanghai and left them there. One did not work. But they were unique, made in China about 50 years ago, with everything a little bit different. It was like driving on the wrong side of the road. Their owner, about my age, was also unique, a collector of Communist Party Propaganda Films. He did not speak English. I gained his respect by learning his machines in a flash and putting them to uses he had not thought of during my performance. He wanted to shake my hand. That made my day. It was real.

Having read Abe's text I had to get to work, and talk to a class about found footage cinema, and watch Judy Garland again transformed into a tick-riddled catatonic, involuntarily re-enacting the performances of hysterics at Paris's Salpêtrière's Mental Hospital that Charcot had orchestrated weekly for public display at both psychoanalysis's and cinema's inception. Garland's puppeted singing also connected me back to the possession of Haitian Voodoo that Maya Deren had witnessed directly and re-performed on her return to New York (de Bruyn, 2010). It was one of those films that was short enough for the students to enjoy although one emailed me to say she had already watched it online and would not be coming in. She missed out on the pristine 16mm print and a shared experience. Is there a connection here to the virus of asphyxiation plaguing a Shanghai metro station?

I hope not.

Abe was in China teaching English for Disney to five year olds. He enjoys it. He talked of engaging his students as their parents looked on, a kind of aspirant form of entertainment for the power parents. Coming to work late one day they insisted he work another hour so they got their money's worth. They liked his work. Did that occur on this day? He showed me an image of a Korean Language School where the front door was mocked up like the airport entrance gate and departure lounge, a great metaphor or logo, I thought, for the hypermobility coupled to 'English' in this aspirant age of globalization.

Later I came across this same image in a film at a Bangkok Film Festival to which I travelled on a new underground system, the equivalent of Shanghai's — you watch repeating ads on multiple monitors while waiting for and travelling on these trains. There was one about travelling around Sydney with an actor that looked, walked and dressed like Abe. I must have glimpsed it 50 times. It made me remember that Abe's friends, travelling around Asia were saying there was this tourist ad and they were texting that it looked like him, and asking was it him?

I knew it wasn't Abe, but I was incessantly brought back to the memory of his post-midnight telling of this anecdote in his Shanghai flat. He had this longing way of talking of such things. It passed me over then but it now meant something having become a recycled thought I tried to avoid. But a flash of this image in a fog still appears now and again.

The film with the image of the Korean Language School was Kim Kyung-man's 118 minute *An Escalator in World Order* (2011) of which I wrote in a review: 'When a group of very young Korean children phonetically singing 'God bless America, my home sweet home' to

Jimmy Carter, a hard-wired aspirational will performs at the feet of its ideological altar.’ (de Bruyn 2012) I imagined these children as coming from this school. But in Abe’s class the shoe is now on the other foot.

23 The root of the spectacle is that oldest of all social specializations, the specialization of power.

‘If you should think this is Utopian, then I would ask you to consider why it is Utopian (Brecht 1964, 51).’

The development of mass media technologies like radio and film in the first half of the twentieth century excited some of the most vociferous critics of fascism. Bertolt Brecht and Walter Benjamin observed Nazism at close hand, and were only too aware of how the Nazi’s masterfully manipulated these new technologies as instruments of propaganda in order to unleash the mesmerizing force of its carefully orchestrated spectacles.

Brecht, according to his friend and most astute champion, Benjamin, saw how the Nazi’s aestheticized politics, so he attempted to politicize aesthetics, partly by incorporating nascent mass media into his theatre productions (Benjamin, 1969). These enemies of fascism were also aware that the one to many broadcast model that appeared as a fundamental feature of mass media masked its truly radical potential. At the level of the electronic circuit, every speaker is potentially a microphone, and as the poet and early media theorist Hans Magnus Enzensberger once observed, ‘every receiver is a potential sender (Enzensberger, 1970)’. This technological fact inspired utopian dreams of a networked society where everybody could interact and actively communicate with each other. This vision would see the realization of humanity’s ‘species being’ and the abolition of false distinctions between producers and consumers, authors and readers, actors and spectators. Or would it?

Today, we live in a networked world. It’s possible to broadcast your innermost thoughts, feelings, or misanthropic rants to the entire world, or at least those plugged into the labyrinthine World Wide Web, which, like capitalism itself, continues to expand without foreseeable limit or purpose beyond expansion itself. Today we can interact with the spectacle — we, the 99%, are king makers, or at least hit makers. We have the power to vote people off reality television shows, actively participate in creating the next pop sensation, or partake in the humiliation of obese people with a few finger taps on our cell phones. We, the 99%, can also potentially change the world. We can organize protest actions quickly, efficiently and more effectively than ever before.

Lacking structured leadership, a single spokesperson and even a clear message, the Occupy movement has grown through the use of personal media and new technologies, sustained by participants' own network of contacts and willingness to dive into the political fray, says a UCLA information studies professor [Professor Leah A. Lievrouw] who studies the different ways media and technology shape society and culture (Wyer, 2012).

Everybody at Occupy Melbourne appeared at some point to click, tap, snap or excitedly stare into some kind of mobile device. It's impossible to know exactly what they were doing with these devices. What is not in doubt is that today's technologies have the same radical potential Brecht, Benjamin and Enzensberger glimpsed in the mass media of the 20th century. But to what extent do new media technologies and social media actually mobilize the 99%?

To what extent do they facilitate the utopian dream of a genuine participatory democracy?

To what extent does the heady flow of information, the cacophony of countless voices clamouring for attention in the virtual space of the Internet destroy the possibility of genuine political activism? Or does the very act of occupying privately owned 'public' space expose challenge old conceptions of 'the nature and ontology of urban space (Ball 2012, 19).'

The spectacle, as Sadie Plant reminds us, quickly co-opts even the most radical revolutionary gesture, and turns it into a commoditized image (Plant 1992). Is there no location for critical distance in the society of the spectacle?

Remember Rodney King?

Remember Rodney King?

He was the hapless black man who received a merciless beating at the hands of the LAPD in 1992. A bystander armed with a video camera recorded the event before sending it to a television station. The subsequent broadcast of the tape resulted in the infamous LA riots of 1992. Lives were lost, property destroyed, communities ravaged and consumed by inchoate

rage and rebellion. I wonder what a similar incident might inspire today. Would a contemporary recording of police brutality attract the same degree of attention, or inspire the same kind of violent response? Would such a document struggle for attention amongst the detritus of the worldwide spectacle, or would the 99% express their abhorrence with a mouse click. Click if you like this! Click, Click, Click!

157. The lack of general historical life also means that individual life as yet has no history . . . Uncommunicated, misunderstood and forgotten, it is smothered by the spectacle's false memory of the unmemorable.

I have been talking to my 92-year-old mother about the past or should I say she talks to me. Her speech is increasingly cut short from completed words. Only bits of sentences survive, word traces that I lock onto more through a thorough personal knowledge of her way of speaking than what is actually said. I gather her thoughts as best I can and I can see she is still healthily busy putting these half gestures together. It remains a lively conversation.

Hilda reads *The Age* every weekend and pointed me to a letter to the editor that she insisted, that's how it is. Titled 'A Long History of Bigotry' it ended with:

'Dear gay/black/wog/Muslim/asylum seeker...whatever. You're welcome to help build the country and build the economy, but we're rather threatened by you unless you are pretty much like us. So would you do us a favour and be less of who you are? There's a good chap (Stratos, 2012)'

So you can participate but you cannot belong without throwing on an amnesic cloak is her, and the writer's point, I suppose. Given that many have come to Australia to forget and escape this plays as a Lay Down Misère and an unerring complicity with the Spectacle's dynamically seamlessly forms.

She always has a question about the Internet, wondering where the information actually is and why her email account is not working. But she has found photos online of the barges on which she grew up, which her father steered up and down the Rhine, in and out of Germany to Rotterdam and also to Antwerp. I remember that myself as a little boy. There are stories about the German Occupation attached to these boats, of the loudspeaker echo of Hitler Speeches in the public squares of settlements floated by, witnessed night bombings of these

towns, of being caught on ship in a crossfire and finding a cousin dead and half naked next to a set of soldier's clothes at the end of the war.

Two stories remain important to me from this occupation. The first one concerns my diminutive but cocky grandmother entering a clothing shop previously owned by a Jewish family but now run by uniformed Germans. When asked by the new manager if she was happy with the service, she replied that if it was half as good as that performed by the previous owners then they would be doing very well. The second refers to an even riskier situation featuring my mother and her parents travelling on foot, boat-less, through a Dutch war zone. They reached a bridge where there were Germans and Canadians firing on each other across the river. When there was a lull in this exchange's rhythm the German Sergeant would wave the waiting pedestrians to cross. My incredulous question was 'Why would you trust him in that situation?'

'Because it was his job to drag the shot bodies back from the bridge,' remained the pragmatic reply. She has not been back. I have. On a visit to the Dordrecht's Museum I came across a small picture covered with a black cloth which when peeled back revealed a small painting of the 1670's political mob hanging, slaughter and gutting of the De Witt brothers in The Hague. This image exhumed a Ceausescu or Mussolini-like moment for me. This screened document is both present and absent to public scrutiny, occupying an unsettled pornographic space in a culture that revels in its liberal openness and whose front windows always frame a convivial domestic space to any passer-by. This mob act in the name of the House of Orange occurred near that site of moral rectitude where now the International Court tries the likes of Ratko Mladic and Charles Taylor. Perhaps this image should itself be nailed and hung above the court's doors to let its ambiguities bleed back into our critical thinking. Failing that, I write this paragraph to ask 'what is really hidden here?'



Figure 3. Fragment of De Witt Brother's Hanging by Jan Baen circa 1672

My mother worked out that the man who had put the barge images online had written a book and lived near Dordrecht. I went there on a borrowed bike on the way to the Rotterdam Film Festival to buy some copies. Over a coffee and biscuit he told me in Dutch that the company had been sold and the new owners were throwing out these useless files and photos so when he lost his job he took them with him. It was a simple photocopied compilation that did the job for an old woman's memory on the other side of the world, she didn't mind what it looked like, did she?

CONCLUSION

We have attempted to apply the *détournement* to Debord's work in order to make it speak out of context and work for our interrogation of the status of the image in the context of activist social media. While each section of the above paper is loosely connected to Debord's ideas they neither endorse nor reject them. Rather, we have used Debord as a point of departure, or as a provocation to unsettle the romantic notion that social networks necessarily facilitate revolutionary political activism. We do this by drawing attention to the various inflections and meanings of the term 'Occupy' by making reference to the Nazi occupation of Holland, the tourist occupation of China, and the Occupy movement itself.

On the one hand, Debord's critique of the spectacle underscores the ways spectacular technologies create the illusion of community while actually alienating people from each other, turning them, perhaps, into atomistic entities, soulless, reified commodities. Today, an extraordinarily large percentage of the population find themselves occupied by images in virtual space. We post, we stare, we glare, we click in celebration or indignation, we connect, we make friends, we network, and promote ourselves in a brave new, networked world. This may not be a bad thing, but what kind of community, its hour come round at last, slouches through cyberspace to be born?

REFERENCES

Agamben, Giorgio. 1993. *The Coming Community*. Translated by Michael Hardt. Minneapolis: University of Minnesota Press.

Ball, Steven. 2012. 'Expanded Cinema and Urban Space in the 21st Century' In *Expanded Architecture*, Edited by *Expanded Architecture*, Edited by Sarah Breen Lovett and Lee Stickells.

Berlin: Broken Dimanche Press.

Benjamin, Walter. 1969. 'What is Epic Theater?' In *Illuminations*. Translated and Edited by Hannah Arendt. New York: Schocken.

Brecht, Bertolt. 1964. 'The Radio as an Apparatus of Communication,' In *Brecht on Theatre*, edited and translated by John Willett, 51-53. New York: Hill and Wang.

De Bruyn, Dirk. 2010. 'Dancing Out of Trauma from Charcot's Hysteria to Haitian Voodoo' In *History Trauma and the Visual Arts: Experimental Visual Arts, Literature and Opera*, edited by M. Broderick and A. Traverso, 96-108. Newcastle on Tyne: Cambridge Scholars Press.

De Bruyn, Dirk. 2012. 'Raiders of the Lost Archive: The 6th Bangkok International Film Festival' <http://sensesofcinema.com/2012/festival-reports/raiders-of-the-lost-archive-the-6th-bangkok-experimental-film-festival/> Accessed 8 July, 2012

Enzensberger, Hans Magnus. 1970. 'Constituents of a Theory of the Media' *New Left Review*, I/64: 13-36.

Kundera, Milan. 1984. *The Unbearable Lightness of Being*. Translated by Michael Henry Heim. New York: Harper Collins.

Plant, Sadie. 1992. *The Most Radical Gesture: The Situationist International in a Postmodern Age*. London and New York, Routledge.

Pavlis, Stratos, 'A Long History of Bigotry' *The Age*, <http://www.theage.com.au/national/letters/a-long-history-of-bigotry-20120517-1ytgn.html>. Accessed 7 July, 2012.

Wyer, Kathy. 2012. 'New media driving Occupy movement, prof says' *UCLA Today*, <http://today.ucla.edu/portal/ut/information-studies-prof-new-media-225807.aspx>. Accessed 7 July, 2012.

BIOGRAPHY

Glenn D'Cruz teaches drama and cultural studies at Deakin University. He is the author of *Midnight's Orphans: Anglo-Indians in Post/Colonial Literature* (Peter Lang 2006) and editor of *Class Act: Melbourne Workers Theatre 1987-2007* (Vulgar Press, 2007).

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Contaminated immersion: art and the space between.

David Eastwood

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Oliver Grau has stated that immersion “is characterized by diminishing critical distance to what is shown and increasing emotional involvement in what is happening” (Grau 2003, 13). In that sense, any artwork might be thought of as a potentially immersive experience, inviting a level of engagement best described as a kind of absorption, engrossment or “immersion”. Does a large-scale installation or virtual reality environment offer greater “immersion” than the experience of being transfixed by a small painting on a wall? Arguably, immersion is a condition contingent upon the viewer responding to the artwork, rather than an inherent quality within the artwork alone. And if the wall-space between two paintings becomes valuable contemplative terrain in competition with the adjacent art (Little 2011, 89), it is apparent that no space is neutral, just as no space is inherently immersive.

Various contemporary installation practices and the repurposing of non-galleries for site-specific exhibitions evince a shift away from the “white cube” museum space. Thomas Demand’s exhibition ‘The Dailies’ (CTA building, Sydney, 2012), offers a kind of “contaminated immersion”. Demand has spoken about discovering “constellations” (in conversation with Sylvia Lavin, AGNSW, March 23 2012), which expand the image beyond the frame and blur distinctions between art and “non-art”, emphasising the viewer’s agency to locate hidden or unanticipated connections in the surrounding environment. This paper considers Demand’s project as a point of reflection on strategic interferences that could be revealed via the contamination of immersion, exposing new meaning and value in the space between.

Keywords: Thomas Demand; immersion; interference.

This paper considers the idea of immersion in relation to some art historical contexts and its implications for contemporary art practice. The intention is to consider whether strategic

“interferences” can interact with and contribute to immersive experiences. The idea of immersion will be used here to contextualise a consideration of Thomas Demand’s recent exhibition *The Dailies*. This particular project by Demand both relates to and departs from some of the key aspects of what is conventionally thought of as “immersive” art, and it is useful to consider this in order to engage with the implications of immersion in art.

Oliver Grau has stated that immersion “is characterized by diminishing critical distance to what is shown and increasing emotional involvement in what is happening.”⁸¹ In that sense, any artwork might be thought of as a potentially immersive experience, inviting a level of engagement best described as a kind of absorption, engrossment or “immersion”. Does a large-scale installation or virtual reality environment offer greater “immersion” than the experience of being transfixed by a small painting on a wall? Arguably, immersion is a condition contingent upon the viewer responding to the artwork, rather than an inherent quality within the artwork alone.

Writing about the pictorial tradition of still life, Hanneke Grootenboer draws upon the notion of conflict, as identified by Victor Stoichita⁸². This “conflict” exists as a schism (or *cut*, as Stoichita refers to it), between the foreground and background in paintings such as Joos van Cleve’s *Holy Family* (1513). The objects on the shelf in the lower portion of the composition are distinct from the space of the Madonna and Child with Saint Joseph. Although the still life objects are relegated to a minor position within the image, they complicate the pictorial space because of their ambiguous location between the viewer and the scene beyond. Grootenboer argues that the notion of the conflict between foreground and background continued to have ramifications throughout the development of seventeenth century Dutch still life painting.⁸³

The *Little Breakfast* by Pieter Claesz. belongs to a relatively brief period of Dutch painting that occurred during the 1630s and 1640s. Both Pieter Claesz. and Willem Claesz. Heda were the primary exponents of this artform known as the breakfast still life. Such works are distinct from the more abundant banquet pieces of the seventeenth century Dutch era. Grootenboer writes, “Not afraid of empty spaces, Claesz. and Heda allow a void to appear in a genre where *horror vacui* once ruled. There is no compensation for this emptiness.”⁸⁴ Focussing her

⁸¹ Oliver Grau, *Virtual Art: From Illusion to Immersion* (Cambridge and London: MIT Press, 2003), 13.

⁸² Victor Stoichita, *The Self-Aware Image: An Insight into Early Modern Meta-Painting*, translated by Anne-Marie Glasheen (Cambridge: Cambridge University Press, 1997), as referred to in Hanneke Grootenboer, *The Rhetoric of Perspective: Realism and Illusion in Seventeenth-Century Dutch Still-Life Painting*, (Chicago and London: The University of Chicago Press, 2005), 64-5.

⁸³ Grootenboer, *The Rhetoric of Perspective*, 65.

⁸⁴ *Ibid.*, 72.

attention on the nondescript background, Grootenboer interprets the void in such a work “as a commentary on the complexity of spatial representation.”⁸⁵

The void here could be said to operate on the level of interference. Where one would conventionally find the articulation of more objects, a narrative scene or an architectural context, the artist has chosen to paint a soft enveloping haze. The schism between foreground and background is articulated in the absence of the background. While this painting belongs to a tradition of illusionistic representation, it also signals a turning away from the “view”.

Describing the impact of the window view implied by linear perspective, Joseph Nechvatal has pointed out “there has been a de-emphasis in the peripheral and the ambient as vision has become restrained by the habits of linear perspective; pre-established habits now encoded in the methods and expectations of photography, video and film. Thus vision has increasingly taken on the attributes of a focused, singular, narrow vision which is staring straight ahead.”⁸⁶ While Nechvatal identifies strategies of immersion that utilize digital virtual reality environments to expand the image and lead the viewer toward a more comprehensive spatial awareness, I would challenge the notion that such an awareness is entirely the domain of the computer and identify a work such as Claesz.’s *Little Breakfast* as very much concerned with the peripheral and ambient.

In the Hugh Lane Municipal Gallery in Dublin, we are able to literally peer through a window into a painting space. Here, we find the studio of Francis Bacon, posthumously reconstructed after having been relocated from its original site in London, where the artist lived and worked from 1961 until his death in 1992. The entire contents of the London studio, including the dust on the floor, were catalogued by archaeologists and moved into the museum in Dublin with painstaking attention to detail.

Bacon accumulated detritus to the point of filling his studio to impractical proportions. Here perhaps is an expression of the *horror vacui* referred to by Grootenboer. But there is a notable absence: the easel is empty and the majority of canvases in the studio have been turned to face the wall. Scanning the floor, one can see a pile of small paintings, destroyed with slashes that leave gaping voids in the canvas. Although Bacon’s paintings themselves are not visible, his visual sources are evident among the many photographs

⁸⁵ Ibid., 73.

⁸⁶ Joseph Nechvatal, *Immersive Ideals / Critical Distances: A Study of the Affinity Between Artistic Ideologies Based in Virtual Reality and Previous Immersive Idioms* (Ph.D. diss., Centre for Advanced Inquiry in the Interactive Arts, University of Wales College, 1999), 395-6, last accessed June 25 2012, <http://www.eyewithwings.net/nechvatal/iicd.pdf>

and various other fragments, and his palette is in evidence in expansive proportions across the door, walls, and surrounding objects. This is the peripheral and ambient space of Francis Bacon's paintings; the indexical signs of his art, perhaps even its aura, without the art itself.

Hermetically sealed behind glass, Bacon's studio is not physically accessible, but the viewer is granted multiple vantage points strategically placed at the doorway, window, and through a small peep-hole in the wall opposite the doorway. As a scopic apparatus for art, the peephole may be considered a rudimentary antecedent of head mounted displays developed for virtual reality technology.

Immersive art is typically thought of in terms of an all-encompassing organization of the visual field, so that a viewer is surrounded by an image, as though he or she has stepped inside a pictorial space. Immersion frequently invokes polysensory experience, i.e., it is typically more than visual and can engage, for example, aural, spatial, kinaesthetic, tactile, and olfactory awareness. Char Davies is an often-cited artist in this field whose two key works *Osmose* (1995) and *Ephémère* (1998) are exemplars of immersive technology. Davies contends that immersive virtual space can "redirect attention from our usual distractions and assumptions to the sensations of our own condition as briefly embodied sentient beings immersed in the flow of life through space and time."⁸⁷

A key strategy behind immersion seems to lie in the purging of interferences, by which I mean any distraction that might call one's attention away from the sovereignty of the work of art over its environment. These interferences occupy the space between the art and the audience, or the peripheral space around the art. An immersive environment might be described as one that removes or diminishes the presence of that which is extraneous to the artwork (e.g. surrounding architecture, furniture, other people, etc.). The head-mounted display for immersive virtual environments is an effective means to deal with this, even obscuring the participant's own body. In the aforementioned works by Char Davies, a participant is able to navigate through digitally constructed space in real time through the control of breathing and balance.

However, the experience of immersion is always contingent upon a participant's responsiveness and susceptibility. Francis Dyson points out "there are *multitudes* of technical

⁸⁷ Char Davies, 'Virtual Space', François Penz, Gregory Radick and Robert Howell, eds., *Space: In Science, Art and Society*, (Cambridge: Cambridge University Press, 2004), 69-104, last accessed June 25 2012, <http://www.immersence.com/publications/char/2004-CD-Space.html>

and circumstantial impediments to forgetting the presence of the apparatus”⁸⁸. Referencing Char Davies’ work in particular, Dyson quotes Richard Coyne’s remarks regarding “the heavy headset, the low image resolution, the noises in the museum, the time constraint, and so on.”⁸⁹ If one regards interference as an inevitable component of immersion, immersive methodologies might logically incorporate strategic interference, or “contaminated immersion”.

While digital technology has been implemented to simulate the sensation of entering the image, such a strategy is not unprecedented. As Oliver Grau has demonstrated⁹⁰, there is a long history of immersive art practices that can be traced back to classical antiquity, and the nineteenth century panorama is worth considering in this respect.

The term panorama is a combination of words of Greek origin: *pan*, meaning “all”, and *horama*, meaning “view”. In a publication to commemorate the centenary of the Mesdag Panorama in Den Haag (constructed in 1881 by Hendrik Willem Mesdag), Paul A. Zoetmulder wrote “the secret of the panorama lies in the elimination of the possibility to compare the work of art with the reality outside, by taking away ‘all’ boundaries which remind the spectator that he is observing a separate object within his total visual field.”⁹¹ In practice, however, the image of the panorama does not constitute the totality of the visible space, and strategies were employed to address the transition between the viewer and the image.

One such strategy is the placement of extraneous objects in front of the panorama as props to aid the illusion, expanding the image into the three-dimensional space of the interior that the panorama encircles. The objects in this zone were known by the French term “attrapes”, and Zoetmulder attributes this innovation to the French panorama painter Jean-Charles Langlois, also known as “The Colonel”. Zoetmulder writes, “Gradually this technique was further

⁸⁸ Francis Dyson, ‘Chapter 5. Immersion’, *Sounding New Media: Immersion and Embodiment in the Arts and Culture* (Berkeley: University of California Press, 2009), 107-135, last accessed June 25 2012, <http://www.immersence.com/publications/2009/2009-FDyson.html>

⁸⁹ Richard Coyne, *Technoromanticism: Digital Narrative, Holism, and the Romance of the Real* (Cambridge, MA: MIT Press, 1999), 159, as quoted in Dyson, *Sounding New Media*.

⁹⁰ Grau, *Virtual Art*.

⁹¹ Paul A. Zoetmulder, *The Panorama Phenomenon: Mesdag Panorama 1881- 1981* (Den Haag: Foundation for the Preservation of the Centenarian Mesdag Panorama, 1981), 18, last accessed June 25 2012, <http://www.n3krozoft.com/dead/08.8.html>

refined to the extent that the tri-dimensional attrapes faded perfectly into the bi-dimensional canvas, thus creating a very realistic effect."⁹²

Many of the panoramas popular with audiences in the 19th century no longer exist, however, as far as I was able to observe at the Mesdag Panorama, there is a discernable rupture between the intermediary terrain where the *attrapes* are situated and the panoramic painting. Viewing the panorama at its perimeter, an angle not normally visible to the spectator, this rupture is revealed as an actual chasm.

At the *New Imaging* conference held at Artspace in Sydney in 2010, Stephen Little recounted his experience of being intrigued by the wall space between two paintings, in which holes indicated that a painting had possibly been removed from the exhibition. The experience correlates with Little's strategies to critique painting through "a refusal of traditional means"⁹³. He remarked that the blank space "had offered a more fulfilling and informative encounter with painting than any of the works on show."⁹⁴ While this may be interpreted as an indictment of the paintings in that particular exhibition, it also evidences the potential significance of the environment extraneous to the art on display. If the wall-space between two paintings can be valuable contemplative terrain in competition with the adjacent art, it is apparent that no space is entirely neutral, just as no space is inherently immersive.

Thomas Demand's exhibition *The Dailies*, a Kaldor Art Project, could be said to operate within the space between. Kaldor's sponsorship of major projects in public spaces by international artists is well-known, beginning with Christo and Jeanne-Claude's wrapped coast in 1969 and including Gilbert & George, Jeff Koons and Bill Viola. For the 25th Kaldor Public Art Project in March and April 2012, Thomas Demand's installation occupied the Commercial Travellers' Association club at Sydney's MLC Centre, a building designed by Harry Seidler. The venue was specifically selected by the artist to house the installation.

Installed throughout hotel rooms on the fourth floor of the building, the surrounding environment was integral to the reception of the work, and taken as a whole, the work may be considered an immersive installation. The idiosyncratic design of the hotel is at the forefront of the viewer's experience of the exhibition. The artist has not tried to dominate the space;

⁹² Ibid., p19.

⁹³ Su Baker, Melanie Oliver and Paul Thomas (editors), *Column 7: New Imaging: Transdisciplinary strategies for art beyond the new media*, (Sydney: Artspace Visual Arts Centre Ltd, 2011), 89.

⁹⁴ Stephen Little, 'Painting in Transit', Su Baker, Melanie Oliver and Paul Thomas (editors), *Column 7: New Imaging: Transdisciplinary strategies for art beyond the new media*, (Sydney: Artspace Visual Arts Centre Ltd, 2011), 28.

rather, the installation is more like a series of understated interventions designed to assimilate with the environment.

Demand enlisted collaborators to contribute to his installation. Having noticed the Prada store in Martin Place from the window of one of the CTA hotel rooms, Demand invited Miuccia Prada to manufacture a fragrance for the exhibition. Every room was installed with a scent dispenser that emitted an aroma made from a synthesis of green leaves. The scent was subtle and difficult to discern. Also for the exhibition, the novelist Louis Begley wrote a short story, *Gregor in Sydney*, entailing a series of experiences in the CTA hotel narrated by a fictional business traveller. Fragments of the story were disguised as menu cards and inconspicuously placed in each room.

The venue of the exhibition significantly informs the reception of the work. The central shaft of the tower houses the elevator and rises from the underground bar and function rooms up to the floors above on levels four and five. Level four consists of 16 single hotel rooms, 15 of which were used for the installation of *The Dailies*. Visiting the exhibition on a typical day in March or April, one exited the lift on level four and entered a circular corridor punctuated by a series of closed hotel room doors. A volunteer was there to welcome visitors and encourage exploration of the environment. Selecting a door and entering, a visitor would find a wedge-shaped room just large enough to accommodate a single bed, a desk, a wardrobe and a mini-bar fridge. At the wider end of the room one could look through the curved window in the outer wall of the building to a view of buildings and streets in the vicinity. On the wall above each single bed was a photograph by Thomas Demand. Demand is known for his photographs of life-size paper models constructed in his studio. These models are typically based on found photographic images often charged with historical or political content.

For *The Dailies*, Demand turned to more quotidian subject matter. For a number of years, the artist had been using his phone camera to capture images of ordinary things he observed on his travels: a power outlet detached from a wall in an Ethiopian airport, a paper cup stuck in a fence, an ash tray full of butts, a screwed up piece of paper in the gutter. These photographs became the source for a series of paper reconstructions built in his studio, which were then photographed. The images could be classified as rhopography, defined by Norman Bryson as “the depiction of those things which lack importance, the unassuming material base of life that ‘importance’ overlooks.”⁹⁵ In relation to the historical emergence of still life as a genre, Grootenboer refers to still life objects as “parerga”; in other words, subsidiary or peripheral.

⁹⁵ Norman Bryson, *Looking at the Overlooked: Four Essays on Still Life Painting* (London: Reaktion Books, first published 1990, reprinted 1995), 16.

As she points out, still life objects traditionally “appear at the border of representation, at its margins, on its frame or verso.”⁹⁶

Peripherality played a key role in *The Dailies*. The installation directed one’s attention toward the extraneous and tangential. To experience the exhibition was to experience a series of digressions. In the context of the installation in the hotel, one cannot consider Demand’s fifteen photographs in isolation. Instead, a complex set of associations between the photographs and the environment were to be detected. The view outside a hotel window could often be found to have a visual resonance with an aspect of *The Dailies*. For instance, an image of a ceiling with missing panels related to the trace of removed signage from a nearby building façade.

New red-brown bedspreads were manufactured to ensure consistency from room to room. Likewise, the walls were freshly painted a particular shade of off-white. These modifications to the décor contributed to a pronounced sense of blankness throughout the exhibition. Like the crisp planes of clean paper in his photographs, the clean walls and new bedspreads were devoid of indexical signs of the kind of history and events that one might imagine in a hotel room. Indeed, the single beds further underscored an abiding sense of sterility and isolation.

Moving through the series of uniformly designed rooms around the circular building elicited a sense of disorientation. Once inside a room, there was little about the interior to distinguish one from another aside from Demand’s photographs. To aid one’s bearings, the visitor would be better served to be attentive to the series of views through the windows, which cumulatively amounted to a 360 degree view, as suggested by the panopticonic design of the CTA building. The enveloping space of the 19th century panorama has obvious parallels.

The subjects in Demand’s photographs reveal themselves as ersatz objects, like the *attrapes* of the panorama, designed to misdirect and confound. And as we regard the space surrounding the photograph, everything becomes contingent. *The Dailies* simultaneously courts immersion and interference, and the effect is disorienting. Expanding the image beyond the confines of the frame, Demand’s installation blurs distinctions between art and “non-art”, emphasising the agency of the audience to locate hidden or unanticipated connections in the surrounding environment. Roland Barthes wrote about an element that will “break (or punctuate)” a setting... “it is this element which rises from a scene, shoots out of it like an arrow, and pierces me. A Latin word exists to designate this wound, this prick,

⁹⁶ Grootenboer, *Rhetoric of Perspective*, 64.

this mark made by a pointed instrument.”⁹⁷ Barthes’ word for this is *punctum*, which he likens to a “sting, speck, cut [or] little hole.”⁹⁸ Demand’s installation immerses us within this kind of space: inside the cut, the rupture, the schism of the breakfast still life, the chasm of the Mesdag Panorama.

⁹⁷ Barthes, Roland, *Camera Lucida: Reflections on Photography*, translated by Richard Howard (London: Vintage Books, 2000), 26.

⁹⁸ *Ibid.*, 27.

BIOGRAPHICAL NOTES

David Eastwood is an artist who works primarily in drawing and painting, using the interior as a genre through which to construct composite images that reconfigure spatio-temporalities, re-evaluating relationships across historical periods and locations. He is currently investigating artists' studios as sites of immersion and invention, with a particular focus on the re-contextualisation of studios as posthumously reconstructed museum artefacts. He is represented by Robin Gibson Gallery in Sydney, and is the Associate Head of Painting at the College of Fine Arts, University of New South Wales.

Everyday, everywhere and the erasure of measure

Associate Professor Donal Fitzpatrick

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ABSTRACT

Since the ‘readymade’, contemporary art practice has claimed for itself a space belonging to both art and the everyday and yet belonging completely to neither. It exists as a set that belongs only to itself. Barbara Formis (1) has characterised this incoherent doubling as the ‘intervallic’ nature of the readymade when considered in relation to Alain Badiou’s concept of the ‘event’. This intervallic or undecidable element of contemporary art practice in the 21stC encourages the emergence of new forms within the engorged image field of contemporary global culture. This indiscernible state offered by the collapse of difference between the everyday and art creates a new context and the opportunity to open a portal of equivalence and the potential to influence both the everyday and art.

This paper will examine the ‘intervallic’ nature of contemporary art and its capacity to interfere with global culture. The paper will examine the digital photo-image artworks of New Zealand /Korean artist Jae Hoon Lee as a proposition which simultaneously addresses and then undermines our sense of conviction of what dimensionality represents, or indeed how it is represented at all. His work offers a critique of the utopian and idealised confections of global culture presented as a type of positive ‘nomadism’ and represents this state as an exemplar of the means by which we suppress the local in order to fabricate the global and erect a circumstance that facilitates exploitation within the instability of the space between art and the everyday.

KEYWORDS

Readymade, interference, everyday, memory, art

Since the readymade, contemporary art practice has claimed for itself a space belonging to both Art and the Everyday, and yet belonging to neither. This indiscernible state is the subject of Barbara Formis' interesting examination of the readymade as a modern art paradigm, considered in terms of Alain Badiou's concept of the event, in her article "Event and Readymade: Delayed Sabotage". (Formis, 2004.)

Badiou's theory of the event defines a state of rupture occurring within a situation that leads to its transformation. The specific point of emergence within a historical situation is defined in his theory as the 'eventual site'. Additionally, the event's appearance within the situation is one of disappearance and this is what he refers to as the 'effacing inscription' in which the active agents of the event are effaced. Importantly the character of the event always requires its being described as illegitimate and therefore prohibited by the situation. (Formis, 2004. Pp. 250-252)

Formis has shown that the readymade can be defined as an event in Badiou's terms. In her analysis two major eventual sites are established by the example of the first exhibited readymade, the 'Fountain' by Marcel Duchamp. The first of these eventual sites is historical and the second is ontological, the first being the exhibition itself and the second the revealing of the hidden elements of Art as practice.

As an industrial object the readymade was prohibited by the situation of Art because its acceptance would have overturned and rendered invalid the existing definition. Its appearance is both a rupture of the existing order of Art and a positive gesture leading to a deeper understanding of the hidden material characteristics of Art. These elements within the production of Art that are 'present but not represented' reveal that Art is always at the ontological level a readymade. (Formis, 2004, pp, 249-250)

This identification by Formis of the two eventual sites of the readymade, the historical and the ontological, creates a relation between artistic procedure and Badiou's theory of the event. The readymade like the event involves the passage of some elements from presentation to representation. In the case of the readymade Formis also establishes that this process took from 1917 until the 1960's to be accepted and recognized and hence the term 'delay' in the article's title referring to the readymade's 'sabotage', the sabotage of artistic procedure through the effacement of each of the operational elements, the object, the spectator's gaze and the artist's actions. The readymade's prohibition by the situation of Art at the time of its appearance in 1917 and then its later delayed return in the 1960's until today in its final

canonization as the universal emblem of contemporary Art fulfils Badiou's terms for the definition of an event. (Formis, 2004, pp.253)

However, Formis raises some novel concerns regarding the readymade as event, since the readymade can never be considered as a work of Art or as an ordinary object but must always be both, indeed the paradox of the readymade is identified in its undecidability. She argues that the readymade presents itself "as an interval between its own name and elements of its ontological eventual site". This multistability renders its nomination paradoxical, a paradoxical duality, and it is this state that Formis identifies as what she calls its 'intervallic' character. Duchamp himself had drawn attention to this unique and seemingly elusive state in his defined concept of 'infralim', the situation when the difference between two or more characteristics of an object cannot be identified. This is the origin of his famous example of the odour of tobacco smoke being married to the smell of the mouth which exhales it. The readymade at the very least establishes an erratic relation between the work of Art and everyday objects and raises the prospect of a special interrelationship.

Significantly Formis further explores the intervallic nature of the readymade, and examines the position that since Art and the everyday have become indiscernible, and this state of undecidability has transformed the perception of Art, might not the more complex possibility of reciprocal relations back from Art to the everyday be possible? The establishment here of an equivalence makes for the possibility of the consideration of a representational object (artwork) as a presentational one (banal object). It is in this passage from Art to non art that perhaps exists an undiscovered terrain of revolutionary potential. (Formis, 2004, pp. 255)

The space opened up by the readymade, considered as a Badiou event and thought of in these terms, could be characterised as a kind of portal, that allows for the passage as has been established from the everyday into Art, but also back from Art into the everyday. This latter aspect has not been sufficiently understood as a latent potential within the possible. Thus far and with rare exception this has been understood by artists and has operated in practice, only as an extension of Art itself, but a portal offers greater possibilities for subversion, even the opportunity for the interference and upheaval of the everyday itself.

What then of the situation today and the opportunities for the displacement of the everyday?

In the 21stC we exist as contemporary beings in an ocean of information and this situation is akin to the recent discoveries regarding our relations as biological organisms to bacteria. We, the authoritative we, exist as perhaps only 10% of the cells that make up our bodies. We are

host to many other cellular life forms, indeed we exist as a kind of collective ecosystem. The myriad bacteria that vastly outnumber our own cells include not only bad bacteria that we understand as invasive pathogens but also good bacteria referred to as commensals (from latin for sharing the table). These bacteria aid and assist us in important ways including the operation and effectiveness of our immune system. We consider ourselves operating within this system as pure and removed or even absolute beings, the we within the constitution of our biological presence as a particular entity, and we exercise a hierarchy as a result but this is perhaps untrue or unhelpful as a way to think and is based on an active suppression of our total biological being that goes unrecognised. (Ackerman, 2012, pp.21-27)

We, in this circumstance, the we within consciousness establishes similar hierarchies as thinking subjects, we identify reaction and reflection as responses to stimuli and experience these as the most common forms of ordinary mental activity. We can reserve the special status of absolute thought for those rare intermittent moments, perhaps twice or three times in a lifetime when real lucubration overtakes and overwhelms us. But is this hierarchy any longer valid in our contemporary situation of utter immersion within the fields and oceans of data and information?

Thinking as an activity, be it garden variety reacting, reflecting or pure lucubration, establishes a gap between the multiplicity of our being and its appearance to us as our being in the world. But how does our being appear to itself? (Zizek, 2004.p.174)

Thinking as an active demonstration of being establishes something particular in relation to subjective recognition, from within such a situation even the ignorance of or failure to recognize the irruption of original thought into the field of consciousness must at least always already be accounted for in terms of its effect upon everything else appearing within that situation. It is within this new special relationship to information that thinking functions in a perhaps more complex and subversive manner. Here the image arises of subjectivity as a product of sources external to its own dynamics, read as thinking being into existence, subject to the constant stream of stimuli from the field of the already extant. This is the emergence of the new as a special disturbance within the field of the always possible. (Zizek, 2004, P.179)

In this context thought as pure lucubration and as an intermittent event represents an articulation of the potency of agency as that which is forced through the portal between the exterior and the interior. Badiou has said that he thinks of our interiority as being ‘exactly composed of our exteriority’. In terms of the event this can be thought of, as Zizek observes, as the event being nothing but its own inscription into the order of being. For Badiou there is no higher being, no beyond being, only being that inscribes itself into the order of being, and

in any case what really matters is not the event itself but its consequences, the new discourse that emerges from the event. (Zizek, 2004, p.179)

In this regard the engorged field of thinking activity that each human subject now possesses via the impact of digital information and the new social media means amongst other things that the old divisions between professional and amateur, particular and universal, begin to break down. The ubiquitous presence of others is the hallmark of social media's impact in allowing for the expansion and participation of individuals in global dialogues. My own research team at Griffith University has been examining the role of these media on the developments of Edemocracy. Crucially there remains the question of whether this new media reconstitutes along banal lines of connection and communication, establishing little more than an expanded frontier of friends and acquaintances. The presence of this media offers the more radical potential for the re-emergence of an ancient conception of citizenry where the best of our lives happens in a public sphere rather than behind closed doors in individuated privacy. The best of our lives could happen, or potentially happens, in a new and enlarged community of others.

A part of the desire for transdisciplinarity may well be the seeking of this ambiguous state and the emergence of new forms of practice and conceptions of the artist, not inter relationships within cognate fields of practice but new relations arising from a radical insertion of practice into new and even unwelcome fields. New definitions, although perhaps also reminiscent of Duchamp's old definition of the 'anartist', a figure who becomes an artist by ceasing to be one, by a process of becoming something else, something subversive like an infiltrator.

I have chosen to look in this paper at two artists working locally, Jae Hoon Lee, a Korean / New Zealand artist and Debra Porch, an Australian / American artist of Armenian descent.

Jae Hoon Lee's works *Residue 1* and *2* function as a kind of monstrous remembrance, a monument to the forgotten and the discarded, an image of a collective mass of information in the process of absorption into the mind, a system of recollection and of sifting, identifying, selecting and deselecting and ultimately rejecting and forgetting.

His works raise questions regarding the nature of location and our perception of 'land'. In these images we see presented an unsettling order of familiarity and unfamiliarity. They speak of another order of geomorphological possibilities and evoke memories of primal material experiences of soil and water, but presented to the viewer in such a way that they

resist accommodation by our recognition, they contain some potential to exist as new forms, as an impossible possibility. Jae Hoon establishes in these works a visual equivalence for the rhythmic shifts of disappearance and appearance as characteristics of memory and the function of repetition serving to collect and aggregate both the identified and the dynamically misremembered.

In erecting these disparate and uncommon landforms he evokes a peripatetic sense of vision over determined by movement, and this has an acute resonance with his own displaced lived experience and insertion within cultural communities from India to New Zealand. This practice echoes the sense of other migrations and other peoples movements. The mobilized spatial movements of peoples in the contemporary world is anything but free, it is an experience of movement and displacement utterly conditioned by the political and economic status of individuals and their circumstances.

The experience of peoples contemporary migration from the land to the city or from one country to another is not one of free floating aspiration embarked upon some vicarious form of the derive, they are not people seeking a vague illusion of freedom, these are peoples who do not wish to be free, they wish to be embraced, they are most commonly displaced, homeless, devoid of work, without status or future, lacking cultural or sexual identity, they are the dispossessed on a journey from unemployment or persecution to uncertainty and probable underemployment. In an era characterised by the terror and control of movement they represent an instructive direction in which the interference capacity of Art could be directed at 'borders', be they real or imaginary. (Zizek, 2004. Pp. 169)

In Debra Porch's recent work in Armenia she speaks eloquently to this contemporary dilemma of where is anywhere? She constitutes the practice of the 'anartist', a practice based on cultural insertion and subversion.

From the window in the schoolroom in Yarravan that served as her studio and the site of her installation we see the imposing edifice of Mt Ararat. Fittingly this mythic and famous peak was the only land to become visible following the flood, the biblical icon of total disaster, and within this early mythic blockbuster the principal survivors functioned as a kind of selective ecosystem permanently adrift until the mountain appeared on the retracted horizon.

In Porch's work the mountain functions more as a fulcrum on which the memory and erasure of Armenian culture pivot. The mountain figures centrally in the mythology of the Armenian diaspora and is held as an unchanging icon of remembrance aligned against the determined

erasure of Armenian cultural presence both through the actions of Turkish suppression and genocide and the selective forgetting of subsequent Soviet era regimes and Euro-North American global commercial interests. The image of Mt Ararat now appears printed on everything in Armenia, on the currency, the stamps, even the passports of the citizens, an icon of an authoritative ghost of memories past, and this is especially revealing given that the mountain itself is no longer on Armenian but Turkish soil.

The situation for the Armenian diaspora is to exist within the operation of a type of negative synecdoche where the identification of the non part operates in relation to the whole. The unrecognized material experience of a place that has been so completely transformed by scarring memory and erasure that it is framed by the globalised rhetoric of Armenia as a now independently constructed state whatever the circumstances of its actual borders. (Zizek, 2004. Pp. 66-68)

Everything should be accepted into this limitless unfolding, the past should be forgotten, this disappearing is a form of contemporary depoliticization, it is the same everywhere, a return to a state of abatement, a stasis, even when there is a cry of fatigue for such a state of 'normality' arising from people at the very moment of revolutionary liberation, as we have seen recently in Egypt and Greece. The dilemma of what to construct in the non space of contemporary politics is always the circumstance of those subtracted from the state as a presence not properly represented. (Zizek, 2004. pp. 180)

Debra Porch's work positions the icon of the mountain in the same frame of the windowed school room and produces a daily meditation on the state of the retracted horizon interrelated with the zig / zag memories of her own displaced familial and historical migrations. This space is presented as the unstable dynamic of a linear schematic, a creative rendering of space / place as an imaginary construct locatable only within the persistence and erasure of memory and evoking Armenia as an unrepresented presence.

Both these artists use a form of interference, a going where they are not wanted, an insertion of the artist as non artist or as 'anartist' within an existing situation, offering the opportunity for subversion as a type of systems invasion. Their works achieve a disruptive viral intensity in a clamour of community aspiration and constitution, against their own disappearance within that cultural field, they offer the difference between the undecided and unaccounted actions of struggle, as opposed to the blandishments of professional Art practice.

NOTES

Ackerman, Jennifer. 2012. 'The Ultimate Social Network.' In 'Scientific American', June.

Badiou, Alain. 2008. 'The Century.' Polity, Cambridge, UK.

Byrne, Peter. 2011. 'Bad Boy of Physics.' In 'Scientific American', July.

Formis, Barbara. 2004. 'Event and Readymade: Delayed Sabotage.' In 'Communication and Cognition', Vol.37, nr. 3&4, pp. 247-261.

Zizek, Slavoj. 2004. 'From Purification to Subtraction: Badiou and the Real.' In 'Think Again: Alain Badiou and the Future of Philosophy', (ed) Peter Hallward, Continuum, London.

BIOGRAPHICAL NOTE

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Unknown Unknowns: things we do not know we do not know

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In *A Voyage on the North Sea: Art in the Age of the Postmedium Condition*, Rosalind Krauss, commenting on the omnipresence of digital imagery in the visual arts, proposes the notion of a 'postmedium' environment where no one mode of artistic expression takes precedence over another. In this milieu, photographic and video images are to be found manifest in a range of contemporary work, usually under the rubric of so-called 'new media'. Referencing Frederic Jameson, Krauss suggests that the image, whether produced by advertising, communications or cyber media, saturates cultural space and problematizes every aspect of the aesthetic experience, including the very nature of the individual work of art. My paper, including references to my own art practice, will address lens-based imagery not only as the product of the discrete photographic apparatus, but also in terms of what Lev Manovich has referred to as the digital 'synthetic photograph'. I will also consider the democratization of the networked image, which has been achieved through popular intervention in its structural, social and political substrates – from the '9/11' era of the handy cam to more recent camera phone reportage; and from 24-hour CNN image bombardment to the immersive world of computer simulation games.

In this paper I'd like to reflect on some ideas referencing the theme of *interference* or *intervention* by regarding the photographic image medium not as a discrete manifestation emanating from the camera, but rather as a flexible framework that has been modified and expanded by digital technology. I'm going to look firstly at the phenomenon of instantaneous global image distribution and secondly at the digitally generated images of simulation graphics – what Lev Manovich(1), has termed *synthetic photographs*. Both these functionalities have irrefutably changed the nature of the image's influence and function in the topography current art practice.

In her book, *A Voyage on the North Sea: Art in the Age of the Postmedium Condition*(2), Rosalind Krauss comments on the omnipresence of images, particularly digital images, in a range of visual art strategies and approaches. Referencing Frederic Jameson, Krauss suggests that the image, whether produced by advertising, communications or cyber media, saturates cultural space and problematizes every aspect of the aesthetic experience, including the very nature of the individual work of art itself. Taking such a proliferation into account she thus proposes the notion of an environment where no one mode of expression takes precedence over another – a 'postmedium' environment.

We know that a broader definition of the image has also not escaped Baudrillard's scrutiny. Questioning the relationship between photography and the digitally generated image he asks with regard to the latter, 'Can this be an image, where the technical fine tuning... is perfect [and] there is no room for fuzziness, tremor or chance?'(3) He has as much as suggested that digital multimediatizing constitutes an, 'opening up to the infinite', and that this *deregulation* is 'literally the death of photography by its elevation to the stage of performance'(4). If

Baudrillard indeed declared the imminent death of photography, there is however no doubt that it still remains fully manifested in a host of mimetic digital algorithms.

Deregulation has also resulted in some very positive outcomes – among them the wresting of the image from the dominant control of media networks. This scenario has been realized in the interplay between the syndicated image content industry, as represented chiefly by news media, and the evolving social role of the documentary image produced within the public domain and distributed on the Internet – what one might term the *democratised image*.

Before we look at the relationship between syndicated and democratised media, I'd like to consider the historical distinctions between two modes of image capture and distribution that in part defines the two – *delayed-time* and *real time* transmission. It is in the difference between these modes that the quantum change in image theory and praxis has taken place during the first decade of this century. In understanding this shift it might be useful here to consider Virilio's differentiation between orders of image logic as he sees it, each corresponding to a particular stage of historical development(5).

According to Virilio, the eighteenth century in the West provided the *formal logic* to be found in painting, engraving and architecture. Here, durational flow is of little relevance. The figure situated in a composition, arrested in the moment, is of paramount importance. Time, it may be said, is absolute.

Photography and cinematography provide the framework in the late nineteenth and the twentieth centuries for the next stage – *dialectical logic*. Here the image corresponds to a specific event in the past, its transmission is essentially one of delay. It is this type of image that up until recently we have grown most used to as constituting documentary and news photography. On 11 September 2001, CNN and other major networks inadvertently extended these boundaries while covering news of the attacks on the World Trade Centre Towers by broadcasting their collapse in real-time.

This event, apart from constituting one of the defining moments to date of the twenty-first century, also initiated a transition in the primary production of news images. Significantly, the event also marked the global introduction of the transmission of documentary or evidential images emanating not from network cameras, but from *handycams* in the public domain. Thirty-eight years after Zapruder's JFK film, the era of the democratised image began in earnest.

The omnipresence of personal recording devices on the streets of New York that morning ensured a significant repository of images. Video cameras were rolling when the planes hit the towers. Those tapes soon found their way to the news networks. But the real revolution – the real time, instantaneous transmission of news from the public domain – had not yet quite begun.

By the time those images were broadcast several hours later, their images had become fixed in time past, and so like the Zapruder film, they were products of Virilio's age of cinematography. I say that the real revolution had not yet begun because the 9/11 happenstance image sequences gained their critical momentum not by their instantaneity, but by their constant iteration over the following days. The image loop became, as Virilio has observed, the ‘“signature” of contemporary disasters... as though only repetition could remedy the inexplicable’(6).

Over the decade since 9/11, the conventions of photography and cinematography have been progressively superseded by Virilio's third kind of image logic – the *paradoxical logic* of the digital age. Here, according to Virilio, 'the real-time image dominates the thing represented... virtuality dominating actuality'(7). With the development of photo and video functions for mobile phones, images of significant events are being captured by the public and transmitted in real time to a global audience, bypassing the syndicated networks.

Arguably the first demonstration of this phenomenon attributed to a globally significant event was the spectacular and immediate distribution in 2006 by a witness's mobile phone, of video images of Saddam Hussein's execution. CNN reported what was termed a *Bluetooth frenzy* in Iraq as the images were transferred from phone to phone in cascades of real-time, streaming *citizen's broadcasts*(8). It then took only a short while for the images to be picked up on Google.

Since then, we've witnessed other significant global events distributed in a similar manner, in real time: the London underground bombings in 2005; the capture of Gaddafi in 2011; and more recently, the events in Egypt's Tahrir Square and the massacres in the Syrian town of Homs. What is significant about this use of technology is that real-time news had been produced, not for consumers by media networks, but *for* consumers *by* consumers. This poses some very interesting challenges to the dominant face of global news syndication as we've known it. The rapid expansion of a legion of image sharing platforms to support popular distribution (*YouTube, Facebook, Flickr* and *Twitter*) attests to this.

Seizing the opportunity, media networks have exploited these developments to coopt images emanating from the public sphere and control their distribution. On 20th January 2009, CNN invited members of the public attending Barack Obama's inauguration to use phone cameras to capture the moment the new president raised his hand to take the oath. Participants were to send to the network as rapidly as possible 5Mb wide-angle, mid-zoom and full zoom images of their points-of-view of the spectacle.

An interactive digital composite of photographs was then created with Microsoft's Photosynth software and distributed virtually instantaneously on the Web. Anyone then able to download the viewing software, available free from Microsoft, could then navigate almost 360 degrees in and around the scene. It was CNN's intention to 'make average people virtual historians'(9) and to 'create the most detailed experience of a single moment ever'(10). Although this moment would also mark an attempt by the corporate media to reassert control over public distribution, the digital image has irrevocably established itself as a fluid medium, easily able to migrate between public, private and corporate domains.

Virilio's prophecy has been realized – that of the 'generalized tele-surveillance of a world' in which, as he puts it, 'the famous virtual bubble of the financial markets (has been) supplanted by the visual bubble of the *collective imaginary*'(11). He posits the emergence of an organized public, comprising *virtual communities*. 'Communities of believers, organized in networks around the Internet... "telepresent" one to another'(12), as Virilio describes it. He posits the creation of a *teletopographic locale... a new kind of space*, comprising real time image and audio streams functioning beyond the influence and authority of syndicated media. However, Virilio offers a note of caution for it is in this arena of immediacy that he identifies the hazard of what he calls the *fusion/confusion* of the factual and the virtual and the 'predominance of the *effect* of the real' over a reality principle(13).

Far from being catastrophic, it is at this very point of collapse that the democratised image can provide a potent contextual framework for application in art: to function as the basis of a

reinvigoration of memory and a socially and politically charged re-examination of historical events. Despite Baudrillard's foreboding, the 'contamination of reality' begins to sound more and more interesting – from an artist's point of view.

I'd like now to consider those extensive *communities of believers* for whom the *fusion/confusion of the factual and the virtual* represents not the highway to perdition, but rather the way to nirvana – and that is the mimesis of reality represented by the synthetic photograph in computer simulation games.

The object of these games is to render believable teletopographical locales into which players can project and apply a number of their senses. Players interact by means of *avatars*, personal entities that exercise one or several identities. During the process of gameplay anxieties, elation, and moral and ethical dilemmas are identical to those experienced away from the consoles. To all intents and purposes, the participant *is* experiencing reality.

But as Lev Manovich points out, 'what is faked is, of course, is not reality but photographic reality, reality as seen by the camera lens... not our perceptual and body experience of reality, but only its photographic image'(14). What makes these computer graphics images so compelling then, according to Manovich, is that, 'over the course of the last hundred and fifty years, we have come to accept the image of photography and film *as* reality'(15).

However, the mathematical complexity of creating a complete representation of reality is, as Manovich puts it, *full of gaps*. The more precise rendering of certain aspects of reality comes at the expense of others. So, like real time images transmitted by camera phone, the realism in computer simulation is still somewhat uneven. We rely on memory to complete the ellipses.

It is in these gaps and this state of continual becoming that I've explored the affective potential of synthetic photography in my own work. In the installation, *Avatar (2005)*, I attempted to open up the experiential space of the constantly reiterated barrage of media images emanating from the 9/11 disasters. Using an off-the-shelf computer game, Microsoft Flight Simulator, I constructed a quasi-narrative sequence aimed at blurring the topographical and timeline parameters of the now iconic 9/11 images.

Baudrillard has described the immersive pull of the computer screen as being like 'a sort of umbilical relation'(16) – a tactile connection through which the viewer can enter the *fluid substrate of the image*. It was my intention to insert into this circuit a factual, historical dimension *via* the virtual, and to establish within its gameplay, a site for memory, memorialization and critical reflection on our post 9-11 world.

Avatar visualized a 9/11 scenario, proposing as *Ground Zero* not New York, but, Sydney. The target would be the Governor Phillip Tower, which houses key financial institutions and government offices. Whether or not I was in breach of copyright or Australia's then new sedition laws, or both, was not an issue for me. It *was* important however, that I use software easily available to anyone and to image the unimaginable, as anyone might have the opportunity to do. I subsequently found out that after the fall of Kabul late in 2001, Western journalists reported having come upon editions of Microsoft Flight Simulator in what had been Al Qaeda safe houses(17).

The core of the installation was situated inside an aluminium garden shed, which I wedged between two walls in the gallery. The banality of this domestic setting is suggestive of the clandestine preparations that might be taking place in a suburban setting somewhere – even

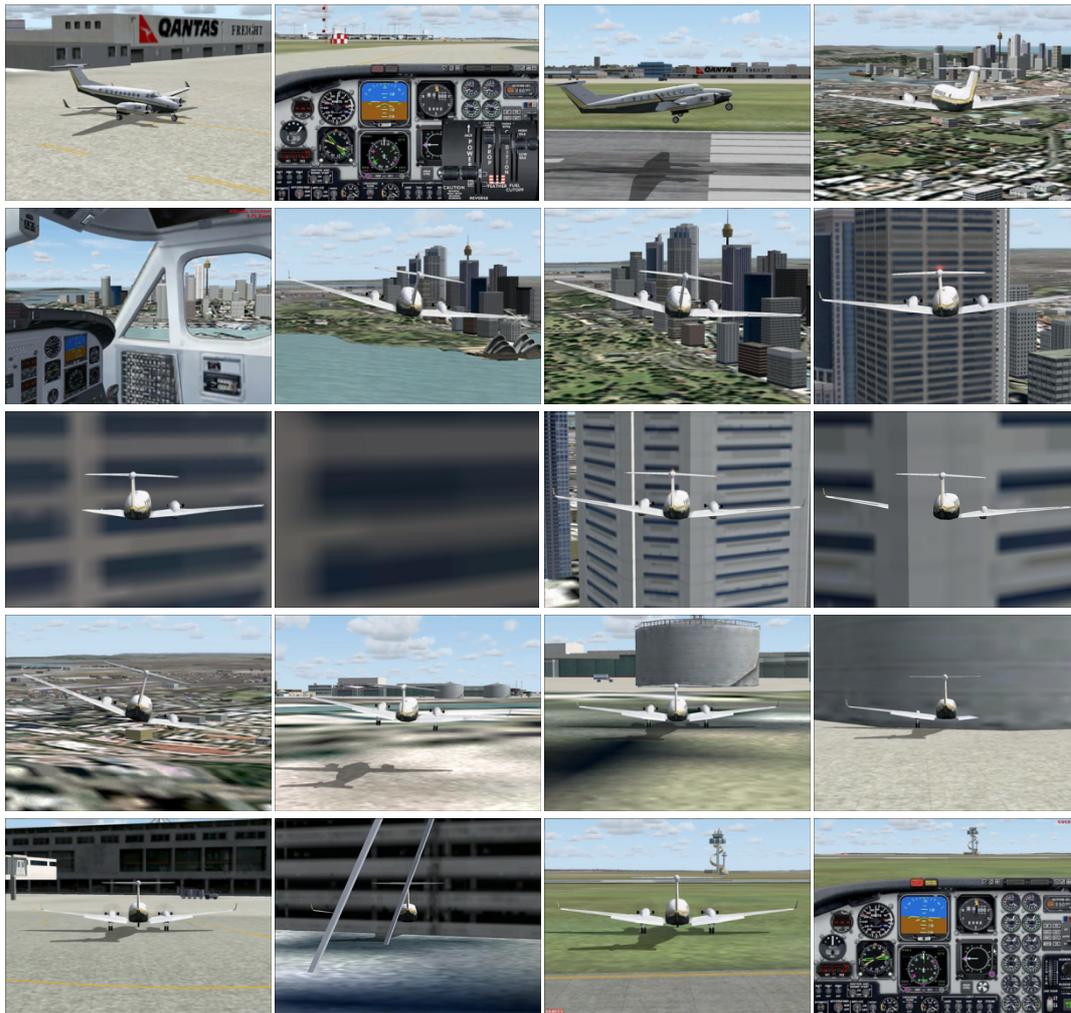
as we speak. The installation featured a digital graphics sequence, viewed on a monitor set up on a workbench. The shelves carried a computer, audio speakers and a utility box holding the sound components for an external loudspeaker.



Michael Goldberg, *Avatar* (2005), Ivan Dougherty Gallery, Sydney.

The 12-minute looped graphics component was created using standard flight simulator protocols and commences with a twin-engine aircraft going through its pre-flight sequence outside a Qantas airfreight building at Sydney's international airport, realistically rendered in all detail. Accompanied by authentic air-traffic control exchanges, the plane takes off and heads north.

A short while after passing the Harbour Bridge, it turns sharply and the city comes into view from the cockpit. Air-traffic control requests radio contact, but there is no response. The plane gathers speed and, nearing the city's famous Opera House, it reaches the point of no return. It becomes apparent that the aircraft has become a projectile and the Governor Phillip Tower is now a target.



Michael Goldberg, *Avatar* (2005), video stills.

Expectations of a cataclysmic event follow. But there is no impact and no explosion; no fireball with showering glass. Instead dream-like the aircraft flies straight through the building as if it weren't there, with the trajectory taking it through the office blocks behind as well. The city has been spared as if by some miracle.

After completing its run, the aircraft heads back towards the airport where it lands, passing unscathed through fuel storage tanks and the airport building itself. Finally, coming to a stop in front of the control tower, the engines and instrumentation panel are shut down.

Then the entire sequence starts up again and continues in an infinite loop. The game's 'avatar' is never visible. It is defined by what it *does* rather than what it *is*: a vacant entity, available to be filled by anyone so inclined. The simulated camera's gaze in the sequence bears witness to reality, but the circumstances are clouded by the work's improbabilities.

In *The Spirit of Terrorism* Baudrillard asks, 'How do things stand with the real event then, if reality is everywhere infiltrated by images, virtuality and fiction?'(18) In *Avatar* reality and fiction *have* arguably become enmeshed, but then this is nothing new in the mediasphere – and now becoming increasingly apparent in the everyday world as our age of anxiety attempts to manifest Donald Rumsfeld's 'unknown unknowns... the things we don't know we

don't know'(19).

In 2002, the same year as Rumsfeld's US Defense Department press briefing, Manovich cited photorealism as the 'main goal of research in the field of computer graphics'. He added, 'The field defines photorealism as the ability to simulate any object in such a way that its computer image is indistinguishable from its photograph'(20). Manovich conceded that images generated by computer graphics will perhaps never be as 'realistic' in rendering visual reality as images obtained through a camera lens, but he goes on to suggest that, 'synthetic photographs are already more "realistic" than traditional photographs... In fact they are too real'(21). In attempting to explain this apparent paradox I would argue that the synthetic photograph acts to *resonate* rather than simply to record reality. The affective potential of the synthetic photograph is thus activated through the invigoration of memory in order to *fill in the gaps* (as suggested earlier by Manovich).

To conclude: Baudrillard has suggested that, wrapped up in its own logic, the image has become 'devoid of any transcendent meaning, without any dialectic of history'(22). Of course it depends how one looks at it. In *Avatar*, the allegorical interpretation of real events *reassigns* rather than is subject to the imagery it employs.

Despite Baudrillard's scepticism, applications of real-time and synthetic digital mediums do, in my opinion, produce more than just fragmented and shifting information. Increasingly, the popular reclamation or democratisation of the image generates the potential for significant political engagement and reappraisal of history, particularly through the realizable distribution of cultural product beyond the influence of the mainstream information and image content industry.

But while there is a buck to be made from a popular democratic movement, such as the multi-billion dollar online image-sharing industry has demonstrated, I take heed of Bourriaud's concerns regarding the shift from a goods-based economy to a service-based economy, where 'anything that cannot be marketed will inevitably vanish'(23). However, this reservation may well be balanced by the rise of commons-based, peer-to-peer communities, which challenge the passive character of the modern consumer. This notion of commonality is reflected in Axel Bruns' study of user-led spaces such as blogs, *Wikipedia* and *Second Life*, in which he reframes the *producer > distributor > consumer* equation, and proposes a transformation of the production cycle into what he terms *produsage*(24). Bruns proposes that a social figure, the *produser*, is evolving engaged in 'a fundamental reconfiguration of our cultural and intellectual life, and thus of society and democracy itself'(25).

The disruption of the production cycle as described by Bruns has enabled the *consumer* to become both a *user*, and a *producer* of information embodying perhaps what Guy Debord in the heady days of the late 1960s referred to as the 'flexible language of anti-ideology'(26). Instead of being subject to a continual flood of institutionalised information, this interventionist practice effectively *confiscates* institutional authority, and re-assigns it to the social domains of art and life.

NOTES

- (1) Lev Manovich, *The Language of New Media*, (Cambridge, Mass: Massachusetts Institute of Technology, 2001).
- (2) Rosalind Krauss, *A Voyage on the North Sea: Art in the Age of the Postmedium Condition*, (London: Thames and Hudson, 2000).
- (3) Jean Baudrillard, *The Intelligence of Evil or the Lucidity Pact*, (Oxford; New York: Berg, 2005. English ed.), 28.
- (4) Baudrillard, 110.
- (5) Paul Virilio, *The Vision Machine*, (Bloomington: Indiana University Press, 1994), 63ff.
- (6) Paul Virilio, *City of Panic*, (Oxford; New York: Berg, 2005), 85.
- (7) Virilio, *The Vision Machine*, 63.
- (8) See http://www.cameraphonereport.com/2006/12/cnn_saddams_cam.html
- (9) http://www.cio.com/article/477176/Microsoft_CNN_to_Make_Historians_Out_of_Inaugural_Attendees
- (10) <http://bradleycain.com/cnn-and-microsoft-to-capture-most-detailed-moment-ever-for-obama-inauguration/>
- (11) Paul Virilio, *The Information Bomb*, (London: Verso, 2000), 112ff.
- (12) Virilio, *The Information Bomb*, 117ff.
- (13) Quoted in Eduardo Kac, *Telepresence Art*, see www.ekac.org/Telepresence.art_94.html
- (14) Manovich, 200.
- (15) Manovich, 200.
- (16) *The Intelligence of evil and the Lucidity Pact*, op. cit., 76.
- (17) See http://www.newyorker.com/archive/2001/12/17/011217ta_talk_lemann
- (18) Jean Baudrillard, *The Spirit of Terrorism*, (London: Verso, 2002), 27.
- (19) Then U.S. Secretary of Defense Donald Rumsfeld made the following statement at a Defense Department briefing in February 2002: ‘Reports that say that something hasn’t happened are always interesting to me, because as we know, there are “known knowns”. There are things we know we know. We also know There are “known unknowns”. That is to say We know there are some things we do not know. But there are also “unknown unknowns”, the ones we don’t know we don’t know.’
- (20) Manovich, 199.
- (21) Manovich, 199.
- (22) Virilio, *The Spirit of Terrorism*, 28.
- (23) Nicholas Bourriaud, *Relational Aesthetics*, trans. Pleasance and Woods (Dijon: Les presses du réel, 2002), 9: ‘For anything that cannot be marketed will eventually vanish. Before long, it will not be possible to maintain relationships between people outside these trading areas.’
- (24) Axel Bruns, *From Production to Produsage: Blogs, Wikipedia, Second Life, and Beyond* (New York: Peter Lang, 2008), 9-33.
- (25) Bruns, 34.
- (26) Guy Debord, *The Society of the Spectacle*, (Detroit : Black & Red, 1977), 7.

BIOGRAPHICAL NOTES

Michael Goldberg is an artist, curator and academic. His earlier projects examined Australia's colonial era with installations and curatorial projects in Sydney heritage sites such as Elizabeth Bay House, the Royal Botanic Gardens and the Australian Museum.

From 2001, projects reflected on global financial markets. With *catchingafallingknife.com* in 2003, Goldberg wagered \$50,000 he had raised from speculators to buy and sell shares in global media giant News Corporation. At the 2009 Havana Biennial, a performance/installation *The Force of Desire/The Force of Necessity* addressed the isolation of Cuba from Western capitalism.

His installations have also looked at social anxieties stemming from 'war on terror' media images and the threatened breakdown of social systems. *Toward a New World Order* in 2011 configured a vacant lot as a post-apocalyptic archaeological site.

Goldberg is a Senior Lecturer in Sculpture, Performance and Installation at Sydney College of the Arts.

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The Art of Decoding: *n*-folded, *n*-visioned, *n*-cultured

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ABSTRACT

Scientific modeling requires us to suspend disbelief, nowhere is this more palpable than in artificial life, an area of computational research investigating the principles that constitute a living system “without making reference to the *materials* that constitute it” (Adami).

This paper investigates artificial life visualisation as both a scientific concern and in relation to media arts. Of interest in this examination is the normative protocol of looking *at* an artificial life simulation or ‘world’. Analogous to looking through a telescope or microscope, the view into the artificial life world is monocular and often fixed; in this regime we look *at* ‘organisms’. This strategy of looking through the scientific lens to observe a ‘natural world’ enfolds other forms of cultural tactics that require decoding including but not exclusive to Bazin’s ontology of the photographic image, Disney nature films and other ‘apparatus-based universes which robotize the human being and society’ (Flusser).

Subsequent to identifying these protocols in artificial life visualisation I draw on a European account of media ecology as an approach to intervene in these arbitrary standards by conjoining disparate regimes, modes of deportment and systems of transduction (in this case artificial life, ‘VR’ and data profiling) to bring these mediated systems into cultural relief. I describe a number of works which exploit normative computational procedures to align artificial life image making into optical consistency with other forms of contemporary culture and to celebrate the ‘ocular madness’ found in art forms such as neo-baroque image making and Islamic art.

KEYWORDS

artificial life, art, generative art, film, cinema

Decoding: the natural order

Artificial life originates, so the accepted narrative goes, from the domain of science. In this discursive orientation much is underwritten by cybernetics and information theory to generate (evolve) computationally *lifelike* behaviour and the emergence of life, irrespective of material form (Langton 1989, 5) and to locate '*life-as-we-know-it* within the larger picture of *life-as-it-could-be*' (Langton 1989, 1). In this undertaking scientists simulate 'biological life to evolve patterns, images, programs and more generally to formulate new strategies of control which are more adequate to the liquid space of informational capitalism' (Parisi and Terranova 2000, accessed 27 March 2011). The complexity of life is measured not by the metaphorical and material relays through which humans are being redefined as posthuman (Hayles 1999) but by observing 'abstract mathematical musings' (Langton in Helmreich 1998, 17) and complex mathematical patterns as they are *seen* to self-organise and emerge in images.

Notwithstanding this scientific account of artificial life, there are multiple dimensions to examine artificial life (Grau 2007; Marks 2010; Stapleton 2004). I explore artificial life itself as constituent of the moving image specifically as visualised in three-dimensional computer generated space (3D space). Of particular interest in this examination is the view or 'window', from the virtual camera into the artificial life computational model and how it organises a dense field of expectations including how the camera that frames the image is deployed to create the appearance of an unmediated reality into abstracted mathematical models which, when rendered, generate perceptible images of, what is commonly referred to as, the 'world'.

Analogous to looking through a telescope or microscope, the view into the artificial life world is monocular and often fixed in the 'world'. The success of artificial life visualisation is dependent on observing 'lifelike behaviour' (Langton 1989, 5) within the image and deciphering emergent patterns in, the 'world'; what is perceived in the 'world' or on the screen is what there is to perceive.

The coded generators of this lifelike behaviour are often referred to as 'creatures' (Mignonneau and Sommerer 2001), 'cyberbeasts' (Prophet 1996), and 'virtual organisms' (Sims 1997). These creatures, often 'live', 'fight', 'breed', 'trade' and 'die' in the virtual world; that said, rarely do they 'work', 'shop', 'shit', 'fuck' or afford a 'point of view'; sticky messy descriptions that rarely pervade the imaginative and iterative loop of pattern generation. The anthropomorphic machinations of an A-Life 'world' are described through the discursive framework and nomenclature of science and economics, more so than from a personal intimate perspective of life.

This institutionalised orientation is not exclusive to the nomenclature of artificial life as a journalistic enterprise for scientific journals, academic publications and as filter for the artist's press release, but extends to other taxonomies of A-Life such as the interpretive viewing regime of the A-Life world. The normative viewing protocol through which to view an A-Life world is predominantly filtered through the fixed lens of the virtual camera view

into the modelled world. In this regime we look ‘at’ the aforementioned ‘creatures’ etcetera. This tactic of looking through the instrumentality of science, the arts of reality, is parallel to looking through André Bazin’s (2005) ‘long take’ in cinema and documentary filmmaking in which we look ‘at’ an unmediated view of reality; in other words in looking ‘at’ an image of artificial life we look ‘through’ a non-intrinsic regime of seeing.

In the case of the artificial life, observation vis-à-vis the ‘long take’ stands in reserve as the de facto protocol which functions to record (shoot) an unmediated reality of the A-Life ‘world’, perhaps for good strategic reason; when “we abandon the notion of a camera as an adversary to the world ... and instead place the accent on its “natural” connection to the world, we reach another, more orthodox version of a camera. This approach stresses the necessary, scientific links among objects, light rays, and film emulsion [...] A camera comes the bearer of tokens from the world.” (Branigan 2006, 76) A natural order is established in service of scientific method, measurement, classification, documentation and re-presentation arbitrates fact from magic, facts are not man made. In the domain of science “it is not I [the experimenter] who say this; it is the machine”. (Shapin et al. 1989, 77)

The window into artificial life ‘worlds’ evokes nineteenth-century ‘scientific’ studies or early twentieth-century photoplays than is suggestive of either Friedberg’s (2006, 7) ‘new space of mediated vision [which] is post-Cartesian, postperspectival, postcinematic, and posttelevisual’ or the ‘celebration of ocular madness’ (Jay 1988, 20) in other forms of neo-baroque image making (Cubitt 2004; Ndalianis 2004).

The advanced expectation from practitioners of artificial life screen-based imaging is the virtual camera itself functions similar to an analogue device, such as the microscope or telescope, in that it impassively enframes the ‘world’ whilst it simultaneously optimises the credibility or factuality of the ‘world’ and like an analogue camera it records a temporal image of the ‘world’; in other words, the virtual camera functions like a Vertov’s ‘microscope and telescope of time’ (Carroll 1996, 213).

The camera (virtual or otherwise) does not record an unmediated reality or ‘world’; all cameras (virtual or otherwise) are devices that create images. That all images ‘are mediations between the world and human beings’ (Flusser 2000, 9) is an important reminder that an image is not a window into a world—it *is* an image (Flusser 2000, 16). In this, all image making is rhetorical. Flusser’s (2000, 15) description of the photographic apparatus is a critical reminder that:

[the] ‘objectivity’ of technical images is an illusion. For they are—like all images—not only symbolic but represent even more abstract complexes of symbols than traditional images. They are metacodes of texts which . . . signify texts, not the world out there.

Flusser’s (2000, 70) sombre view that the ‘photographic universe and all apparatus-based universes robotize the human being and society’, is a timely cue that the view into an artificial life world, and indeed into the broader spectrum of scientific and data visualisation, is important.

The investigation into the interpretive regimes and the technical apparatus gives only a partial dimension to the relationship between artificial life and the moving image. Other important factors under consideration are the narratives that accompany artificial life works themselves. Scientists often publish in scientific journals fictive accounts of the artificial life system that simply don't accord with the target system, as illustrated in Watson and Lovelock's (Watson and Lovelock 1983, 284) scientific study of an 'imaginary planet [with] a very simple biosphere' in the project *Daisyworld*. After warning the reader that they 'are not trying to model the Earth, but rather a fictional world', Watson and Lovelock (Watson and Lovelock 1983, 284) go on to describe *Daisyworld*: 'Owing to a subtle change of climate, clouds appear on daisyworld. The clouds are light in colour. We will assume that the clouds form only over stands of black daisies because of the rising air generated over these warm spots' (Watson and Lovelock 1983, 288). To state the obvious, stylised descriptions have properties that the models don't (Frigg and Hartmann 2009).

The stories that migrate in artificial life are contemporary accounts of 'nature' whose genealogy can be traced to Disney filmmaking, specifically, the nature film (to simulate life as we know it vis-à-vis moral and political refractions) and Disney animation, which, as lead Disney animator Art Babbitt observed, 'follows the laws of physics—unless it is funnier otherwise' (Babbitt n.d. in Chai and Garcia 2011, 480). Artificial life 'world building' is formed in the shadow of Disney nature storytelling: cyberbeasts, virtual organisms and agents are organised, optimised and then observed, like the Disney animal kingdom, to trade, fight, breed and die. Moreover, similar to Disney stories that do 'something far more than reveal "nature's mysteries": they [speak] to us of a living and intelligible world beyond the fence of civilization, a world we [can] enter at will and experience in something like human time' (Wilson 1992, 118). Artificial Life is of its essence a dramaturgy of the fitness landscape.⁹⁹

nFolded, nVisioned, nCultured

A high degree of artifice is involved in scientific visualisation in general, more-so in artificial life 'worlds'. Take for example the virtual camera that frames the view into the artificial life world. The term virtual camera itself is shorthand to describe an array of algorithmic functions, some of which are mapped to functions that have equivalence in digital cameras. The virtual camera is also host to a large range of algorithms that simply do not have physical correspondence to the world such as the 'z-buffer'. The z-buffer is a data structure unique to 3D visualisation; it establishes and determines the logical drawing order of objects and elements in 3D space in relation to the virtual camera. As illustrated in Figures 1-3, objects closer to the camera occlude objects or elements far from the virtual camera, correctly reproducing perspectival depth perception. Though the z-buffer is programmed into 3D software to create a 'realistic map' of the world it is instructive to remind the reader that 'world' is a social concept (Cosgrove 2007, 67) and mapmaking is rhetorical. The z-buffer is

⁹⁹ I recall Bazin who wrote cinema is of 'its essence a dramaturgy of Nature.' (Bazin 2005)

just another algorithm in a database of algorithms; it too can be re-imagined as a rhetorical device. For example in the project *Laboratories of Thought*, the z-buffer is rewired to my subjective experience of the Trocadero Artspace in Footscray. The drawing logic of three-dimensional space is reordered according to criteria other than spatial. Unlinked from conventional spatial logic the z-buffer is reconfigured along subjective lines, in this case emotional valency; what I like most about the Artspace to what I like least.

The project explores the tensions inherent in employing the mathematical rationalisation of pictorial space as a model through which to filter my emotionally and biologically mediated experience of the physical environment. By encoding the virtual camera to reorder the visual field of the 3D scene to ‘what I find interesting’ (emotional valency) I unpin the grammar of the image from a spatial field to a grammar of potential; what I find interesting dynamically changes from moment to moment. Mapping the grammar of my emotional valency to the visual organisation of space is of course arbitrary; any data can be used to reorder the spatial field, in fact any data could be rewired to many other virtual artefacts not just the virtual camera.

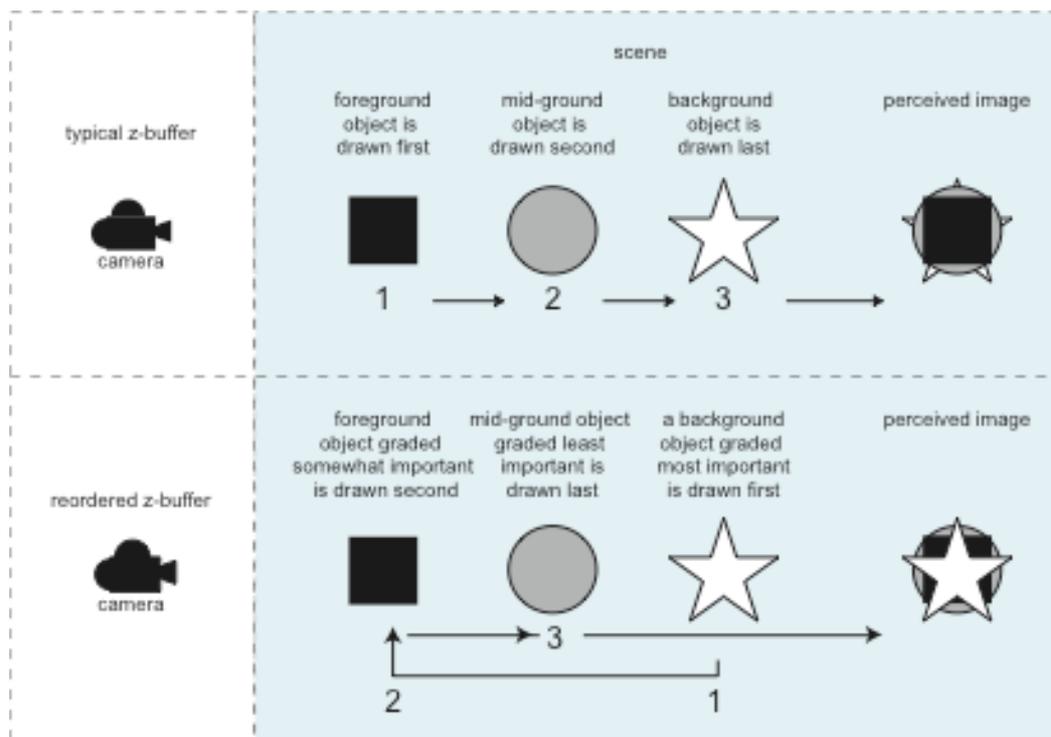


Figure 1. Schematic comparison between a conventional and reordered z-buffer

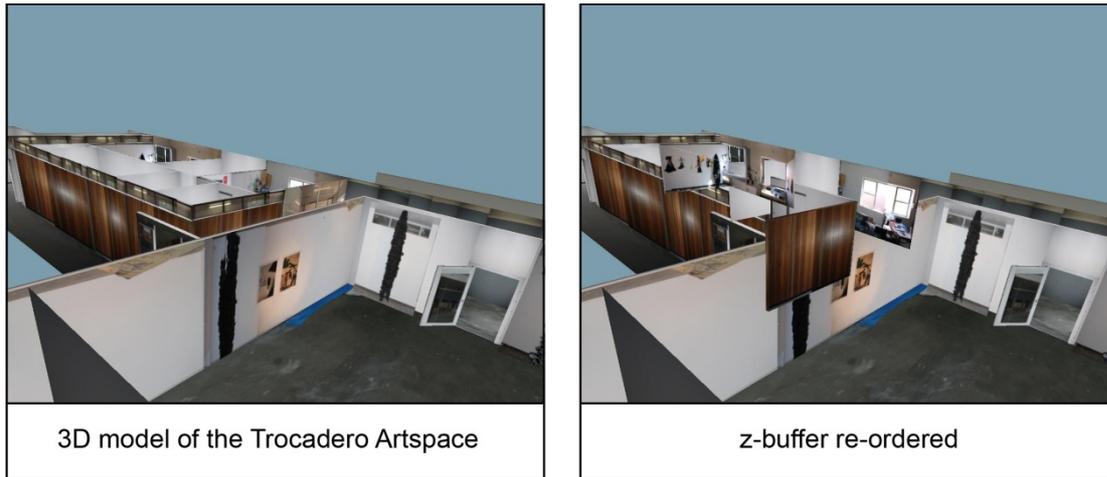


Figure 2. Architectural model of the Trocadero Artspace. Copyright Mark Guglielmetti.

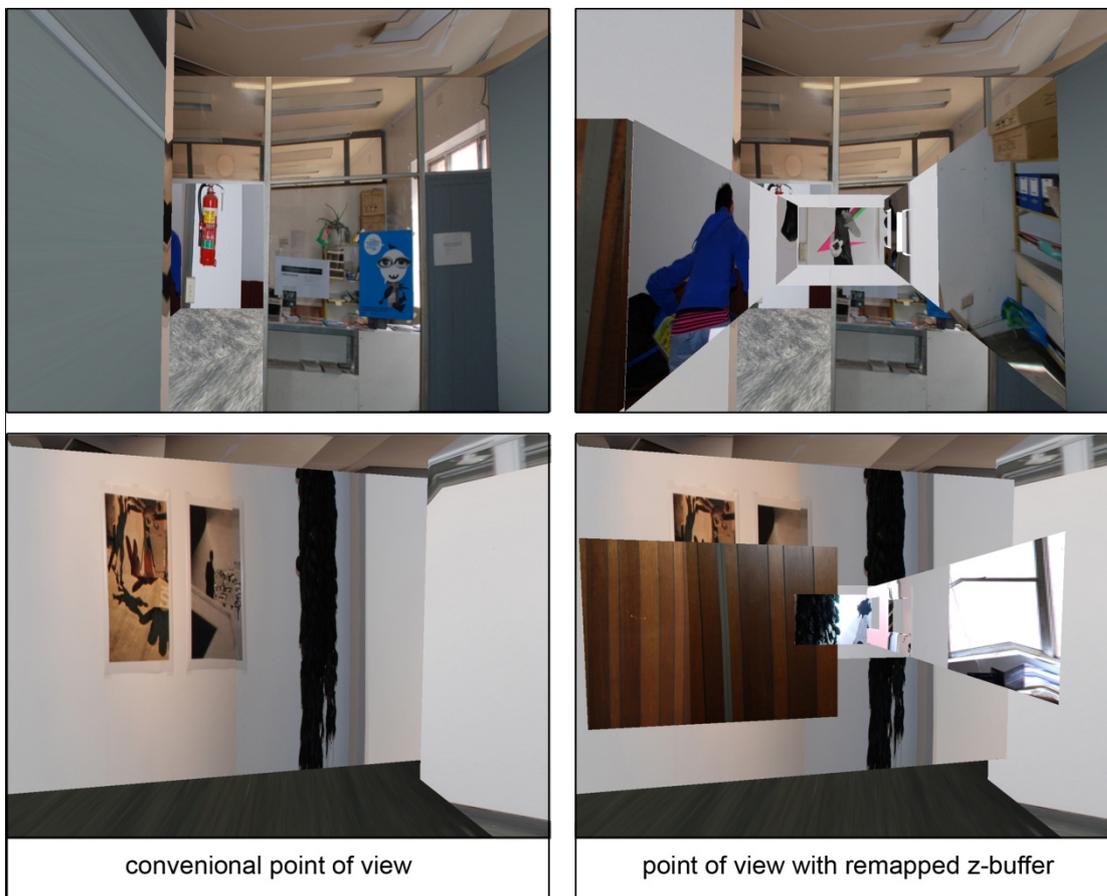


Figure 3. *Laboratories of Thought and Experimentation for Future Forms of Subjectivation* (2007). Copyright Mark Guglielmetti.

And this is the point. At stake in artificial life image making is agency. Instead of looking at creatures etc, it is incumbent upon us to examine what it means to look *through* an interpretative agent's 'point of view'. Drawing on a media ecological framework Matt Fuller asks, 'What arises when two or more standard processes, with their own regimes, codes, modes of use and deportment, systems of transduction, and so on, become conjoined?' (Fuller

2005, 98) The closest reference point that articulates what this interpretative agent might be is situated in the grammar of the moving image—the filmmaker. This merging of discursive practices frames an examination into an artificial life ‘filmmaker’, as it (the system) searches for interesting themes, selects interesting shots and adapts to evolve the entire parameter space, including the z-buffer, to generate a new visual grammar or syntax of the moving image.

Travelogue: A recording of Minute Expressions (Travelogue) is a generative work that explores this theme. The central motif of the work draws inspiration from Islamic art and Persian carpet making. The metaphor of the Persian carpet orients both *Travelogue* and artificial life, including themes of ‘emergence’, self organisation and ‘lifelike behavior’ (Langton 1989, 5) as *de rigueur*, into the longer genealogy of the human endeavour. Though much has been made of these themes in artificial life (Langton 1989; Whitelaw 2004, 207-237), their formation precedes artificial life in that they are well-honed principles in Islamic art and Islamic carpet making (Alexander 1993; Marks 2010).

The Persian carpet is a also metaphor to describe the intercultural traffic in both Islamic art (Marks 2010, 302) and the overarching research into artificial life and generative art. This seems appropriate given the trade in and migration of epistemological, institutional, financial, religious and scientific discourse and artefacts in Islamic culture. In other words, *Travelogue* explores the trade in cultural artefacts, including the migration of encoded grammars and interpretative regimes and, the production of knowing subjects in ‘an unstill centre of a turning world’ (Cubitt 2011, 10).

The ‘world’ in *Travelogue* is seeded or initialised with statistical census data on tourism in Turkey, September 2010. Data from the ‘monthly number of arriving foreigner visitors’ provides the initial resources to populate the work. Other data, such as ‘\$ spent per foreigner’ and ‘number of foreigners of nationality and group of age-gender’ populate other variables in the system, which are used to mathematically describe the drawing ‘agents’ (expressions). During ‘runtime’, the expressions exchange data with other expressions, but this ‘interaction’ is not visualised. The exchange of data between expressions provides various mathematical resources to other expressions, which enable the expressions to change scale, colour, location and number; similar functions enacted in other generative systems without personifying the expressions with slippery terms like ‘fight’, ‘breed’ and ‘die’.

The work is displayed across multiple screens. One screen displays an orthographic view of the ‘world’, which references Persian carpet design and provides context to the overall system. This visualisation might be described as a re-imagination of the potential enfolding tourist trade in Turkey but just as well as an expression of the system. See Figure 4.

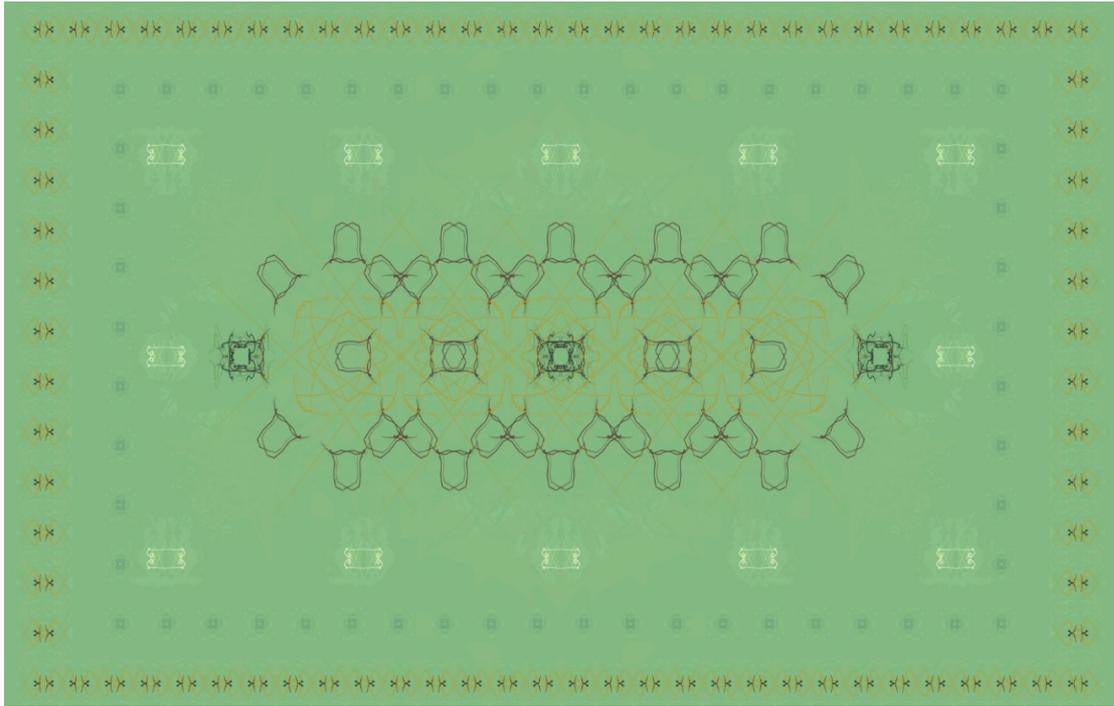


Figure 4. *Travelogue: A Recording of Minute Expressions* (2011). Copyright Mark Guglielmetti and Indae Hwang.

Another screen displays a view as expressed from the virtual camera *in* the ‘world’. The virtual camera draws from a variety of grammars from the moving image, such as zoom and pan but also reorganises other grammars such as the z-buffer. The virtual camera/filmmaker shoots or *nframes* what is ‘interesting’ to it—whatever that ‘interesting’ is, of course, immeasurable. See Figure 5. These views are created to render non-perspectival and *non-optical* images into the world. See Figure 6.

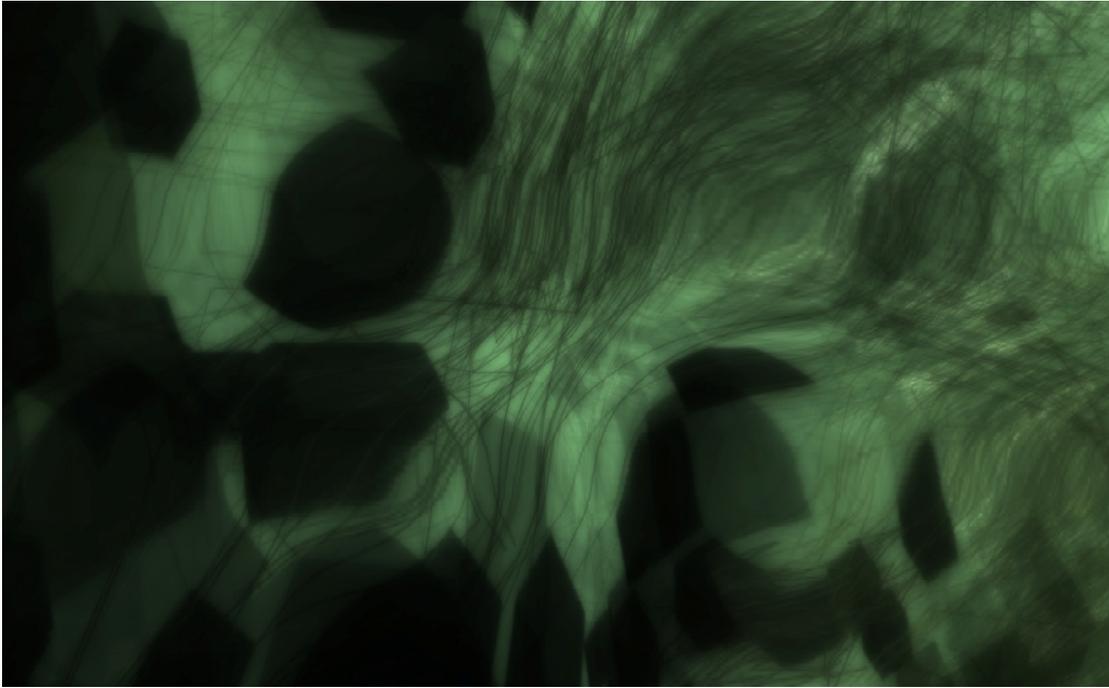


Figure 5. *Travelogue: A Recording of Minute Expressions* (2011). Copyright Mark Guglielmetti and Indae Hwang.



Figure 6. *Travelogue: A Recording of Minute Expressions* (2011). Copyright Mark Guglielmetti and Indae Hwang.

CONCLUSION

If artificial life is to truly generate lifelike behaviour and emergence, what could be more lifelike than organising both the visual field and scopic regime/s? After all, aligning the interpretive regime of artificial life image making into optical consistency with other forms of contemporary visual culture does no more, or less, than align competencies expressed in artificial life after the human endeavour.

Stan Brakhage (Brakhage 2001, 21-22) understood what is at stake perhaps better than most:

the increased programming potential of the IBM and other electronic machines now capable of inventing imagery from scratch. Considering then the camera eye as almost obsolete, it can at last be viewed objectively and, perhaps, view-pointed with subjective depth as never before. Its life is truly all before it. The future fabricating machine in performance will invent images as patterned after cliché vision as those of the camera, and its results will suffer a similar claim to ‘realism’, IBM being no more God nor even a ‘Thinking machine’ than the camera eye all seeing or capable of creative selectivity, both essentially restricted to ‘yes-no’, ‘stop-go’, ‘on-off’, and instrumentally dedicated to communication of the simplest sort. Yet increased human intervention and control renders any process more capable of balance between sub-and-objective expression, and between those two concepts, somewhere, soul.

REFERENCES

- Alexander, Christopher. 1993. *A Foreshadowing of 21st Century Art: the Color and Geometry of Very Early Turkish Carpets*. New York: Oxford University Press.
- Bazin, André. 2005. *What is Cinema? Volume 1*. Vol. 1. Berkeley: University of California Press.
- Brakhage, Stan. 2001. *Essential Brakhage: Selected Writings on Filmmaking by Stan Brakhage*. New York: McPherson & Company.
- Branigan, Edward. 2006. *Projecting a camera: Language-games in Film Theory*. London: Routledge.
- Carroll, Noël. 1996. *Theorizing the Moving Image, Cambridge studies in film*. New York: Cambridge University Press.
- Chai, David, and Alejandro Garcia, L. 2011. "Physics for Animation Artists." *The Physics Teacher* no. 49 (November):478-480.
- Cosgrove, Denis. 2007. "Mapping the World." In *Maps: Finding Our Place in the World*, edited by James R. Akerman, Robert W. Karrow, Field Museum of Natural History. and Newberry Library., 65-115. Chicago: University of Chicago Press.
- Cubitt, Sean. 2004. *The Cinema Effect*. Cambridge, Mass.: MIT Press.
- . 2011. "A Brief Case." In *The World Is Everything That Is The Case*, edited by Vince Dziekan and Paul Thomas, 35. Melbourne: Ellikon Press.
- Flusser, Vilém. 2000. *Towards a Philosophy of Photography*. London: Reaktion.
- Friedberg, Anne. 2006. *The Virtual Window: from Alberti to Microsoft*. Cambridge, Mass.: MIT Press.
- Frigg, Roman, and Stephan Hartmann. 2011. *Models in Science*. The Stanford Encyclopedia of Philosophy (Summer 2009 Edition) 2009 [cited 17 May, 2011 2011]. Available from <http://plato.stanford.edu/archives/sum2009/entries/models-science/>.
- Fuller, Matthew. 2005. *Media ecologies : materialist energies in art and technoculture*. Edited by Roger F. Malina. Cambridge, Mass.: MIT Press.
- Grau, Oliver. 2007. "Remember the Phantasmagoria! Illusion Politics of the Eighteenth Century and Its Multimedial Afterlife." In *MediaArtHistories*, edited by Oliver Grau, 137-161. Cambridge, MA: Leonardo, MIT Press.
- Hayles, N. Katherine. 1999. *How We Became Posthuman: Virtual Bodies in Cybernetics, Literature, and Informatics*. Chicago, Ill.: University of Chicago Press.
- Helmreich, Stefan. 1998. *Silicon Second Nature Culturing: Artificial Life in a Digital World*. Berkeley: University of California Press.
- Jay, Martin. 1988. "Scopic Regimes of Modernity." In *Vision and Visuality*, edited by Hal Foster, 2-23. NY: Bay Press.
- Langton, Christopher G. 1989. *Artificial Life: the proceedings of an Interdisciplinary Workshop on the Synthesis and Simulation of Living Systems, held September, 1987, in Los Alamos, New Mexico*. Redwood City, Calif.: Addison-Wesley Pub. Co.

- Marks, Laura U. 2010. *Enfoldment and Infinity: An Islamic Genealogy of New Media Art, Leonardo*. Cambridge, Mass.: MIT Press.
- Merleau-Ponty, Maurice. 2004. *The World of Perception*. London ; New York: Routledge.
- Mignonneau, Laurent, and Christa Sommerer. 2001. "Creating Artificial Life for Interactive Art and Entertainment." *Leonardo* no. 34 (4):303-307.
- Ndalianis, Angela. 2004. *Neo-Baroque aesthetics and contemporary entertainment, Media in transition*. Cambridge, Mass.: MIT Press.
- Parisi, Luciana, and Tiziana Terranova. 2000. "Heat-Death: Emergence And Control In Genetic Engineering And Artificial Life." *CTHEORY*.
- Prophet, Jane. 1996. "Sublime Ecologies and Artistic Endeavors: Artificial Life and Interactivity in the Online Project TechnoSphere." *Leonardo* no. 29 (5):339-344.
- Shapin, Steven, Simon Schaffer, Thomas Hobbes, and American Council of Learned Societies. 1989. "Leviathan and the Air-Pump: Hobbes, Boyle, and the Experimental Life." In. Princeton, N.J.: Princeton University Press.
- Sims, Karl. 1997. *Galápagos*: <http://www.karlsims.com/galapagos/index.html>.
- Stapleton, Jaime. 2004. *Black Shoals: A Meditation on Cosmology, Artificial Life and the Aesthetics of Political Economy*.
- Watson, A. J., and J.E. Lovelock. 1983. "Biological Homeostasis of the Global Environment: The Parable of Daisyworld." *Tellus Series B: Chemical and Physical Meteorology* no. 35 (4):286-289.
- Whitelaw, Mitchell. 2004. *Metacreation: Art and Artificial Life*. Cambridge, Massachusetts: MIT Press.
- Wilson, Alexander. 1992. *The Culture of Nature: North American Landscape from Disney to the Exxon Valdez*. Cambridge, MA: Blackwell.

BIOGRAPHICAL NOTES

Mark Guglielmetti investigates the formations of cultural identity and subjective experience. He uses various media to explore these and related issues; electronic, digital and biological. His work has been exhibited nationally and internationally including: Curtin Gallery, Perth, 2012; Isea2011, Istanbul; Biennial of Electronic Arts Perth (BEAP) 2004; Ars Electronica 2004, Linz; Melbourne International Film Festival 2001; showcased at the Architectural Biennial in Beijing 2004 and; in 'Australian Screen Culture', at the Barbican in London 2004 and Centre Pompidou in 2003.

Looking into the Light: Examining the Apparatus in Contemporary Art

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ABSTRACT

Sensory and immersive experiences are of primary importance in much contemporary art, and often these experiences are produced by, or mediated through, the use of a technical apparatus. This paper will explore this dynamic, drawing on the model of the apparatus outlined by media theorist Vilem Flusser.

While Flusser's conception of the apparatus is developed specifically in relation to 'technical images', such as photography and film, I suggest that it offers insights into contemporary immersive and experiential installation art, in which the viewer's experience is mediated or generated by an apparatus.

Discussions of such practices, exemplified by those of Carsten Holler and Olafur Eliasson, are often framed in terms of phenomenal experience, spectacle culture and relational art. I argue that it is the logic of the apparatus that subtends the machine aesthetics employed by these artists. The work of both Holler and Eliasson comprises an 'apparatus-audience complex' that displaces the viewing subject. Through a consideration of the apparatus and its histories in relation to specific works by both artists, light can be shed on these specific models of subjectivity. In particular, the destabilising impulse at play in the work of these artists emerges as a form of interference, aimed precisely at disrupting the conventions of perception and sensation.

KEYWORDS

Apparatus, Vilem Flusser, Carsten Holler, Olafur Eliasson

Artists Carsten Holler and Olafur Eliasson exemplify a field of contemporary practice in which the phenomenal experience of the viewer is a central concern. It could be argued that the bulk of these artists' oeuvres is involved in producing experiences rather than images, and yet their practices are all about the experience of looking.

Given their emphasis on embodied perception and the creation of transformative experiences, it is not surprising that discussions of these practices often focus on art historical precedents,

such as the Light and Space Movement, with its interest in the phenomenology of Maurice Merleau-Ponty, or on the convivial environments of Relational Aesthetics, while critiques often focus on a perceived complicity with the dominant culture of spectacle. I suggest that the model of the apparatus outlined by media theorist Vilem Flusser provides valuable insight to the dynamics at play here. While this model deals with ‘technical images’ such as photography and film, media in which Holler and Eliasson rarely operate, both artists employ apparatuses in order to interfere with their audience’s perception. Even when the work consists of a seemingly ‘dematerialised’ experience, it is frequently reliant on the rhetoric, if not the physical form, of machines and apparatuses to create its special and spatial effects. Such dematerialised machinations are found in Eliasson’s *Your Sun Machine* (2000), a work comprising a hole cut in the gallery roof, creating a circle of light that traverses the space in the course of a day. This dependency is further foregrounded in the following statement by Eliasson:

I consider the works as sort of ‘phenomena-producers’, like machines, or stage sets [...] I need some media, I need some ‘stuff’ to create a situation. I need a machine to create a phenomenon in order to have an experience (Birnbaum and Eliasson 2000, 179, 185).

Eliasson’s reference here to his ‘phenomena-producing machines’ as ‘media’ suggest that the apparatus is itself the medium, both in the sense that it provides the material support for the work, and in that it frames and mediates the viewer’s experience in the work. This mediation, like the experiences it produces, seeks to be transformative. Writing in relation to the work of Carsten Holler, Dorothea van Hantelmann has suggested that part of this transformation is centred on the viewer’s expectations of contemporary art, shifting emphasis from any meaning thought to be embodied in the work to experience (von Hantelmann 2006).

This shift is echoed in Vilem Flusser’s characterisation of technical images, in which he suggests that they do not signify but have signification projected onto them by the viewer (Flusser 2011, 49). This seemingly simple distinction makes it necessary to ‘start not from the tip of the vector of meaning but from the bow from which the arrow was shot. Criticism of technical images requires an analysis of their trajectory and an analysis of the intention behind it. And this intention lies in the link, the suture of the apparatus that produced them with the envisioners who produced them’ (Flusser 2011, 49). This is the task I will attempt to perform here; to outline the trajectory of the apparatus in the thought of Vilem Flusser, in works by Carsten Holler and Olafur Eliasson and to examine the points where these trajectories and histories cross.

In his *Towards a Philosophy of Photography* (1983), Flusser draws a distinction between the apparatus, as an object that simulates thought, and tools and machines, which both simulate actions of the body. In this way, while tools and machines approach Marshal McLuhan’s theory of media as ‘extensions of man’ (McLuhan 1964), in Flusser’s conception the apparatus has a symbolic function; its purpose is ‘not to change the world but to change the meaning of the world’ (Flusser 2011, 36).

It is important to note that this change is neither inherently for better or worse, just as, for Flusser, the apparatus is neither innately utopian nor fascistic, but rather contains both potentialities. However, for Flusser it is necessary for the ‘operators’ of the apparatus to create new possibilities outside the predetermined program according to which it operates; to ‘not play with’ the apparatus ‘but against it ... to bring to light the tricks concealed within’ (Flusser 1983, 27). The imperatives to re-purpose, play and experiment with the apparatus are a means of achieving a productive, rather than passive, engagement with culture.

I suggest that just such an experimental and experiential engagement with the apparatus (beyond the signifying conventions of photography and film), is present in works by Carsten Holler and Olafur Eliasson. While both Holler and Eliasson frequently use the word ‘machine’ in titling or describing their works, I suggest that Flusser’s model of the apparatus better characterises their operations. This is not to subsume the work of these artists under the logic of the apparatus, but to use this model as an interpretive lens through which to gain insights into their work. Describing the role of the apparatus in relation to his own work, Carsten Holler has stated:

My objects are tools or devices with a specified use, which is to create a moment of slight confusion or to induce hallucinations in the widest sense. That is why I call them confusion machines (Obirst and Holler 2003, 409).

The ‘confusion machines’ of Carsten Holler act upon the perception and psychology of their viewers, often in unsettling and disturbing ways. Despite this, discussions of these works are often framed in terms of Relational Aesthetics and a ‘fun-house version of contemporary art,’ with emphasis on their dual nature as ‘part science-fair project, part theme-park attraction’ (Larsen 2011, 141).

Holler’s practice does enact the spectacle of science in the gallery, with the controlled conditions of the white cube substituting for those of the laboratory. The relationship between artwork and scientific experiment is often direct, as in the ongoing project *Upside Down Goggles* (1994-2012), which restages psychological and perceptual experiments performed by George Stratton in the late 1800s. Holler’s restagings consistently undermine, as much as they illustrate, the processes of perception. In contrast to a traditional scientific pursuit of knowledge, Holler frequently characterises this operation as a ‘laboratory of doubt’; not a site for scientific truth, but for its undoing.

Similarly opposed to the conventional wisdom of (photographic) objectivity, Flusser characterises the production of technical images as a ‘phenomenology of doubt’ (Flusser 1983, 38). The apparatus, and the ‘Universe of Technical Images’ that it produces, compartmentalise phenomena; engaging with the apparatus requires that we move between these ‘compartments’, seeking to find a position, making decisions in relation to the apparatus and according to its rules (Flusser 1984). In Flusser’s model, the act of taking a photograph, for example, requires ‘a series of theoretical decisions in relation to [a] test situation’ that constitutes ‘a movement of methodical doubt’ (Flusser 2011, 290).

Perhaps Holler's doubt includes the possibility that his devices do not have the intended effect, or at least that their effect is often subjective and variable between test subjects-cum-gallery goers. As Holler himself has written, in a scathing critique of his own work published under a pseudonym: 'Holler's exhibits [...] do not "work", however much they represent – and are themselves – working mechanisms. [...] These objects are nothing more than rotating devices, flashing lights and angled mirrors' (Holler 2010, 82).

This indecisive doubt also manifests, perhaps, in Holler's wavering between the utopian and sinister aspects of scientific progress; for example, between his proposal of slides as an environmentally friendly large-scale transport system, and the 'almost dictatorial' relationship to fun that they enable (Bourriaud and Holler 2008, 131). At the same time, Holler asserts that his interest in fun occupies 'a theoretical viewpoint' (2008, 131). This serious concern for fun finds a significant precursor in Roger Caillois' theorisation of play, which in turn points to a link between the 'science-fair' and 'theme park' aspects of Holler's practice.

In his analysis and categorisation of fun, Caillois writes of games that 'are based on the pursuit of vertigo and which consist of an attempt to momentarily destroy the stability of perception and inflict a kind of voluptuous panic upon an otherwise lucid mind. In all cases, it is a question of surrendering to a kind of spasm seizure, or shock which destroys reality with sovereign brusqueness' (1958, 23). In transforming the subject from lucid to ludic, such vertiginous play operates against, not with, the construction of reality.

Caillois goes on to suggest that the diversions of the machine age bring this subversive element to the fore: 'In order to give this kind of sensation the intensity and brutality capable of shocking adults, powerful machines have had to be invented. [...] It is now provided for the avid masses by thousands of stimulating contraptions installed at fairs and amusement parks' (1958, 25-6). It would seem paradoxical that in the work of Carsten Holler, it is not only the exhilarating rush of his slides (the most well-known example being Test site at Tate Modern, London, 2005), but also the infinitesimally slow creep of his modified Carousel, Gravitron and Bumper Cars (all 2006), that destabilises his audience (Rappolt 2006, 49).

Yet despite frequent associations of modernity with the speed of futurism, the 19th Century scientific discipline of kinematics, which emerged as part of broader scientific re-evaluations of subjectivity, drew a distinction between motion and velocity. As Lynda Nead has shown (2007), kinematics played itself out not only in the developing scientific applications of technical images (exemplified by the work of Etienne Jules-Marey), but also in the popular entertainments of fairground attractions, including the pedestrian diversions of the mechanical staircase and the moving pavement.

Indeed, Nead could be describing Holler's work when she suggests that the new technologies of fairground entertainment transformed the spectator into a participant (2007, 15). In this way, the sense of participatory spectatorship so central to the practice of Carsten Holler

might be seen not as a function of an opposition between science and fun, but of their coming together in the form of an apparatus.

This formulation could be termed, to paraphrase Flusser, an apparatus-audience complex. Holler's practice seeks to 'bring to light the tricks within' our own perceptual apparatus; to undermine our confidence in what we see and, more importantly, what we expect to see. He subverts the attractions of the theme park while also destabilising the fixity of scientific method. In this, Holler offers his audience a wild ride, but with no guarantee that it will be either enjoyable or spectacular. The work of Olafur Eliasson, on the other hand, enlists spectacle wholeheartedly in his attempt to transform the viewer:

If the public gets involved in a stimulating situation, the situation "commits itself" in return. There's a reversal of subject and object here: the viewer becomes the object and the context becomes the subject. I always try to turn the viewer into what's on show, make him mobile and dynamic (Birnbaum and Eliasson 2000, 32).

Olafur Eliasson's immersive installations focus on experiences that are produced by means of an apparatus. The ensuing spectacles in turn make a spectacle of their viewers, producing the reversal of subject and object referred to here. But there is more to this reversal than the accidental performances of audience members, and it is bound up in the dynamic of apparatus and experience.

Vilem Flusser writes that technical images (images produced by means of apparatus) are projections; 'they must be decoded not as representations of things out in the world but as signposts directed outward. It is their projector, their program, that is the object of criticism. What technical images show depends on which direction they are pointing' (Flusser 2011, 49). This relationship finds literal form in the installations of Olafur Eliasson, which often feature an apparatus at their centre, producing what might be described as real-time-and-space technical images.

In this situation, the viewer's experience is organised around the apparatus, with a clear separation between the object and its effects; much like a film projector, the apparatus points past the viewer, into the space. In works such as *Multiple Shadow House* (2010), for example, the viewer must turn their back on the projecting apparatus in order to see its effects, which in this case resemble the multiple exposure movement studies of Etienne-Jules Marey; or else oscillate between apparatus and effect in a dialectical viewing experience. A seemingly obvious historical precursor for this sort of work is Laszlo Moholy-Nagy's *Light Space Modulator* (1932). Yet in contrast to the machine aesthetic of this iconic work, I would suggest that it is the philosophy of the apparatus that characterises Eliasson's works.

Eliasson's 'meta-scientific' 'appropriations of natural science' (Steinle and Weibel 2001, 16) are not intended to create a perfect illusion, but rather to reveal the illusory nature of representation itself. Eliasson states his works are 'about structures that pretend or make us

believe that we're outside, experiencing the piece, but in fact we're inside, behind the glass, not experiencing anything other than an image' (Eliasson and Birnbaum 2001, 183).

How might we define this conceptual model of a scopic apparatus? It possesses an objectifying gaze, restructures architectural relationships and positions itself as viewing subject, revealing visibility as a trap for its viewer. It is a model that recalls another formulation of the apparatus, that of Jeremy Bentham's Panopticon, as discussed by Michel Foucault (1975). We might then describe Eliasson's model as that of a convivial panopticon; a laboratory not of power, but of engagement, in which the seeing/being seen dyad is not dissociated but superseded by the artist's doctrine of 'seeing yourself seeing'.

It is thus a model that does not place the viewer behind glass, but rather reveals this as the default position of perception. In this, it pursues what Flusser describes as the essential critical project in relation to technical images: 'to show that in defiance of common sense, they are not mirrors but projections that are programmed to make common sense appear mirrorlike' (Flusser 2011, 49). Eliasson's work does this by revealing its own illusory nature, and by extension demonstrating the constructed nature of all perception.

While the idea of a convivial Panopticon may seem paradoxical, the Panopticon did exist as an architectural form apart from its strictly disciplinary mission. Indeed, while Bentham's attempts to bring his prison plans to fruition were continually frustrated, his term was applied to a very different institution, the Royal Panopticon of Science and Art, which opened in Leicester Square, London in 1854. A cabinet of curiosities on grand scale, this institution housed exactly the sorts of artefacts, demonstrations and displays that presage Eliasson's demystified illusions. This Panopticon is a historical bridge between the contemporary science museum and a history of performative practices that includes the 'Natural Magic' of the seventeenth century, the Phantasmagoria and the 'Mechanical Magic' of the late 1800s. Both Tom Gunning and Jonathon Crary have described the relationship (both good and bad) between such magical entertainments and early cinema. This 'world of illusions and entertainments, the display of curiosities and extraordinary devices, [...] spectacular demonstrations of electricity, magnetism, and optical phenomenon', both informed the development and influenced the perceptions of early cinema (Gunning 2007, 101).

The pertinent feature of these quasi-scientific displays was their emphasis on demystification, with performances being preceded by and incorporating acknowledgement and explanation of the illusory nature of their spectacle, often aligning these fields of 'honest illusion' with the latest advances in science and technology. In the same way, Eliasson's practice distances itself from the culture of spectacle and excess by revealing his tricks and positioning the visual apparatus of the viewer in relation to the technical apparatus of the work. In works such as *Your Making Things Explicit* (2010), a beam of light is given almost sculptural form while solid objects, in this case a perspex plinth, are rendered as a gap within this visibility. The formal qualities of the illusion are, arguably, less important here than the way that the smoke and mirrors behind it are revealed through the viewer's interactions and movements around the work.

In other works, such as *The Weather Project* (2003) the apparatus (in this case comprising monofrequency lights, misting devices and a mirrored ceiling) that produce the experience (of an artificial sun) are exposed and on show as spectacular elements in their own right. The mirrored ceiling in particular provided a specific means for viewers to interact with the work, and to become highly visible doing so. As James Meyer has argued of this work, *The Weather Project's* 'perceptual qualities, as such, are ultimately less compelling than the work's social effects' (Meyer 2004, 223). This work foregrounds these social effects; due to its large scale, it clearly works to transform, not only an individual viewer's perception, but its audience as a whole.

This reflexive and transformative positioning of the viewer, enacted through an engagement with the apparatus, is central to the practices of Carsten Holler and Olafur Eliasson. In breaking down distinctions between object and subject by employing scientific principles and technological forms, the work of these artists also transforms our relationship to those disciplines. They create a situation in which, as in Vilem Flusser's assessment, 'science [might] be seen as a kind of art (as an intersubjective fiction), and art [might] be seen as a kind of science (as an intersubjective source of knowledge)' (Flusser 1990, 399).

In the works of Holler and Eliasson, it is by introducing dynamics of perception, play, doubt, reflection and projection into the workings of the apparatus-audience complex that this intersubjectivity is revealed. I have sought here to outline a model of the apparatus that draws on the thought of Vilem Flusser, and that is historically grounded with reference to the particular forms employed by these artists. Like these artists, I have sought to utilize the apparatus as a means of seeing these relationships anew.

REFERENCES

Birnbaum, Daniel and Eliasson, Olafur. 2006. "In conversation" in Press Play: Artists in Conversation. London: Phaidon Press: 175-190.

Bourriaud, Nicholas and Holler, Carsten. 2008. "Kinshasa Rumba Brazzavile" in Altermodern edited by Nicholas Bourriaud (ed.), 129-135. London: Tate Publishing.

Caillouis, Roger. 1958. Man, Play and Games. Urbana: University of Illinois Press

Flusser, Vilem. 2011. Into the Universe of Technical Images. Minneapolis: University of Minnesota Press.

Flusser, Vilem. 2000. Towards a Philosophy of Photography. London: Reaktion Books.

Flusser, Vilem, Photo-production, 1984, Lecture Notes published through Flusser Studies online journal: www.flusserstudies.net

Flusser, Vilem. 1990. "Memory Electronic and otherwise" in Leonardo, Vol. 23, No. 4: 397-399.

Foucault, Michel. 1975. Discipline and Punish: The Birth of the Prison. New York: Vintage Books

Grynsztejn, Madeleine (Ed). 2007. Take your time: Olafur Eliasson. San Francisco: San Francisco Museum of Modern Art.

Gunning, Tom. 2007. "To Scan a Ghost: The Ontology of Mediated Vision" in Grey Room 26: 94-127.

Hantelmann, Dorothea von. 2006 "I", in Jessica Morgan (ed.), Carsten Holler: Test Site. London: Tate Publishing

Holler, Carsten (ed.) 2006. Test Site Source Book. London: Tate Publishing.

Holler, Carsten 2010. 184 objects, experiments, events, 2001-2010. Ostfildern: Hatje Cantz

Larsen, Lars Bang. 2011. Carsten Holler: Experience, in Artforum, Vol. 50 Issue 1: 141.

McLuhan, Marshal. 1964. Understanding Media: The Extensions of Man. London: Sphere Books.

Meyer, James. 2004. "No More Scale: The Experience of Size in Contemporary Sculpture" in Artforum 42, No.10 (Summer 2004): 220-28

Nead, Lynda. 2007. The Haunted Gallery: Painting, Photography, Film c. 1900. New Haven: Yale University Press.

Obrist, Hans Ulrich and Carsten Holler. 2003. "Interview" in Thomas Boutoux (ed.), Hans Ulrich Obrist: Interviews Volume 1, 401-410. Milan: Charta Editions.

Obrist, Hans Ulrich and Eliasson, Olafur. 2002. "Interview" in Joseph Jacquet (ed.) Olafur Eliasson: Chaque matin je me sens différent. Chaque soir je me sens le meme, 17-37. Paris: Musée d'Art Moderne de la Ville de Paris.

Rappolt, Mark. 2006. "Carsten Holler: My Idea of Fun" in Art Review 04: 47-53.

Steinle, Christa and Wiebel, Peter. 2001. "Editorial" in Olafur Eliasson: Surroundings Surrounded: Essays on Space and Science, 12-16. Boston: MIT Press.

BIOGRAPHICAL NOTES

Christopher Handran is an artist and writer currently undertaking a Masters degree at Queensland University of Technology. His practice-led research explores the creation and mediation of experience and perception via apparatuses including photography and the moving image. His work has been exhibited in solo and group exhibitions in galleries including the Queensland Art Gallery, Museum of Brisbane, Taipei International Artists Village, Open Eye Gallery Liverpool, and in the 2011 Format Festival, Derby, United Kingdom. He has written for journals including the Art Journal of Australia and New Zealand, Eyeline, Artlink and Photofile.

glitching

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ABSTRACT

glitching is a digital installation and performance project that attempts to re-describe the movement derived from characters in contemporary sports and action computer games.

As the gaming world grows ever more sophisticated and ubiquitous, the movements of characters become more and more realistic and convincing, thanks to constant improvements in software and hardware. Gaming characters of the 21st century have an extraordinary embodiment, fluidity of movement and naturalness. However, there are always imperfections and glitches, whether through unexpected programming errors or the users' inability to control the characters in seamless game-play, there is still the potential for awkwardness between spells of perfection.

I have focused on the artificial nature of these glitches by employing highly trained real bodies i.e. professional dancers, to re-stage them. I am interested in how real bodies cope with, and interpret into sequences of choreography, the limits of such foreign and unnatural movement.

glitching explores how this physically re-enacted choreography can be embedded and re-imaged within a responsive digital environment. Using the premise of home entertainment dance and training games, it employs a Microsoft Kinect (motion-sensor controller), and large-screen display to create an interactive installation. The audience is invited to step into the digital shoes of the 'lead dancer', and attempt to follow the awkward and intricate, glitch choreography performed by the dancing troupe on screen.

Alongside the interactive installation there are a series of *glitching* live performances featuring the installation, dancers Tony Mills, Hannah Seignior, Felicity Beveridge, and a performance soundtrack devised by Martin Parker.

KEYWORDS

glitch, Kinect, performance, choreography, installation

INTRODUCTION

An interdisciplinary to transdisciplinary art practice

To reflect on the intersections between humans and machines, and wonder what the unceasing developments in science and technology might mean for being human.
(Taylor 2011)

This eloquently simple yet astute statement from Alex Taylor, Sociologist at the Microsoft Research (MSR) Cambridge Lab, about his research goals, resonates with my own aspiration as an artist. I've spent the past sixteen years creating digital media projects that interrogate the impact of the virtual on the body, relationships and human experience. I would argue this has, over time, evolved from an interdisciplinary to transdisciplinary approach. I have undertaken numerous collaborations with a wide range of practitioners from within the fields of art, science, and technology, including dancers, programmers and dermatologists. My most recent project *glitching* attempts to address the potential of transdisciplinary digital art as defined by Steve Gibson, in that it makes "the *effort* to understand the medium of the *other* in more than superficial terms" (Gibson 2008, 1).

Previous projects include *Doppelganger*, a multi-faceted digital art work that reflects upon the historical tradition of portraiture, and explores the potential of 21st century technology upon the genre. The project involves a series of digitally constructed portraits, presented as larger-than-life digital prints and real-time 3D, based on an international group of artists in their studios. *Doppelganger* is suggestive of a set of computer games characters, but one that is *other* than the mainstream. The characters do not exhibit fantastical, erotised proportions, but the lumps, bumps and curves of 'real' people. Ultimately this causes them to literally fray at the edges, as their normal physiques push the artificially prescribed limits of the software of their creation.



Figure 7: Doppelganger 2003-4. Digital Prints. Copyright: Beverley Hood

Although, I would argue that my scrutiny of our complex relationship to technology is current, I also recognise that this creative line of enquiry is not a novel undertaking. Extraordinary historical works, such as Mary Shelley's *Frankenstein* (first published in 1818), are significant demonstrations of much earlier investigations into the implications, influence and pressure exerted upon human existence by technology, development and industry.

Mary Shelley's Frankenstein makes the first post-human life form of a modern age... Shelley writes far in advance of the digital computers which later begin to effect such developments, but she clearly feels the stirrings of artificial life even as industrialization begins and does much to programme the dreams and nightmares of the next two centuries...

(Plant 2000, 269)

The glitch

My most recent artwork, *glitching*, is a digital installation and performance project that attempts to re-describe the movement derived from characters in contemporary sports and action computer games. Commissioned by the Scotland & Medicine partnership for the exhibition *Human Race: inside the science of sports medicine* (with additional funding from Creative Scotland and Edinburgh College of Art), the project tours Scotland throughout 2012, as an official part of the London 2012 cultural programme.

As the gaming world grows ever more sophisticated and ubiquitous, the movements of characters become more and more realistic and convincing. Gaming characters of the 21st century have an extraordinary embodiment, fluidity of movement and naturalness. This movement is often derived from the real; games such FIFA, use motion capture and body scanning of professional sports players to create convincing, individual motion sequences to be used within real-time gameplay (FIFA Motion Capture - <http://fifasoccerblog.com/blog/fifa12-motion-capture/>). The world of computer game development is voracious in harnessing, driving and implementing, the constant and rapid improvements in software and hardware.

However, there are always imperfections and glitches, and it is these unintentional disruptions that I am interested in. Whether through unexpected programming errors, the users' inability to control the characters in seamless game-play (resulting in bumping into walls, misfiring, etc.) or the fully intentional cheat, there is still the potential for awkwardness and interference, between spells of perfection.

Glitches are a rich area of artistic enquiry, with entire publications and virtual museums devoted to artists and designers inspired by the glitch (IdN: Glitch Issue, 2011 and Mark America's project *The Museum of Glitch Aesthetics*, <http://www.nwfor2012.com/whatson/moga>). The artist, Clement Valla, has used the glitch as source for a series of images, *Postcards from Google Earth*, which exploit the disruptive, imperfect, and problematic rendering of certain physical terrains by Google Earth. Valla sites his interest in glitches deriving from the fact that "Glitches generate forms that no individual has thought of or set out to create. Rather, they result from the interaction of the material processes (glitches due to hardware), the code (glitches due to software), and the user or programmer. " (Valla 2011, 24)



Figure 8: Postcards from Google Earth 2011. Digital image. Copyright: Clement Valla.

The artist collective JODI, are well known for their artistic tactics of modification, disruption and interference. In 2006, they created *Max Payne Cheats only*, a work derived from the glitches and cheats within the video game *Max Payne 2: The Fall of Max Payne*, developed by Remedy Entertainment.

Jodi have intervened in the programme structure in such a way that absurd perspectives and effects alter the game's otherwise realistic graphics: we see the massive hero repeating idiotic movements; he dips his angular head into a virtual matrix; his body appears semitransparent.

(Transmediale Festival 2006)

Similarly, *glitching*, also focuses on the absurd, and artificial nature of movement that occurs during character glitches. Reams of game-play footage posted on YouTube was unearthed as part of project research. The question was how to deconstruct, re-embody and re-stage this material? In order to do so, I employed highly trained, real bodies, a role taken on in the first instance by Tony Mills, a professional Breakdancer with an extraordinary ability to interpret and create awkward and extreme movements. I attempted to create a trans-disciplinary production environment, which would enable us to discuss, question and create through a rigorous process of critical deconstruction and construction, across disciplinary constraints. The aim of this collaborative relationship was to foster complexity and depth in the integration of concept, process and form.



Figure 9: Skate for Xbox 360 2007. Copyright: Electronic Arts.

As a result, we collaboratively explored how real bodies cope with, and interpret into sequences of choreography, the potential and limits of the foreign, unnatural movement of computer glitches. This included establishing an overall physical texture to the movement, based on tight muscular control, non-symmetry, seemingly offbeat tempo (i.e. not working to an 8 bar count) and performer being simultaneously present and distant. We also explored what we coined as “impossible moves” i.e. movements that are apparently beyond the limits of the human body. Our collaborative, transdisciplinary approach was an attempt to interrogate whether by taking the digital and transplanting it, re-interpreting it, embodying it within the physical body – literally re-enacting it – does it disintegrate, transform, and become something new?

Also working with dance, to analyse limitations of the human body, physical conventions, and potentially “redefining what the body can do” (Monahan 2010) is choreographer, Wayne McGregor and his radical dance company Random Dance. The company’s 2010 production *Far*, attempted to establish a “radical cognitive research process” (Random Dance 2012) and draws upon the input of neurologists to “un-pick” conventions within the dancer’s individual approach to movement, disrupting and challenging patterns of behaviour. The result is stark, peculiar and highly individual choreography, at times not dissimilar to the awkward, disorderly and unsettling movements within computer game character glitches.

Embedding the interference – the installation

The *glitching* project explores how character glitches, physically re-enacted through choreography, can be embedded and re-presented within a responsive installation environment, for an audience to interact with. This entailed digitising the physically enacted glitch choreography, performed by Tony Mills. Central to this process was the motion controlled sensor, Microsoft Kinect, marketed as a gaming controller but infamously hacked only a few days after its release in 2010 (BBC 2010). The Kinect is an extraordinary example of gesture driven hardware, accessible and affordable, with radical potential for creative practitioners. Microsoft emphasise its potential, in combination with their Kinect Software Development Kit (SDK), in the hands of developers, to create natural user interfaces (NUI) (Microsoft 2012). I readily acknowledge the relevance of developers, programmers and technologists in this development, particularly as the Kinect is not an easily tool to tackle without a significant level of technical competence. However, I would argue that creative practitioners are equally important within this development, to interrogate the implications, potential and resistance of gesture driven interaction.

In order to use the Kinect as a motion capture device we experimented with pre-existing hacks, plugins and commercially available Motion Capture software, developed for the Kinect. This immature technology has been radically exploited, with a multitude of uses, users and channels of information distribution. Unfortunately, as a result, the reality of working with the Kinect is rife with technical difficulties, inconsistencies, and frustration.

We attempted to harness these disruptions and inconsistencies, as a constructive element to feed back into the project. For example, manipulating the Kinect as a motion capture device with the Voice-Synthesising and Animation software MikuMikuDance, created a new level of noise and mis-interpretation of the physical choreography. The resulting digitised material was then used as reference for modifications of the texture, movements and quality of the physical choreography.

Eventually, the choreographed sequence was captured, cleaned up (so as to be a functional representation of the choreographic sequence) and applied to a 3D character version of Tony. The digital Tony was constructed by appropriating pre-existing character models, freely available in software libraries.

Using the premise of home entertainment dance and fitness training games (such as Just Dance, Dance Central and Your Shape: Fitness Evolved), *glitching* employs the Kinect (on this occasion as a motion-sensor controller), a pseudo game environment and large-screen display to create a digital installation for the public to “play”. The digital game environment was created using the Unity game engine, which had a number of pre-existing Kinect plugins already in circulation. Using these plugins as the initial technical framework, I employed an experienced games developer and programmer, Hemal Bodasing, to adapt and re-shape the Kinect/Unity relationship to suit the requirements of *glitching*. As a result, using skeletal tracking, the Kinect enables the user to step into the digital shoes of the ‘lead dancer’, and attempt to follow the awkward and intricate, glitch choreography performed by the dancing troupe on screen.



Figure 10: glitching 2012. Interactive installation interface. Copyright: Beverley Hood

On the surface, the Kinect may appear to be an uncanny example of Donna Haraway’s proposition that “The difference between machine and organism is thoroughly blurred; mind, body and tool are on very intimate terms” (Haraway 1997, 56). However, *glitching* reveals

that this blurring is regularly brought sharply into focus, as an encounter with the Kinect is in itself rife with interference, resistance and glitches. As the user attempts to follow the digital choreography onscreen, their movements are distorted and transformed, due to skeletal limitations and the (mis)interpretation and unreliability of the data from the Kinect.

Glitching in action – the performance

Aside from the interactive installation, there are *glitching* live performances, which use the interactive installation as both backdrop and reference to present a piece in five parts, performed as a series of expanded glitch cycles. The performance was devised collectively under my creative direction, with dancers Tony Mills, Hannah Seignior, Felicity Beveridge, and composer Martin Parker, who also devised the performance soundtrack with input from the group. The *glitching* performance is approximately 30minutes in duration, and ends with an invitation to the audience to come on stage to ‘play’ and interact with the game interface.

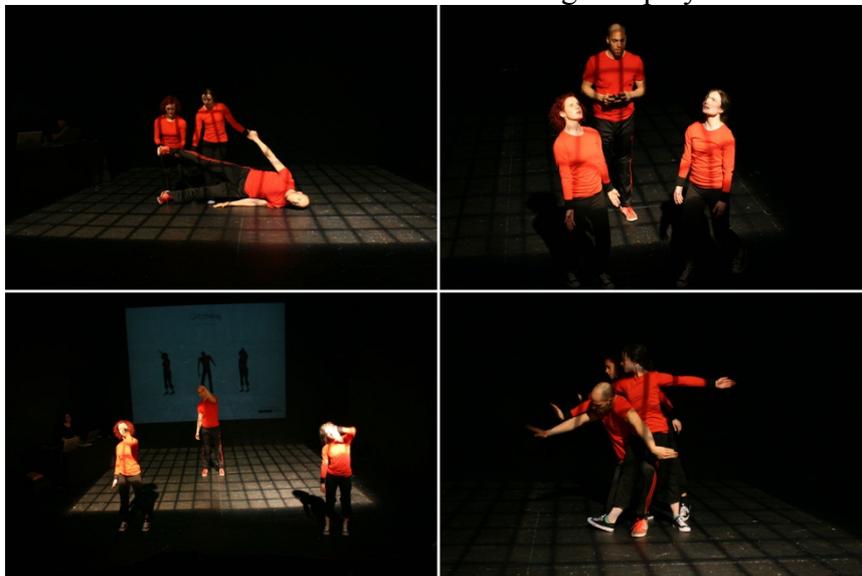


Figure 11: glitching 2012. Performance. Copyright: Beverley Hood.

Built into *glitching* are multiple copies, versions, distortions and deviations: the physical movement “source” Tony Mills; the motion captured copy, translated and “cleaned up” by software; the re-enactment of this within the Unity game engine; and the layers of distortion applied by the Kinect translating the users movements. In the performance, this layering of copies and versions is taken to another level, with the source, Tony Mills, coming back on stage to dance with a distilled, re-interpreted, and disruptive version of himself.

Real world echos, in the form of Hannah Seignior and Felicity Beveridge, become yet more copies, but in this case real, human embodiments, who bring with them their own personal and phenomenal interpretations of the material. This material, sourced from Tony, appears in an array of divergent iterations, each imprinted with the qualities and effect of its processing whether physical enactment or data interpretation. For me, *glitching* resonates, with Marcel Duchamp’s thoroughly inconsistent (and mostly undefined) but potent concept of *infra-mince* as suggested by Gavin Parkinson, i.e. that it is concerned with “manifesting a sense of ‘slippage’ – of loss, lack or infinite multiplicity – threatening at once the unity of the self and the possibility of an absolute comprehension of the world.” (Parkinson 2008, 78)

glitching absorbs and revels in the disintegration, misinterpretation and unreliability of the exchange of data from one source to another. The New York based artist, Kristin Lucas has addressed similar concerns with a widely differing approach. Her early performance *A Common Object has Special Powers*, (1997) with Lucas positioned in the role of performer/technician, is a farcical, pseudo presentation, “disrupted by events such as pizza delivery, missing cables, and mispatches”. (Lucas 2012). Full of humour, edged with frustrated realism, technology in this environment causes as many problems as it solves. More recently she created the project *Refresh*, exploring what she terms “versionhood”, described as “the notion of a multiplicity of the self—the self as iterable” (Jahn and Lucas 2010). For *Refresh* she legally changed her name, to her own name, citing the word “refresh” as the reason she wished to change it.

the presiding judge who granted the request said: “So you have changed your name to exactly what it was before in the spirit of refreshing yourself as though you were a web page.”

(Jahn 2010)

CONCLUSION

glitching sits within a diverse, rich body of practitioners’ exploring the limitations and potential of technology, the implications of its disruption and the resulting interference as both a negative and constructive force. It is also an example of creative investigation into the potential of motion controlled, gesture driven technology as tools for installation and performance. Large-scale commissions such as *me and my shadow*, an international telepresence experiment between four portals in London, Paris, Istanbul and Brussels led by UK artist Joseph Hyde, uses the Kinect as key technology for movement based interaction and immersion (body>data>space 2012). Australian born and Edinburgh based, dancer and choreographer Skye Reynolds leads the creative development of *transmission*, an interactive performance work aimed at children, which utilises the Wii to generate a live performance soundtrack. Within this fertile network of experiments and inquiry, exists *glitching*.

The project attempts to constructively assimilate digital media curator Richard Rinehart’s adaption (motivated by the emergence of media art) of Walter Benjamin’s assertion that “the work of art reproduced becomes the work of art designed for reproduction” (Reinhart 2011). This reproducibility and adaptability is embedded within concept, development process and final artwork, which exists now, as multiple releases, adjusting to its presentation environment, whether installation or performance.

Michael Freid asserted that “art degenerates as it approaches the condition of theatre” (Freid 1968, 141). If this is the case I would gladly argue that *glitching* may be highly degenerative.

REFERENCES

- BBC. 2010. "Kinect hacked days after release." Accessed June 14, 2012.
<http://www.bbc.co.uk/news/technology-11742236>
- body>data>space>. 2012. "me and my shadow." Accessed June 12.
<http://www.bodydataspace.net/projects/made/meandmyshadow/>
- Fried, Michael. 1968. "Art and Objecthood." In *Minimal Art: A Critical Anthology*, edited by Gregory Battcock, 116-147. New York: E.P. Dutton & Co.
- Gibson, Steve. 2008. "Introduction: Why Transdisciplinary Digital Art?" In *Transdisciplinary Digital Art, Sound, Vision and the New Screen Digital ArtWeeks and Interactive Futures 2006/2007 Zurich, Switzerland and Victoria, BC, Canada Selected Papers*, edited by Randy Adams, Steve Gibson and Stefan Müller Arisona, 1-2. Berlin Heidelberg: Springer-Verlag
- Haraway, Donna J. 2000. "A Manifesto for Cyborgs: Science, Technology, and Socialist Feminism in the 1980s", In *The Gendered Cyborg*, edited by Gill Kirkup, Linda Janes, Kath Woodward and Fiona Hovenden, 50-56. London: Routledge.
- Jahn, Marisa and Lucas, Kristin. 2010. "Refresh: Kristin Lucas sur la multiplicité de soi :: Conversation entre Kristin Lucas et Marisa Jahn". *dpi* 17. Accessed June 7, 2012.
<http://dpi.studioxx.org/demo/?q=fr/no/17/refresh-sur-multiplicite-de-soi-Conversation-Kristin-Lucas-Marisa-Jahn>
- Lucas, Kristin. 2012. "Performances." Accessed June 7.
<http://www169.pair.com/klucas/archive/performance.html>
- Microsoft Research. 2012. "Kinect for Windows SDK Beta." Accessed June 7.
<http://research.microsoft.com/en-us/collaboration/focus/nui/kinect-windows.aspx>
- Monahan, Mark. 2010. "FAR, Wayne McGregor, Random dance, review." *The Telegraph*, 18 Nov. Accessed June 7, 2012.
<http://www.telegraph.co.uk/culture/theatre/dance/8143522/FAR-Wayne-McGregor-Random-dance-review.html>
- Parkinson, Gavin. 2008. *Essential Artists: The Duchamp Book*, London: Tate Publishing.
- Plant, Sadie. 2000. "On the matrix: cyberfeminist simulations". In *The Gendered Cyborg*, edited by Gill Kirkup, Linda Janes, Kath Woodward and Fiona Hovenden, 265-275. London: Routledge.
- Random Dance. 2012. "FAR – About." Accessed June 12.
<http://www.randomdance.org/productions/far>
- Rinehart, Richard. 2011. "Artworks as Variability Machines." Paper presented at the Preservation of Complex Objects Symposium (POCOS), Glasgow, Scotland, October 11. <http://vimeo.com/31440197>

Taylor, Alex S. 2012 “Socio-digital-Systems/Alex Taylor.” Accessed May 30.
<http://research.microsoft.com/en-us/um/people/ast/>

transmediale festival. 2006. “Festival 2006: Exhibition.” Accessed Dec 6, 2011.
<http://archive.transmediale.de/page/exhibition/exhibition.0.1.3.html>

Valla, Clement. 2011. “Postcards from Google Earth.” *IdN: Glitch Issue*, 18 no3: 24.

BIOGRAPHICAL NOTES

Beverley Hood studied Sculpture and Electronic Imaging at Duncan of Jordanstone College of Art and Nova Scotia College of Art & Design. Since the mid 1990's she has been creating digital art works, that interrogate the impact of the virtual on the body, relationships and human experience, which have been exhibited internationally. She set up the email list *ambit* (networking media art in Scotland) with Chris Byrne in 2000, and has been an active member of other networks and groups such as *elevator* (Scottish media art group in mid – late '90s), and more recently *CIRCLE* (Scottish/UK researchers and practitioners developing collaborative creative environments). She lives in Edinburgh and is Postgraduate Lecturer in the School of Design at Edinburgh College of Art, University of Edinburgh.

Enactive research: Transversal possibilities for expanding the imaging of art-science.

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ABSTRACT

This paper explores the notion of the expanded image as a transdisciplinary interaction between people and environments. In support of this proposition, images and imaging will be discussed through a series of transformative steps: from the diagram to the biogram and from the biogram to biotopology. Two research projects, exemplary of a transdisciplinary approach, inform the move to biotopology (the continuous surface of interactions tied to imaging practices): first, theories of *enaction* in cognitive science foreground co-selective processes and the precariousness of self-organising systems and supply new ways of imaging body-environment relationships (Stewart et al 2010; Thompson 2007; and Varela et al 1993); and second, the *procedural architecture* of artist-turned-architects Arakawa and Gins foregrounds the reconfigurability of the co-selective process that becomes an enactive practice. These approaches suggest that if the image were expanded to include the intersection of the human organism's behaviours, artefacts (such as images) and built-environments, then the 'person' whose myriad surfaces flicker towards future action, might become the best description of an expanded form of imaging, always in process and flickering towards future action. The many and non-locatable surfaces of person would defy disciplinary boundaries and interfere with habitual patterns of imaging. Ultimately, the aim of expanding imaging practices is to expand an embodied capacity to configure and reconfigure conceptual and material realms.

KEYWORDS

transdisciplinarity, enaction, diagram, biogram, biotopology, embodiment

“The senses have become theoreticians in their own right” Karl Marx, *Economic Manuscripts of 1844* (1970, 139).

INTRODUCTION

Transdisciplinarity

Transdisciplinary imaging questions what the act of imaging might allow and invite us to do? The aim of this paper is to theorize imaging—the making of images—rather than focusing on the phenomena of an image-saturated culture. A transdisciplinary approach would uncover loopholes in the social contract and activate possibilities for action embedded in the environment, allowing researchers to work more directly on the conditions from which values and measures arise. To this end, I have focused on the making of images as a way to consider how image-artifacts and imaging processes might be expanded. The type of expansion that would be most productive is the one that includes how an image comes to be, its ontogenesis. Images and the technologies (imaging processes) that support the surfacing of images are often oriented towards the product or image-artifact and the field of affects through which it ripples. However before an image congeals as an object, it is an image-in-the-making, formed and guided by decisions that potentially might be expanded by practicing a deliberately non-reductive and inclusive practice. The key to such a transdisciplinarity approach is to deploy the logic of one theory/practice (approach) to work in the elaboration of another without reducing one to the other (Nicolescu 1997, 2008). To resist a reduction of the image to its surface or instance of deployment, the valence of the image may be increased (by removing disciplinary constraints) to make the image more available to new connections and configurations.

An emphasis on image making shifts the discussion of imaging to the life around the images, that is to say, how images might affect the producer and how they affect the environment that primes the future. The image-making process stretches across the affects that become an image as well as the affects the image is yet to inflect. The image-artifact, or product, is but a thin slice of a life that involves constant imaging. The liveliness that surrounds imaging—as an embodied and situated interaction with the environment—leads to a new expanse of imaging potential. A focus on imaging therefore, recognizes the operations of images across a range of scales and levels of meaning (and the production of meaning) to become prompts, environmental objects and *diagrams of relation*. In this sense, an expanded notion of imaging, especially for scientific observation and visualization of data, would require an examination of the ways in which an images and imaging (particularly the diagram and diagramming) may be used to coordinate the biology of cognition (Maturana 1980, 2) with the co-selective forces encountered in shared world.

An expanded imaging process would be experimental and exploratory, deflecting attention, selection, decision, select and judgment, and affecting the capacity to response and change. It would open up the context around the slices of life that images capture. Imaging, in this context, constitutes the way distinctions are made and, by recontextualizing the relations among those distinctions, enacts and depicts change. Imaging practices hold the potential to

reconfigure relationships. The direction, purpose and impact of the changes (in configuration) are contested and debated by the collective and honed by users of images as artifact, artifice and interface. It would be useful to imagine how the expanded image would reflect the dynamic impetus of the image at work across the registers of perceptual and conceptual processing. The diagram is a form of relationality that provides the starting point for an inquiry into the enactive character of images, that is to say, their potential to affect and to be affected. Images become events through which to distinguish between objects (artifacts) and process and to initiate shift from art to transdisciplinary imaging.

In order to arrive at the expanded image, this paper moves through a series of steps—from the image to the diagram; from the diagram to the biogram; from the biogram to biotopology or biotopological diagramming. The aim is to arrive an embedded and situated understanding of imaging that shifts the focus away from the image-products to the role that imaging plays in the “realization of living” (Maturana and Varela, 1980, n.p).

From Image to Imaging

The types of imaging that science is currently undertaking in medicine (X-rays, CAT scans and MRIs, FMRI and plastination) and in physics, biology and chemistry (from color enhanced images, visualizations, simulations to electron microscopes and particle accelerators)— all of these processes fall within current notions of image and imaging pertaining to technological advances in capture, networking and information design. This investigation, however is concerned with imaging that moves towards the diagrammatic. When one makes a diagram, s/he is often aware of its provisional status and does not depend upon a pre-approved (historical) line of credit for the diagrammatic image.

A tendency in the life sciences, such as experimental psychology and ecological psychology, is to find an invariant, often a mathematical expression that becomes the image of the experiment. The goal of the imaging process in this context would be to discover the feature that does not vary under context or situation. This is not the case when dealing with dynamic systems or differentials. In his well-known article on coordination, neo-Gibsonian, Michael Turvey includes a study of the coordination of four jugglers one of whom was a professional juggler. When observing the specific pattern of holding and hand movements, he noted the cycle times were all close but not exactly the same: “juggling does not entail perfect phase locking. In fact, one might argue that the imperfect phase locking is both inevitable and desirable juggling” (Turvey 1990, 950-1). Turvey goes on to explain the issues facing researchers of dynamical systems:

It is fairly obvious to all of us that any given coordination will exhibit variations that depend on the context. Yet at the same time, it is clear that the coordination from context to context has a certain sameness about it. Consider reaching for an object on a

table. Very many reaching movements, starting at very many different places within the vicinity of the object, can converge on the object. Any reachable object is like a point capable of attracting a multiplicity of different limb trajectories. In dynamical terms one would say that reaching—regardless of when, where, and with which parts of the body it is conducted—has the features of a system governed by a point attractor. If reaching is a task whose dynamics are those of a point attractor, then the challenge is to understand the embodiment of this *invariant task dynamic* in variable movement patterns. Clearly, reaching admits of several alternative descriptions, of which the point attractor dynamics is the most abstract, and a description in terms of the changes in joints and distance from the object is the most concrete. (Turvey 1990, 951-2)

Although Turvey's work strives for the discovery of invariants, he sees, in biological movement systems for example, the need for a "dynamics perspective for every task" (1990, 951), which in art and philosophy would be called a diagram. One notable description of the diagram is provided by Deleuze: "a map of relations between forces, a map of density, or intensity, which proceeds by primary non-localizable relations and at every moment passes through every point, or 'rather in every relation from one point to another'" (Deleuze 1988, 36 and Foucault 1976, 93). The need for a "dynamics perspective" is addressed by activating a non-localizable map of relations, since the diagram supplies an image that tries to acknowledge that which is outside or adjacent to it. We know this is the case because the diagram cannot be read like the closed system of a detective story and instead operates as a thriller whose storyline depends upon not having all the pieces. This is the first step in expanding the notion of the image into an imaging process.

From imaging to the diagram

On the Internet, I found what might be considered to be a *composite image of a barometer* that goes part of the way towards the diagrammatic imaging of a scientific solution. The key to its diagrammatic character is the movement across conceptual and material domains, social protocols and scientific procedures. It is the urban myth of Neils Bohr's physics exam answer.

The following concerns a question in a physics degree exam at the University of Copenhagen:

"Describe how to determine the height of a skyscraper with a barometer."

One student replied:

"You tie a long piece of string to the neck of the barometer, then lower the barometer from the roof of the skyscraper to the ground. The length of the string plus the length of the barometer will equal the height of the building."

This highly original answer so incensed the examiner that the student was failed immediately. The student appealed on the grounds that his answer was indisputably correct, and the university appointed an independent arbiter to decide the case.

The arbiter judged that the answer was indeed correct, but did not display any noticeable knowledge of physics. To resolve the problem it was decided to call the student in and allow him six minutes in which to provide a verbal answer that showed at least a minimal familiarity with the basic principles of physics.

For five minutes the student sat in silence, forehead creased in thought. The arbiter reminded him that time was running out, to which the student replied that he had several extremely relevant answers, but couldn't make up his mind which to use. On being advised to hurry up the student replied as follows:

"Firstly, you could take the barometer up to the roof of the skyscraper, drop it over the edge, and measure the time it takes to reach the ground. The height of the building can then be worked out from the formula $H = 0.5g \times t^2$. But bad luck on the barometer."

"Or if the sun is shining you could measure the height of the barometer, then set it on end and measure the length of its shadow. Then you measure the length of the skyscraper's shadow, and thereafter it is a simple matter of proportional arithmetic to work out the height of the skyscraper."

"But if you wanted to be highly scientific about it, you could tie a short piece of string to the barometer and swing it like a pendulum, first at ground level and then on the roof of the skyscraper. The height is worked out by the difference in the gravitational restoring force $T = 2\pi \sqrt{l/g}$."

"Or if the skyscraper has an outside emergency staircase, it would be easier to walk up it and mark off the height of the skyscraper in barometer lengths, then add them up."

"If you merely wanted to be boring and orthodox about it, of course, you could use the barometer to measure the air pressure on the roof of the skyscraper and on the ground, and convert the difference in millibars into feet to give the height of the building."

"But since we are constantly being exhorted to exercise independence of mind and apply scientific methods, undoubtedly the best way would be to knock on the janitor's door and say to him 'If you would like a nice new barometer, I will give you this one if you tell me the height of this skyscraper'."

The student was Niels Bohr, the only Dane to win the Nobel Prize for physics.

Figure 1. diagrammatic image of a barometer
<http://www.snopes.com/college/exam/barometer.asp>

The hero of the story shows how the constrained nature of the system must give way to the dynamic context of encounter and engagement. This is a *word image* of a barometer, inseparable from the sets of actions in which it is entangled and works through numerous, workable relations between a barometer and the height of a building. There are so many dimensions and potential relations at hand – such as gravity, the sun and the time of day, string – that the barometer and its potential actions in the world enter into a far more complex set of relations than when the barometer stands as an image-sign of air pressure.

The word-image compilation involving the barometer is a diagram that consists of an approach to information that accommodates perceptual, conceptual and process-oriented emergent qualities in representational, schematic and evocative modes of spatial, temporal and sensory appearances. The diagram makes available a way to track the movement across the various ways of making relationships. By instantiating a relationship—both the performance of the relations and the spatial context that express the relationship—the way an image becomes a diagram is inflected—that is, the relational movements within the word-image become an diagrammatic image of changes in perspective. In the diagram the material, conceptual, spatial and temporal dimensions, operate transversally. The expanded image would, therefore begin to bring these dynamic and heterogeneous qualities of movements, rates and types of change to the surface.

A diagram or transversal image would function across several levels of meaning drawing out the micro-reconstitution of relations over the macro-reconstitution of fields, not merely connecting pre-existing relations but transforming anything brought into the newly configured set of relationships (Murphie, Mackenzie and Whitelaw 2011, n.p.). The transformation consists of a shift from image as record, capture or proposition about the world to the image as a processing of or proposition about types of reconfiguration, is crucial to the consideration of the diagrammatic image or imaging as a embodied activity that indicates the point at which language is a prompt and perception is action. The nodal quality of the diagrammatic image means that we cannot contain the image with itself and must inflate what is considered to be an image to include the imaging processes that run transversally within, through and across all that impinges upon it and from which it draws relevance.

A significant step towards a useful expansion of the image and its augmentation of living systems is the transition from the diagram that tracks across modalities to the biogram that is a technique for moving through modalities.

From the diagram to the biogram

The biogram informs and builds upon discussions of the diagram. For Brian Massumi biograms are “lived diagrams based on already lived experience, revived to orient further experience” (2002, 186). Erin Manning describes the biogram is a “virtual node out of which a bodyness can be felt, this feltness is an affective experience. It is the tendency of a body to become that the biogram makes palpable” (2009, 124). This emergent quality is held in place as a result of the conditions of becoming and the environment that supports those conditions. The biogram contrasts with yet is closely related to the diagram but emerges though the mobius of perception and action as an embodied diagram. The biogram affirms the asignifying features crucial to the operation of the diagram.

An example of biogram images or set of biograms would be William Forsythe’s dance work and subsequent projects called *One Flat Thing, reproduced*. The series of collaborative works compiled as synchronous objects, result from “exploration of choreographic structures and re-imagine what else they might look like” (<http://synchronousobjects.osu.edu/>). Each project becomes a flowering of transdisciplinary biograms informed by a different set of parameters and each set of parameters is constrained by the data sets generated by the dance work. Titles of the projects include: the dance, cue score, cue annotations, counterpoint tool, concept threads, 3D alignment forms, motion volumes, furniture system data fan... etc. As one set of data is used to produce another set, the composite knowledge settles into an image that is not contained in any of the visualization/fabrication projects but acquires a tonal and textural feeling of know how and knowing about. Perhaps most importantly, the biogram is an embodied feeling that becomes a generative tool. (See also Manning 2008 on Forsythe’s *One Flat Thing, reproduced*.) The biogram could be said to enact the potential and implied engagements inherent in the diagram towards which the diagram stretches and tends.

If Bohr's actions constitute a transversal image of a scientific solution and Forsythe's *One Flat Thing, reproduced* might be considered a parametric biogram of creative engagement, then what would an expanded image—one that is the transversal of art and science—look like? It is stated in the CFP that the “Transdisciplinary Imaging Conference wants papers that ask: “Can we think of ‘interference’ as a key tactic for the contemporary image in disrupting and critiquing the continual flood of constructed imagery.” In order to shift the emphasis away from the flood of images, it is not the flow of imagery that must be disrupted; it is the way images operate as thin slices (movie stills) of time or space or history and function as a form of *facticity*. The process of constructing images must include bodyness and the field into/onto and from which the flow of affects may surface. Therefore, an expansion of the image and of imaging will require dimensionalizing the non-localizable relations between forces in order to capture all the events accumulated in the diagram and activated through the biogram into a dynamic flux. In order for feltness and affective texture of relationality to dimensionalize, or acquire volume, it must become a biotopology.

From biogram to biotopology

Biotopology is a description taken from the work of artists-turned-architects, Arakawa and Gins who coined the term to indicate the task of coordination required to bring forth a world through the continuous and reciprocal unfolding of the organism and the environment (Gins and Arakawa 2002, 48). It resonates with another terms they coined, bioscleave that combines the scientific description of the earth as biosphere with their notion of cleaving (to join and to separate). Together the biosphere and the act of cleaving form the *bioscleave* in which the continuous yet segmented surface of biotopology flourishes. Arakawa and Gins' imaging practices, which range from written word to diagrammatic images, architectural models, installations, houses, apartments and proposal for small cities, describe and invite connectibility and aim to increase human capacity to enact new configurations of relation and take diagramming into 4 dimensions and 360 degrees of lived experience.

Arakawa and Gins' emphasis on the bioscleave closely aligns with the ideas generated from enactive theories of cognition, in which an organism and the environment exist only in relation to each other and that every living organism enacts or brings forth the world in which it exists (Stewart et al 2010, 2-3). Enactive theories (Varela et al 1993, Thompson, 2007 and Stewart et al, 2010) emphasize the role of bottom-up processing, such as perception and action and sensori-motor loops. However, as Stewart notes, enactive theories offer more to the study of higher-level cognition than computational paradigms precisely because they take first person lived experience more seriously (2010, 4). While theorists of enaction are not primarily interested in the ways that imaging may prompt and activate relations that bring forth the world, enactive theories of cognition highlight the role that images might play in the filigree of connections across the body-environment.

For over forty years, Arakawa and Gins have been working at transforming the ways in which the body cannot be considered separately from its surroundings. Their efforts have

concentrated on how architecture can be used to ask questions and transform the modes of sensing and the scales of action that pass through the organism-environment. For Arakawa and Gins, “the biotopologist produces ongoingly organized and redistributing gatherings of all that pertains to that ‘organism that persons’ who happens to be the biotopologist herself, including the slightest of slight urges and what only faintly indicates itself as being operative an organizing principle; she calls these ongoingly organized and redistributing gatherings of her making ‘diagrams’” (Gins and Arakawa 2006, 56). Their architecture is designed to assist the biotopologist to work diagrammatically, and the terms of their discourse supply an “instant referent delivery”, where by if “used diagrammatically, a term intermixes now lightly, now abundantly with its referent, which occurring on demand, suffuses the would-be diagram with itself” (2006, 101-102).

Building on the enactive approach for research, especially practice-led research in the arts towards transdisciplinarity, means the primary domain of creative research is the organism-environment and not the disciplinary or mediated image of the organism-environment relationship. This not only opens what an image can be, but also opens the study of cognition and ecological “niche constructions” to the art-based research on sensation, perception, material process and the production of affects.

From biotopology back to the expanded image

My proposal for an expanded image has argued that the ‘person’ is an image of organism-environment, which treats biotopological events as the combination of diagrammatic and biogrammatic exposures. Lets construct a model of the imaging apparatus. The facetious complexity of the structure we call ‘person’ gives us the best set of surfaces on which to capture the undulations body and environment. The architecture would become the camera (inverted camera obscura) to frame the forming person-image. The organism would be the medium exposed to an environment, replete with biochemicals to allow events to stick to its surface. Procedural architecture, as devised by Arakawa and Gins, would constantly prompt the aperture to be fully open and the shutter would be held open for maximum exposure time. The resulting image would be a self-organized time lapse, a lapsing of forms or a collapsing of organism and environment in the form of a “person.” So in this case, the person is the imaging process that is constantly surfacing and on which the interactions of the organism and the environment register.

The image, a person-in-process, insinuates itself into a life to interfere, hold open or slow down the imaging of a biotopological surface. The person, as the organizational medium of capture, moves from image to volume, a concertina or accordion of living diagrams.

How to make an expanded image

Arakawa and Gins are exemplary in terms of the way they developed a transdisciplinary approach to the complex situation of the life that surrounds our embodied capacity and relationship to the environment. For them, *biotopology* describes the inseparable surfaces

that extend within and through the body-environment and the *procedural architecture* (2002, 73-80) is the name they have given this non-reductive research practice. Arakawa and Gins propose that we must literally build questions to challenge and disorient historically constructed and habitually guarded body schemas. Arakawa and Gins' somewhat radical declarations suggest that the use impossibility as a way to reconfigure the senses and expand researchers ability to explore the potential of the body-environment. The value of their work resides in the modes of engagement they initiate.



Figure 2. 1995-2007. Arakawa and Gins' *Bioscleave House*. Copyright: Arakawa and Gins – photo Dimitris Yeros.

Arakawa and Gins' *Bioscleave House* in Long Island NY, is an example of how a built environment might ask questions in a 360 degree way. Every aspect of the residence is designed to make a person realize how the modes of sensing, size, distance, volume, speed, level, balance are overly habituated. By posing perceptual challenges to balance—the floor is an undulating terrain; to depth perception—the walls are brightly colored; to distance—the vertical poles are of varying diameters confounding this measure a standard size would offer; to scale—the roof is pitched and floor tilted so the main room is low ceiling at one end and high ceiling at the other producing an Ames room effect; to proprioception—the usual coordination of vision and muscular pressure combine to stabilize balance is throw off by the irregular floor and the 15 degree tipped ceiling that seems to change angle with each step. This environment disrupts the way a person uses images to navigate and understand our relationship to the world. Instead the person, him or herself, becomes an image of an enactive flow that traverses the existing calibrations of person and sets in motion a series of ongoing recalibrations. (For more on *Bioscleave House* see Keane 2003, 2007, 2010). By expanding the image biotopologically, the capture surface (the person) becomes more vibrant and revives all experience towards further action. The use of the built environment as a tool to prompt alternative modes of imaging and new configurations of imaging practices, offers an

extreme contrast to the pinpointed analysis and contextualization of images and imaging technologies.

In this paper I have attempted to move the notion of an expanded image as far as I can away from a static standard notion of the image and technologies of imaging. In doing so I have used the diagram to step away from the image in order to complexify how an image can operate across conceptual and material realms. The next step was to suggest that the diagram in its various mediated forms can be expanded further to become a biogram - a living or embodied diagram. Finally the furthest step towards an expanded image is to suggest that the person, this indeterminable, contourless set of behaviours, be considered the most expanded form the image/imaging, which registers the complex interactions of organism and environment on its surface. This concept of the image will prove most useful to the transdisciplinary imaging of human capacity.

REFERENCES

- Byrd, Don. 1994. *The Poetics of Common Knowledge*. Albany: SUNY Albany Press.
- Deleuze, Gilles. 1988. *Foucault*. Trans. Sean Hand. London and New York: Continuum Press.
- Foucault, Michel (1976) *Histoire de la sexualité*. Paris: Gallimard.
- Forsythe, William and Shaw, Norah Zuniga. 2008. Synchronous Objects. Accessed June 10. <http://synchronousobjects.osu.edu/>
- Gins, Madeline, and Arakawa, Shusaku. 2002. *Architectural Body*. Tuscaloosa and London: University of Alabama Press.
- Gins, Madeline, and Arakawa, Shusaku. 2006. *Making Dying Illegal: Architecture Against Death—Original to the 21st Century*. New York: Roof Books.
- Keane, Jondi. 2003 “The Multimodal Consequences of Coordinology.” *Interfaces: Architecture Against Death/Architecture Contre La Mort* double issue, vols 21-22, n .2, Paris: College of Holy Cross and Paris University 7 – Dennis Diderot: 407-434.
- Keane, Jondi. 2007 “Situating ‘Situatdness’ through Æffect and the Architectural body of Arakawa and Gins” in *Janus Head Journal of Interdisciplinary Studies in Continental Philosophy*, winter issue Vol 9, No. 2, 06/07, guest editor Shaun Gallagher.
- Keane, Jondi. 2010 “Bioscleave Report: Constructing the Perceiver” in F. Kral and J-J. Lecerle (2010) *Architecture and Philosophy: New Perspectives on the Work of Arakawa and Madeline Gins*. Amsterdam and New York: Rodopi Press: 143-168.

- Manning Erin. 2008. "Propositions for the Verge - William Forsythe's Choreographic Objects". *Inflexions journal* No. 2 "Nexus"
<www.senselab.ca/inflexions/volume_3/.../Inflexions_Manning.pdf>
- Manning, Erin. 2009. "From Biopolitics to the Biogram". In *Relationscapes*. Cambridge, MA: MIT, 124-141.
- Massumi, Brian 2002. *Parables for the Virtual: movement, affect, sensation*. Durham: Duke University Press.
- Marx, Karl. (1970) *Economic Manuscripts of 1844*. D.J. Struik (ed), M. Milligan (trans), London: Lawrence & Wishart.
- Maturana H.R. (1980) 'The Biology of Cognition' in *Autopoiesis and Cognition: The Realization of the Living*. Dordrecht: D Reidel: 2-57.
- Maturana, H. and Varela, F. (1980) *Autopoiesis and Cognition: the Realization of the Living*. Dordrecht: D Reidel.
- Murphie, Andrew, Mackenzie, Adrian., and Whitelaw, Michael. (eds) 2011. Issue 18 – *Trans*, The Fiberculture Journal. Accessed June 12, 2012. <http://fibreculturejournal.org/>
- Nicolescu, Basarab. 1997. The Transdisciplinary Evolution of the University. *CIRET-UNESCO project from International Congress Which University for Tomorrow?* Monte Verita, Locarno, Switzerland. Accessed January 2 2010. <[www.perso.club-internet.fr/nicol/ciret/bulletin/ b12/b12c8.htm](http://www.perso.club-internet.fr/nicol/ciret/bulletin/b12/b12c8.htm)>
- Nicolsecu, Basarab. (Ed.) 2008. *Transdisciplinarity – Theory and Practice*. Cresskill, NJ: Hampton Press, Inc.
- Stewart, John, Gapenne, Oliver, and DiPaolo, Ezekiel., A. (Eds)(2010) *Enaction: Towards a New Paradigm for Cognitive Science*. Cambridge MA: MIT press.
- Thompson, Evan. (2007) *Mind in Life: Biology Phenomenology and the Science of Mind*. Cambridge: The Belknap press of Harvard University press.
- Turvey, Michael. T. 1990. "Coordination". *American Psychologist*. Vol 45(8), 938-953.
- Varela, Francesco Thompson, Evan and Rosch, Eleanor 1993. *The Embodied Mind: Cognitive Science and Human Experience*. Cambridge, MA: MIT press.

BIOGRAPHICAL NOTES

Dr Jondi Keane is an arts practitioner, critical thinker and Senior Lecturer at Deakin University, Melbourne. Over the last 27 years, he has exhibited and performed in the United States, the United Kingdom, Europe and Australia. Recent creative projects include the art-science installations (Slought Foundation, Philadelphia 2008), collaborative installation-performances (JCCA, Brisbane 2008; Critical Path, Sydney 2009) collaborative drawing presentation (SEAM conference 2011, UTS drawing symposium 2012). He also produces research papers, workshops and creative projects through his collaborative practice with Associate Professor Pia Ednie-Brown called *nonplus architexture*. Dr. Keane has published on embodiment, experimental architecture and practice-led research in a range of peer review journals. He co-organized and international online conference on the work of Arakawa and Gins (March 2010 <http://ag3.griffith.edu.au/>) and will co-edit the proceedings in a special issue of *Inflexions* journal (forthcoming 2012). For more information see <http://jondikeane.com/>

Noise as Abstraction: Enhancing the Poetic

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ABSTRACT

Abstraction in its resistance to evident meaning has the capacity to interrupt or at least provide tools with which to question an overly compliant reception of the information to which we are subject. It does so by highlighting a latency or potentiality inherent in materiality that points to the possibility of a critical resistance to this ceaseless flow of sound/image/data. This resistance has been remarked on in differing ways by a number of commentators such as Lyotard, in his exploration of the avant-garde and the sublime for example.

This paper will initially map the collaborative project by Daniel Mafe and Andrew Brown, *Affecting Interference* which conjoins painting with digital sound into a single, large scale, immersive exhibition/installation. The work acts as an interstitial point between contrasting approaches to abstraction: the visual and aural, the digital and analogue. The paper will then explore the ramifications of this through the examination of abstraction as ‘noise’, that is as that raw inassimilable materiality, within which lays the creative possibility to forge and embrace the as-yet-unthought and almost-forgotten. It does so by establishing a space for a more poetic and slower paced critical engagement for the viewing and receiving of information or data. This slowing of perception through the suspension of easy recognition runs counter to our current ‘high performance’ culture, and its requisite demand for speedy assimilation of content, representing instead the poetic encounter with a potentiality or latency inherent in the nameless particularity of that which is.

KEYWORDS

noise, abstraction, materiality, art, sound

INTRODUCTION

This paper maps the collaborative project *Affecting Interference* by Daniel Mafe and Andrew Brown, which conjoins painting with digital sound into a single, large scale, immersive exhibition/installation. The work acts as an interstitial point between contrasting approaches/media to abstraction: the visual and aural, the analogue and digital.

To begin with, however, the paper will explore the ramifications of noise as abstraction, that is as that raw inassimilable materiality, within which is established the creative possibility of forging and embracing the ‘as-yet-unthought and almost-forgotten’. It does so by establishing a space for a more poetic and slower paced critical engagement for the viewing and receiving of information or data. This slowing of perception through the suspension of easy recognition runs counter to our current ‘high performance’ culture, and its requisite demand for speedy assimilation of content, representing instead the poetic encounter with a potentiality or latency inherent in the nameless particularity of that which is.

Noise and abstraction might superficially be construed as opposites, as tools of opacity and clarity, respectively. For example in information theory, noise is considered to be unwanted, meaningless, and irreducible; noise results when something ‘does not work perfectly’ (Imre & Janos 2011, xvi). But even though our use of noise creates an abstraction that may veil the informational content, all is not as it seems. While noise can be a source of interference in informational processes, either analog or digital, it can also serve to enhance perceptual clarity; as in the case of dithering in audio signals or anti-aliasing of fonts. Noise can also be seen as providing aesthetic interest; richly textured materials seem to get noisier as one examines them more closely, such as a grain in wood or the sound of the bow drawn gently across the violin string.

In our current work we are exploring, and in this paper we wish to draw attention to an emerging understanding of abstraction present in artistic works as that which resist immediate interpretation. This is not an abstraction characterised by reduction but instead one of potentiality, not an abstraction that summarises but one that affords creative interpretations. In particular we focus on the use of noise as a technique of abstraction, as a mode of flattening or simplifying that simultaneously masks and entices. In particular, we are interested in the ability of noise as abstraction to influence perception, to paradoxically entice

through superficially obscuring; an effect that activates the action in perception, and the desire to make sense.

In addition, within our audio-visual practice there is both an interference and abstraction in the relation between the visual and sonic. They disrupt, inform and combine. They complicate yet cohere.

Noise

In the 20th century, artistic communities embraced both abstraction and noise as new opportunities. Noise was first embraced by the futurists in visual arts and later in the sonic arts as a space of new timbral possibility in genres as diverse as the distorted guitar sounds of Jimi Hendrix in the 1960s, the stochastic processes of Iannis Xenakis and explorations of tape degradation by Alvin Lucier in the 1970s, noise-based synthetic drum sounds of the 1980s, the glitch music of the 1990s as embraced by artists on the Warp Label including Autechre, and 'noise' as a named genre to describe artists such as Merzbow. Within the visual arts it could be shown how abstraction drew attention to the material nature of paint, the nature of the picture plane and the operation of a painting as an object in space. For example, in the first instance, the gestures of Jackson Pollock were definitively paint drips and splatters for the new audiences of abstraction.

Further to this artistic direction we suggest that noise can function as abstraction, as a mode of interference that can act to enhance engagement by being resistant to meaning and obscuring clarity and detail. Abstraction acts as a filter to perception, like the noise of a cassette tape draws the listener into the musical work as they seek to hear past the noise and to focus on the signal.

While these perceptual qualities may have been present in many noisy media, including the highly textured drawing surfaces of rock art or low resolution digital audio signals, the deliberate use of noise as abstraction has particular cultural resonance in the high definition world of the 21st century, in a world of vector graphics, computer displays of more than 300 dpi, wave field synthesis, and massively multi-speaker projection systems. Even beyond the arts and the materiality of media, noise as abstraction can be seen to function in the flood of information and data that can threaten to overwhelm us; a condition only likely to become more prevalent as the pipes that deliver information expand exponentially. The need for abstractions in the face of this onslaught are evident to many, evident, for example in the proliferation of data visualisations and sonifications. More in keeping with our notion of noise as abstraction might be ambient Twitter feeds that seem unintelligible in aggregate or at a distance, but are meaningful when engaged with at closer levels of detail. Attempts at

abstraction of this kind are well underway; outside the fine arts these include data visualization and data mining techniques.

Abstraction

Abstraction, in its resistance to evident meaning, has the capacity to interrupt or at least provide tools with which to question an overly compliant reception of the information to which we are subject. But before tackling how this occurs we need to look at just what kind of abstraction this paper is considering. The notion of abstraction that works best in this context is one that is Deleuzian. Rajchman, in his article *Another View of Abstraction*, has pithily summed up this notion:

[I]n Deleuze one finds an abstraction concerned not with extracting 'information' from things...but rather with finding within things the delicate, complicated 'abstract' virtualities of other things. ...inherent in materials, it supposes the subsistence of connections which exceed the messages of a medium, and ourselves as senders and receivers of them. Thus the 'abstract' use of a medium is not when it itself becomes the message but when it starts to stammer 'and...and...and...' prior to message and transmission. (Rajchman 1995, 22)

This reading aligns with a post-formalist approach to and understanding of abstraction. From this perspective abstraction is seen as a strategy that opens out from an exclusively inward view to one also focused outwards, towards the becoming-world, towards potentiality itself. Ironically it is this opening out to potentiality that is mirrored as a form of latency or potentiality in the work itself. And it is this latency or potentiality inherent in abstraction and so in materiality that points to the possibility of a critical resistance to this ceaseless flow of sound/image/data. This resistance has been remarked on in differing ways by a number of commentators such as Jean-Francois Lyotard, in his exploration of the avant-garde and the sublime for example. Lyotard described the sublime as an understanding through which art and its associated practices resist easy assimilation as a consumer commodity. His thought represents an attempt to understand art both politically and philosophically by focusing on abstract painting's affect as a state of profound unknowing. To talk of the sublime in art is to speak of the suspension of any comfortable certainty in being and instead to engage with the real as a limit to meaning and knowing. It is also to talk of it as the presentation of the unrepresentable that offers a momentary but significant break with representation. For Lyotard, avant-gardist art does this through an investigation of its own nature, a thorough philosophical interrogation and testing of its own formal and conceptual borders. Avant-gardism of this type often stands accused of producing purely solipsistic art but Lyotard reveals that, instead, it generates a site of resistance through the slowing down or rupturing of habitual patterns of perception. Lyotard goes one step further and claims that this,

...is more a matter of an irreversible deviation in the destination of art, a deviation affecting all the valencies of the artistic condition. The artist attempts combinations allowing the event...The art-object ...tries to present the fact that there is an unrepresentable. (1991, 101)

It has also been well articulated by the critic/curator Jan Verwoert in an article he wrote on the abstract painter Tomma Abts. For Verwoert

abstraction is the opposite of *information*. ...True abstraction creates a singular experience of suspended meaning, the exhilarating sensation of the horizon of perception opening up and the mind reeling as new ways to see, think, and feel become tangible. By virtue of its singularity, this experience of abstraction interrupts the circulation of data. It creates a momentary release from the cycle of reproduction and dissemination and takes you to a different place where you see things, for an instant, in and for themselves: singular, particular, irreplaceable, and unexchangeable. (2008, 92)

These comments on Deleuze and by Lyotard and Verwoert highlight how our response to abstraction is changing. Abstraction is now a space of resistance to and interference with, the seemingly unmediated flow of information to which we are now exposed.

Affecting Interference

To walk into the exhibition *Affecting Interference* is to be confronted in the first instance with what looks to all intents and purposes [as?] a pure painting show. But after the briefest moment of immersion one hears noise, an organization of scratching, pulsing, droning abstract sounds emerging from speakers hanging over each painting and from additional speakers vibrating the floor beneath your feet. The speakers are small and lo-fi and no attempt is made to disguise or camouflage them with or into the paintings. What does this range of interactions add up to? How do they perform as an ensemble?

This collaborative project by Daniel Mafe and Andrew Brown—one of a number that they have been involved in together—conjoins painting and digital sound into a single, large scale, immersive exhibition/installation. The work as a whole acts as an interstitial point between contrasting approaches to abstraction: the visual and aural, the digital and analogue are pushed into an alliance and each works to alter perceptions of the other. For example, the paintings no longer mutely sit on the wall to be stared into or at. The sound, seemingly emanating from each work shifts the viewer's typical visual perception and engages their aural sensibilities. This seems to make one more aware of the objects as objects—the surface

of each piece is brought into scrutiny—and works to immerse or embed the viewer more viscerally within the exhibition. Similarly, the sonic experience is focused and concentrated spatially by each painted piece even as the exhibition is dispersed throughout the space. The sounds and images at first may appear to be similar in each local instance but this is in fact not the case, as closer attention will quickly show.

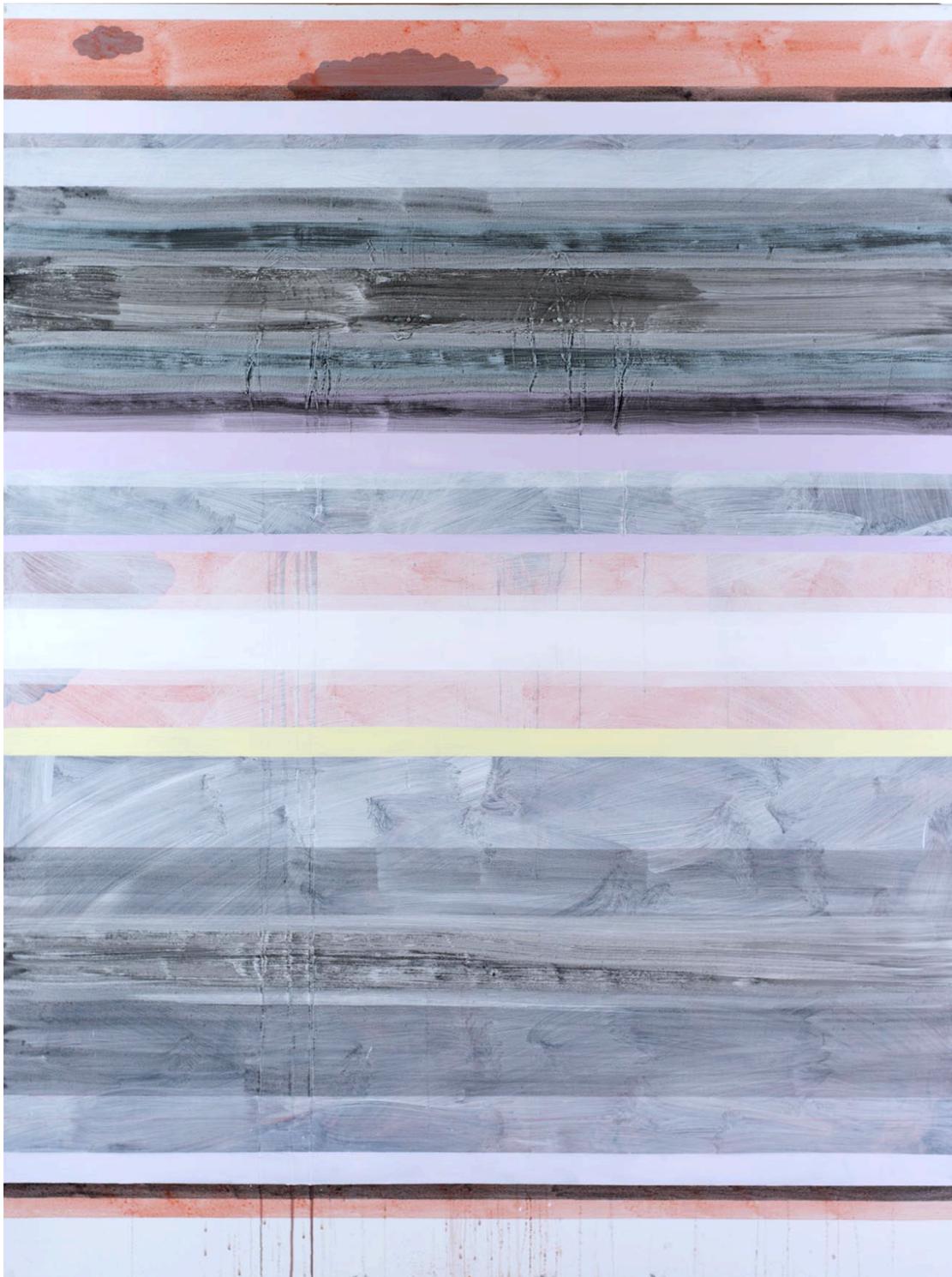


Figure 1 Affecting Interference 3, 200x150cm, acrylic on canvas, 2012 by Daniel Mafe

In preparing this exhibition each artist, Daniel Mafe a visual artist and Andrew Brown a sound artist, has had to shift their usual mode of making to accommodate the other's contribution. This was mainly done by a process of emptying whereby each was called upon to do less to the works they were contributing and to iterate the works toward a shared conception, blurring notions of individual imagination while maintaining material authorship. Emptying was necessary to enable sufficient porosity where each medium allowed the other entry to its previously gated domain. The paintings consist of a geometrically simple yet subtle catalogue of horizontal stripes. This simple visual strategy allows for a relatively non-distracting space for the sonic textures to work on the viewer's engagement with them. The sound remains both resolutely abstract, using noise-like textures, and at a low volume to allow the audience's attention to wander back and forth between aspects of the works.

Apparently simple features such as painterly stripes and sonic drones and scratchy noise provide only the most superficial structure in the work. Rather these techniques create a clearing or openness from which the potentialities inherent in the work can emerge. These potentialities arise over time as details are interrogated, and as sounds and visual relationships within the exhibition become apparent. Like many audiovisual installations, this work plays with the audience's embodied presence and movement in the exhibition space for the unfolding of experience. In particular, the directionality of the high frequency sound sources are coupled with canvases to both direct and distract attention. And low frequency sounds resonate through the floor and wall structures of the exhibition to provide a subtle visceral sensation of embodiment in the work.



Figure 2 Detail of painting and speaker from exhibition *Affecting Interference* 2012

While our work, like many 'noise' artists, hopes to provide a rich texture for audiences to engage with, it does not share the common intent to assault the senses with volume or complexity as a technique to prompt sense-making, but rather it relies on subtle and superficial simplicity to intrigue and entice. The volume is reduced to force the audience to strain towards the sound much as one leans forward to catch a whispered conversation.

Abstraction as experience

This all begs the question of how noise, or materiality, as an interference leads to a sense of abstraction in this instance. We would suggest that this results from an engagement with the raw inassimilable materiality inherent within the noise/abstraction, within which lays the creative possibility to forge and embrace, as Verwoert poetically puts it, “the as-yet-unthought and almost-forgotten.” It does so by teasing affordances to establish a space for a more poetic and slower paced critical engagement for the experiencing the information or data. This slowing of perception through the suspension of easy recognition runs counter to our current ‘high performance’ culture, and its requisite demand for speedy assimilation of content, promoting instead the poetic encounter with a potentiality or latency inherent in the nameless particularity of that which is.

French phenomenologist Michel Henry in his book on Kandinsky and abstraction, *Seeing the*

Invisible, points to abstract painting's capacity to highlight that which is prior to the world. He says 'Abstract' no longer refers to what is derived from the world at the end of a process of simplification or complication or at the end of the history of modern painting; instead '...It refers to the life that is embraced in the night of its radical subjectivity, where there is no light or world' (Henry 2009, 14). He is speaking of an experience of life which embraces itself entirely, a focus on that which is auto-affective. Life experiencing itself in its *livingness*. And the point of this is that art, by embodying or pointing to this knowledge, exists outside of itself, is porous to life and the world despite its seeming inertness, its obstinate materiality or objectness. This positions abstraction as a way of engaging materiality. Materiality's seeming aloofness is that which enables connection with that which is most vital in us, life. Thomas Carl Wall echos these ideas in *Radical Passivity* when he says,

No one *sees* the uselessness of matter. One sees material *for* this or that. Materiality *itself* harbours its own invisibility. This is its obscurity. In its uselessness, unclothed by forms, it withdraws from perception. (Wall 1999, 70)

In discussing art Blanchot has stated that, 'Art is unused, unemployed and idle matter. Art is ... the image of matter.' (In Wall 1999, 69)

From this perspective it is materiality's very uselessness that makes art possible. In other words art's appearance is enabled by matter's disappearance as matter, that is with the breakdown of its use and its subsequent naming; think of sound in poetry or colour and paint in painting. To go into this a little more, we suggest this process is emphatically demonstrated within abstract audio-visual art as much as in historical examples of abstract painting and sound art. A pertinent historical example would be where the poured and dripped gestures of Jackson Pollock render visible the materiality of paint as paint or the use of raw electronic sounds in Karlheinz Stockhausen's compositions. In their day these were very confronting actions and for many they still are, for to act in this way works strongly against art as a window to the world, as representation. Here art literally images the material. Material is rendered present in art as itself but it is still inarticulate; it is still resistant to discourse. And yet it is, in its inarticulacy, capable of generating discourse through affect.

Affect then is the first response to the demand for meaning, which then enables linkage to discourse. In this way the rupture that abstraction through materiality occasions is assimilated as criticality. We see that affect disrupts the mind of representation (language as habit, art as convention) by shattering its coherence and forcing the fragmented representations to re-orchestrate themselves around affect's impact point in discourse and so allow for a different discursive shape or critical direction to emerge.

This all works to attract attention to the ability of abstraction in the work to draw out contemplation, to invite attention and to stimulate meaning making reveals the active nature of viewing and listening; a perspective reinforced by contemporary psychology. For example, O'Regan and Noë suggest that:

Seeing... is a temporally extended pattern of activity. To see is to be skilled in this activity. Visual experience, like that of Porsche-driving, does not consist in the occurrence of "qualia" or such like. Rather, it is a kind of give-and-take between you and the environment. Moreover, we claim, there are no states or processes in the brain that generate the experience of seeing. Brain processes participate in seeing, but none deserves to be thought of as "the locus of seeing in the brain". Seeing is something we do, not something that happens in our brains (even though, of course, a lot goes on in the brain when we see). (O'Regan and Noë 2001, 80)

Described in this way, as a temporal and embodied activity, seeing appears quite similar to hearing. Indeed all senses, in this enactive view, share deep underlying perceptual similarities which are deliberately exploited in our audio-visual work. This further underscores the requirement for our practices to be stripped back such that the combined sensory experience, which seems more than simply summative, does not overwhelm or confuse. The use of abstraction further invites active perceptual investigation, interpretation and engagement and the compounded potentialities of the audio and visual combination present a sea of experiences to the audience.

CONCLUSION

In this paper we have explored the use of noise and materiality as a technique of abstraction in our exhibition, *Affecting Interference*. We have also described how such abstraction might be used to create a space that not only slows down or even interrupts perception but also heightens aesthetic affect in a world of otherwise shallow engagement, one driven by increasing informational density and fidelity.

As Deleuze remarked in his book on Proust:

More important than thought there is what 'leads to thought' ...that what is essential is outside of thought... impressions which force us to look, encounters which force us to interpret, expressions which force us to think. (Deleuze 2000, 95)

It is interesting that in a world increasingly dominated by audio-visual media and the flow and control of information that slowing down or interrupting this access works to heighten our awareness of our senses as a whole, that is as a sensorium.

REFERENCES

- Csiszár, Imre, & Körner, János, 2011. *Information Theory: Coding Theorems for Discrete Memoryless Systems*. Cambridge: Cambridge University Press.
- Deleuze, G. 2000. *Proust and Signs: The Complete Text*. London: Athlone Press.
- Lyotard, J-F. 1991. *The Inhuman : Reflections on Time*. Cambridge: Polity Press.
- O'Regan, J. Kevin, and Alva Noë. 2001. "What It Is Like to See: A Sensorimotor Theory of Perceptual Experience." *Synthese* 129: 79–103.
- Rajchman, J. 1995. Another View of Abstraction. *Journal of Philosophy and the Visual Arts: Abstraction* (5):16-24.
- Verwoert, Jan. 2008. "The beauty and Politics of latency: on the Work of Tomma Abts" in *Tomma Abts* by Bruce Hainley, Laura Hoptman and Jan Verwoert. London: Phaidon.
- Wall, T. C. *Radical Passivity: Levinas, Blanchot, and Agamben*. Albany: State University of New York, 1999.

BIOGRAPHICAL NOTES

Daniel Mafe is an exhibiting visual artist. He is currently a Senior Lecturer in Visual Arts with the Creative Industries Faculty at Queensland University of Technology. He studied and exhibited in London from 1979 until 1990 and since his return to Australia he has continued to exhibit regularly. He currently exhibits with Jan Manton Art in Brisbane and is represented in public collections including the Museum of Fine Art, Ostende, the Queensland Art Gallery, Artbank, and Bailleau-Myer Collection. Daniel Mafe's primary research interests are in abstraction, silence and affect. He explores these themes through painting, film, writing and theory. For more visit <http://www.danielmafe.com> and

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Andrew R. Brown is an active computational artist working in music and visual domains. He is Professor of Digital Arts at the Queensland Conservatorium of Music, Griffith University, in Brisbane, Australia where his work explores the aesthetics of process and often involves programming of software as part of the creative process. In addition to a history of computer-assisted composition and rendered animations, Andrew has in recent years focused on real-time art works using generative processes and musical live-coding where the software to generate a work is written as part of the performance. He has performed live coding around Australia and internationally including in London, Copenhagen, and Boston. His digital media art work has been shown in galleries in Australia and China. For more visit <http://andrewbrown.net.au>

Headless and Unborn: Interfering with Bataille and Masson's Image of the *Acephale*

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KEYWORDS

Acephale, Bataille, Masson, Absolute, Emblem

At a certain period in European intellectual history, a comparatively large number of artists and intellectuals—arguably the most important thinkers and artists of the times—were all involved to a greater or lesser degree in the envisioning of a new myth that might lead European civilization out of the gathering darkness of fascism, a myth they hoped would provoke the total and radical transformation of society and culture.

Two principle groups were involved: the Surrealists, constellated around the ideas and political interventions of André Breton, the foremost ideologue of the Surrealist movement, and a group of “dissident” surrealists that included Georges Bataille, Roger Caillois and Michel Leiris, key figures in the radical boys club, the *Collège de Sociologie*, which coalesced in 1936. Hovering between these two camps were a number of artists and intellectuals who appear to have been loathe to choose between the two encampments, or who periodically aligned themselves first with one, then the other. Overriding these vacillating allegiances and the petty clash of personalities was the unifying dream of finding a new myth through which society could be transformed. This dream was at first principally fomented within two vectors of cultural intervention: the journal *Minotaure* and the political activities of a group of *engagés* known as *Contre-Attaque*.

Minotaure saw its first issue in 1933. The editorial philosophy of *Minotaure* was summed up by the publisher and editor in this way: “Starting from the fact that it is impossible in our era to isolate the plastic arts from poetry and science, the review proposes to associate these three domains.” Thus “the plastic arts, poetry, music, architecture, ethnology, mythology, spectacle, psychology, psychiatry and psychoanalysis” were all to be included within its pages in an effort to showcase “the most audacious intellectual activity of the day.” In effect this was the reinvention of an experiment that Georges Bataille had begun several years before with the publication of *Documents*, a journal that had sought provocation through a

violent juxtaposition of ideas and images, the pages exploiting a paratactical arrangement of essays (on gnostic gems, ethnography, jazz, the big toe, and Buster Keaton, for example) and images from contemporary visual artists, photographs of slaughterhouses and pictures of African and Oceanic art. *Documents* appeared the year that *La Révolution surréaliste* ceased publication, Bataille no doubt hoping that it would symbolically represent a final, devastating salvo in Bataille's ongoing critique of Surrealism and of André Breton in particular.

Boiled down in the alembic of retrospection, we can see that what was primarily at stake in this drawn out intellectual contretemps between two heavy hitters was the nature and relevance of images, of representation itself. Breton was committed to the championing of the importance of images from the very first *Manifeste du Surréalisme* of 1924. Bataille, by the early 1930s, was not so sure that images, art and literature had any relevance at all anymore. The rise of Fascism with its emphasis on spectacularity and the illusory fascination of imagery¹⁰⁰—what we might call today the rhetoric of the image—had led to a crisis of faith in representation itself.

Most of the usual suspects that had been associated with *Documents* had subsequently become associated with *Minotaure*. Soon *Minotaure* was effectively being edited by André Breton and his close friend Pierre Mabille, a surgeon, writer, scholar of alchemy and Haitian voodoo. *Minotaure* was a kind of high-rent “neutral ground” where dissident Surrealists, existing Surrealists, ex-Dadaists and members of the (soon to be formed) *Collège*—primarily Bataille, Leiris, Patrick Waldberg and Caillois—all contributed. The title of the journal indexed one of the key mythologems around which many of the writers and artists constellated their ideas in the divining of a new myth. In foreshadowing the lineaments of this future myth, they looked to the past, and the minotaur seething in the heart of its crepuscular labyrinth was one of the key players.

Contre-Attaque was a small group of revolutionary intellectuals who had provisionally banded together to present a double front: to aggressively denounce the ever-expanding threat of fascism, and to agitate for what they regarded as a concomitant radical transformation of society and culture. In April of 1936 Georges Bataille resigned from the group. This break with *Contre-Attaque* is doubly significant in that previous to this severing, Bataille's participation in the group represented a *rapprochement* between himself and André Breton, but it also signaled his violent frustration with the manner in which intellectuals had pursued their aims in the recent past. Bataille's solution to this perceived impasse was to create a secret society of like-minded *enragés* dedicated to following the minotaur into the very heart of the forest.

¹⁰⁰ By which I mean a sorcerous *fascinans*—to be entranced and captured by an illusory appearance.

Directly following his break with *Contre-Attack*, Bataille traveled to the Spanish coastal town of Tossa de Mar to visit the on again/off again Surrealist artist André Masson, a friend and associate of both Bataille and Breton. It was good timing: the Spanish Civil War was just breaking out.

Holed up in Masson's kitchen, listening to a recording of *Don Juan*, Bataille witnessed Masson quickly produce a drawing that would become the escutcheon of Bataille's esoteric cabal and the exoteric journal (*Acéphale*) that would come to espouse his vision of a new, violently sacralised society. André Masson's drawing is the emblem of Bataille's radical break with *Contre-Attaque* and the pretensions of both *Minotaure* and the public face of the *Collège de Sociologie*. It is his "rite du passage", his initiation into another world. The figure of the acephalic "monster" (as Bataille called it) is described by Masson in this manner:

I saw him immediately as headless...but what to do with this cumbersome and doubting head? — Irresistibly it finds itself displaced in the sex, which it masks with a 'death's head'... Automatically one hand (the left!) flourishes a dagger, while the other kneads a blazing heart (a heart that does not belong to the Crucified, but to our master Dionysus)...The pectorals starred according to whim...(W)hat to make of the stomach? That empty container will be the receptacle for the Labyrinth that elsewhere had become our rallying sign. This drawing, made on the spot, under the eyes of Georges Bataille, had the good luck to please him. Absolutely.¹⁰¹

Absolutely—not provisionally, not temporarily, not just for today, but forever, outside of space and time. I don't believe I am making too much of Masson's concluding statement here. It is inarguable that a great part of Bataille's mission in life was to define an Absolute that was the very inversion of the Absolute as previously, endlessly discussed in the West. Masson's drawing of the acephalic monster is the emblem of this negative Absolute, and of Bataille's quest. In his introductory essay in the first issue of the journal *Acéphale* Bataille is uncompromising in his rejection of the Absolute as conceived of in the past. What he is calling for is an *absolute rupture*:

It is time to abandon the world of the civilized and its light. It is too late to countenance being reasonable and educated—which only leads to a life without appeal. Secretly or not, it is necessary to become totally Other or cease to be.¹⁰²

¹⁰¹ Robert Lebel & Isabelle Waldberg, (ed), *Encyclopedica Acephalica* (London: Atlas Press, 1995), 12

¹⁰² My translation of: *Il est temps d'abandonner le monde des civilisés et sa lumière. Il est trop tard pour tenir à être raisonnable et instruit—ce qui a mené à une vie sans attrait. Secrètement ou non, il est nécessaire de devenir tout autres ou de cesser d'être.*

The last sentence is perhaps a snide reference to Breton's *Nadja* and its famous concluding line: "La beauté sera convulsive ou ne sera pas", and thus Bataille levels his scimitar squarely at Breton and what Bataille considered Breton's barely sublimated yearning for the light. This light is that of the *intellectus*, the light which streams through Western thinking since Plato's philosopher struggled out of the cave to apprehend the true sun. The light of the sun, the light of the world that has existed up until the appearance of the acephalic monster, is the manifestation in the phenomenal world of the light of the Absolute beyond it: civilization and its light are one. The Acephale signals an end to all that. An end to the useless light, and an end to all images illuminated by the light.

The Acephale thus becomes a substitute god, a substitute for the Absolute. No more the light of god, no more the light of the image. Masson's emblematic Acephale is therefore the final image, the talisman that will wipe out all other images.

Furthermore the Acephale does not *represent* this totally Other world without light, it *invokes* it. The acephalic monster of Masson and Bataille is a talismanic, incantatory machine. Bataille's introduction in the first issue of the journal *Acéphale* is entitled *La Conjuración Sacrée*. There are several possible translations of this: Sacred Conspiracy, Sacred Confederacy, or Sacred Conjunction. All these meanings are possible and all, I would suggest, are *necessarily* present. It is the last possible meaning, sacred conjunction, that I want to run with here.

The acephalic man mythologically expresses sovereignty committed to the destruction and death of God, and in this the identification with the headless man merges and melds with the identification with the superhuman, which is entirely 'the death of God.'¹⁰³

I will make no comment on the obvious Nietzschean aspirations here, it is the *identification* that Bataille emphasizes which I want to dilate upon now. Bataille's day job was as an archivist/paleographer/numismatist at the *Bibliothèque nationale de France*, and as such he had access to a large and prestigious collection of rare books and manuscripts. I suggest that among these recondite texts Bataille had discovered a particular text in the collection of Greco-Egyptian magical texts collectively known as the *Papyri Graecae Magicae*.

¹⁰³ Bataille in Lebel & Waldberg, 14

These texts were collected in the 19th century by an enterprising and avaricious diplomat in Alexandria, shipped to Europe and subsequently sold to various libraries, including the British Museum and the *Bibliothèque nationale de France*. It has been hypothesised that these papyri were originally the collection of one man, a magician, “who was also a scholar, probably philosophically inclined, as well as a bibliophile and archivist concerned about the preservation of the material.”¹⁰⁴

A man, in other words, remarkably similar to Georges Bataille. His well-known interest in Gnosticism may have inclined him to search out similar material, and inevitably he would have come across the magical texts of the Greco-Egyptian magician.

If this seems far-fetched, one only has to remember that in the early 1930s in Paris, many of the foremost intellectuals and artists of the time—at least, those of the particular persuasions and allegiances of which I am writing—were regularly attending the soirees of occultist Maria de Naglowska, the self-styled “satanic woman” and hierarchess of the Order of the Golden Arrow.

André Breton, Man Ray and his friend the American adventurer William Seabrook regularly attended her evenings of occult weirdness, and certainly Bataille would not have been outdone in this. It is quite possible that Naglowska’s demonstrations of magical rituals and her ideas on ritual practice were a direct inspiration behind Bataille’s formation of his secret society of the *Acephale*. It is certainly true that Bataille seemed to be emulating Naglowska when he attempted to drag his fellow *Acéphalists* into the depths of the forest...for ritual sacrifice.¹⁰⁵

Amongst the *Papyri Graecae Magicae* there is one text that stands out from the standard magical spells that provide solutions for petty objectives, the spells for keeping a lover for example, or for getting bugs out of the house. This text is *Papyri Graecae Magicae* V. 96—172, named by its English translator as the “Stele of Jeu the Hieroglyphist.”

The ritual begins in this way:

I summon you, the Headless One, who created earth and heaven, who created night and day, / you, who created light and darkness; you are Osoronnophis whom none has ever seen...you have distinguished the just and the unjust; you have made female

¹⁰⁴ Hans Dieter Betz (ed), *The Greek Magical Papyri in Translation* (Chicago: University of Chicago Press, 1996), xlii

¹⁰⁵ Refer to Lebel & Waldberg, 14-15

and male; / you have revealed seeds and fruits; you have made men love each other and hate each other.¹⁰⁶

The being that is summoned is explicitly named *Acephalos* (Ἀκέφαλος), the Headless One, in this ritual.¹⁰⁷ What makes this ritual even more unusual, unusual in terms of the entire Greco-Egyptian magical corpus in fact, is that after the standard banishing of demons from the ritual chamber, the magician invokes the “Holy Headless One” *into* himself, thus *becoming* the one who “makes the lightning flash and the thunder roll...the one whose mouth burns completely...the one who begets and destroys.”¹⁰⁸

Masson’s emblem of the Acephale holds a flaming heart in its right hand, and the Headless daemon in the *Stele of Jeu the Hieroglyphist* says that its name is a “heart encircled with a serpent, come forth and follow.” In his text *Sacred Conspiracy/Confederacy/Conjuration* Bataille writes:

...he holds a steel weapon in his left hand, flames like those of a Sacred Heart in his right. He is not a man. He is not a God either. He is not me but he is more than me: his stomach is the labyrinth in which he has lost himself, loses me with him, and in which I discover myself as him, in other words as a monster.¹⁰⁹

A magician who has invoked a Headless daemon into himself is of course no longer a man and not a god, but something that is neither one nor the other. He is himself but more than himself. He is, in other words, an Acephalic monster, as Bataille avers in the quoted passage.

If all this seems circumstantial, I totally agree—yet this hitherto unsuspected connexion is certainly not unlikely, and moreover possesses a high degree of *imaginal logic*, if I may use the term. Allow me to proceed a little further in my interference with Masson and Bataille’s Acephale.

I have consistently called this image an “emblem”. I have done this in order to point towards a tradition in which I believe the Acephale is the final arrival. This is the tradition of the

¹⁰⁶ Betz, 103

¹⁰⁷ McGregor Mathers, hierophant of the late 19th century *Hermetic Order of the Golden Dawn*, translated the daemon of this text—inexplicably—as the ‘bornless’ one, a reference found in the title of this essay.

¹⁰⁸ Betz, 103

¹⁰⁹ Bataille in Lebel & Waldberg, 14

emblematic books, a tradition that was kick-started when the text of Horapollo's *Hieroglyphica* was purchased by Cosimo d'Medici from a Byzantine monk in 1422. The translation of this text (which was originally written, incidentally, in the same period as the texts of the *Papyri Graecae Magicae*) caused as much an intellectual furor as Ficino's later translations of the *Corpus Hermeticum* and Plato's dialogues. The *Hieroglyphica* purported to explain ancient Egyptian hieroglyphs as emblematic figures containing layers of embedded meanings. The translation of the *Hieroglyphica* set in motion an entire industry that led to the production of hundreds of emblematic books, and possession of these collections was considered *de riguer* in the 16th and 17th centuries. In the hands of a few dedicated publishers (such as Theodor de Bry, who published books by Robert Fludd and Michael Maier, both notable Hermeticists) the hieroglyphic and graphic tradition of the emblem developed into an efflorescence of Hermetic publishing, which would have a defining influence on alchemy:

Allegorical images accompanied by a few cryptic lines of prose or verse, emblems presented to the learned a kind of pictorial riddle containing a solution of a moral nature. But emblems which could easily conceal more than one meaning constituted ideal vehicles for the secret transmission of esoteric information, and as such...were adopted by the alchemists.¹¹⁰

Allegorical representation in the form of *personification*—an ingenious method of encapsulating an abstract idea in the form of a human figure—has probably the longest tradition in the history of Western culture. Emblematic personification was a method in which a host of interconnected, often difficult ideas were subsumed into the one, easily comprehensible image. Examples that are still with us today would include the personification of Justice as a blindfolded woman carrying a sword and a set of scales, and the medieval figure of Fortuna, a woman turning a giant wheel, the symbolism of which perhaps only survives through a certain television game show.

Considering that hermetic emblems were “allegorical images accompanied by a few cryptic lines of prose or verse”, the cover of the first issue of *Acéphale* is a perfect example of such an emblem—an hieratic figure beneath which we can see a few cryptic lines: *The Sacred Confederacy*, or *Nietzsche Against the Fascists*. Indeed, I would insist that the form and function serve the very same purpose as an emblem in the hermetic and alchemical books: images the purpose of which is to accomplish much more than mere representation.

¹¹⁰ Stanislas Klossowski de Rola, *The Golden Game, Alchemical Engravings of the Seventeenth Century* (London: Thames and Hudson, 1988), 13

Masson and Bataille's figure of the *Acephale* is also an emblem with a special purpose: it is a magical machine that heralds the cut-off point of images altogether.

As exactly the same figure was reproduced on the cover of the journal *Acéphale* in each successive issue (there were only three issues), and as only a single line of text on the cover changed with each successive issue (*The Sacred Confederacy*, or *Nietzsche Against the Fascists*, for example)—thus serving the function of an allegorical figure with a “few cryptic lines of prose”—one can say that this emblem belonged to that unchanging Other world of the sacral, standing outside of the pornography of images with which we are daily bombarded. A more recent iconoclast, Jean Baudrillard, in describing this blitz, notes:

Obscenity begins when there is no more spectacle, no more stage, no more theatre, no more illusion, when everything becomes immediately transparent, visible, exposed in the raw and inexorable light of information and communication. We no longer partake of the drama of alienation, but are in the ecstasy of communication. And this ecstasy is obscene.¹¹¹

If one recalls as well Fredric Jameson's despair at the “pornography” of images which miscegenate around us at an astounding daily rate, then the figure of the *Acephale* is the buzzbomb sent to devastate the endless plain of representation.

¹¹¹ Jean Baudrillard, *The Ecstasy of Communication* (Los Angeles: Semiotext(e), 1988), 22

Interference Wave: Data and Art.

Adam Nash

KEYWORDS

Remediated Image, Hypermediacy, Networked Image, Immersion

ABSTRACT

In the era of data visualisation and simulation, there is often a tendency to consider digital data as external to human life, ontologically endowed with its own special qualities. In fact, digital data is purely a product of human endeavour, and yet it exists in a plastic, formless state until it is interpreted. Thus, the interpretation of digital data can be seen as a formalised process of interference. This paper attempts to tease out some of the practical and theoretical considerations artists face when working in realtime 3D audiovisual environments composed entirely of digital data. This is done through an examination of the author's collaborative, networked immersive audiovisual artwork *Reproduction*, an artificially evolving performative digital ecology that collaborates and improvises with humans via networks using various forms of motion, sound and vision capture. Attempts are made at identifying the qualities and practice of the symbiotic relationship that is established between humans and digital entities in an affective feedback loop between the digital and material spheres. Some recent theories in algorithmic information theory are compared with the empirical results of the artists and other users interacting and improvising with *Reproduction*, to test the status of digital data and its remediated relationship with the material world via audiovisual display systems.

Interference Wave: Data and Art.

“The organism that would be the supposed subject and intentional origin of forces is an effect of impersonal potentials, and it is precisely the technical object that can expose the power of potentials to act beyond the organism's capacities.” – Claire Colebrook (2010, 126)

Data, display, modulation

The artist working in the digital medium must attend to the intrinsic qualities of the digital medium. Stiegler, Kittler, Manovich and Hansen, among others, have all meditated on what I characterise as the separation between the digital medium and its display. These critics tend, broadly, to characterise this separation in terms of technics and media. Such a characterisation owes much to the Platonic concepts of *amamnesis* and *hypomnesis*. Kittler takes the dichotomy to its extreme and posits that there are no longer any media: “with numbers, everything goes [...] a digital base will erase the very concept of medium” (1999, 2). Kittler wants to move beyond the concept of the medium as a result of what he calls digital convergence because it transcends differentiation between media, a differentiation that is constitutive of the concept of media. Thus, when he concedes that there still *are* media, he sees them as comprehensible in McLuhanist terms, where the content of one medium is always another medium. But, since there still are media, it is possible to displace Kittler's

logic and posit that there is *only* the digital medium, plastic and formless, and the differentiation that constitutes different media occurs when digital data is modulated into some display state. This inversion may be of more practical use to the artist working with digital data. It has the advantage of unproblematically incorporating McLuhanist considerations - not only in what McLuhan calls the “rear-view mirror” operations that constitute so much of digital culture, but also in the sense that McLuhan’s concept of media-as-content itself becomes content in the digital medium (McLuhan & Fiore, 2001, 75). So, for this discussion of the role of art and interference in the digital era, it is important to recognise the distinction between the plastic, formless, generic digital medium and specific instances of display, where digital data is modulated from its state of data-as-data into a state of display, such as a digital photograph visually displayed on a screen, or a digital audio recording audibly displayed through speakers. This act of modulation - between data and display - is the work of the digital artist.

Mark Hansen argues against Kittler’s extreme version of the consequences of digitisation, seeing it as an overly literal, or formalist, reading of Claude Shannon’s foundational work in information theory, where information is separate from meaning. Hansen is keen to show that the differentiation of media is a more complex assemblage involving what he calls *embodiment*, in the sense of being “inseparable from the cognitive activity of the brain” (2006, 3). In this, he relies partially on an alternative theory of information, contemporaneous with Shannon’s, espoused by Donald McKay, where what we might call the non-technical interpretation of information is inseparable from its technical structure. But Hansen does not deny the technical fact of the levelling nature of digital data, and nor does he deny the subsequent generic translatability of digitised media. Rather, he is attendant to the framing, or subjectification, that he sees as a necessary driver of the consciousness that perceives the modulated display of digitised data. In some ways, Hansen’s attitude can be seen as as extreme as Kittler’s, in that neither are prepared to consider the digital medium as a medium in its own right – a move that would allow them to consider the formal and intensive qualities and implications of the medium, using McLuhanist techniques to investigate what can be done in this putative new medium that cannot be done in any prior medium. Even though he, like Kittler, acknowledges that the digital convergence renders all prior media undifferentiable, Hansen’s privileging of the image is perhaps why he doesn’t logically extend the McLuhanist gesture all the way to the conclusion that the digital convergence not only profoundly enacts WJT Mitchell’s assertion that “there are no visual media”, from the constitutive side instead of the “sensory modality” standpoint, but so totally incorporates all prior media as to subsume the very concept of differentiated media into a recursive subset of itself, and, *contra* Kittler, it does this as a medium, contributing operations in excess of all the media and semantic sources being digitized, constituting a whole that is comprised of all prior media plus the digital excess, a whole that completes McLuhan’s project while offering a new medium that differentiates itself through its own constitutive, ontological, excess. (Mitchell, 2005, 395)

We can therefore identify two elements and one principle that constitute the digital medium as a medium. The two elements are data and display, and the principle is modulation. Working with digital data is a constant process of modulating data back and forth between a display state and the state of data-as-data. Display does not necessarily mean *visual* display, but it can. The discrete separation of different media and the discrete separation of mediatic actions are collapsed in the digital. All media are virtualised in the digital convergence, so these separations only hold in a nostalgic sense, in the rear view mirror. Precisely because the digital convergence contains all prior media, virtualised as content, these media can be

nostalgically analysed in a McLuhanist manner, but only once modulated into a state of display, enacted as a simulation of media. As Justin Clemens and I put it in Thesis 4 of our *Seven Theses on the Concept of Post-Convergence*:

‘All that is solid melts into data.’ Alternatively: all is data. This is evidently an ontological thesis. What matters is data, but data isn’t actually anything. Data is data. Data is absolutely not a phenomenological thing. It cannot be experienced as such, like Aristotelian prime matter. Unlike Aristotelian prime matter, however, we can manipulate data with ease; in fact, it is integrally available as manipulable. Marx claimed that human beings do indeed make history, but not as they please; today, we make data and just as we please. Data is us. However, this is not the pure freedom that it may seem, nor does it lead to any triumph of the will. This is because data is only available to finite humans as filtered, as interpretation. These interpretations are, precisely, inscribed in display (whether audio, visual, haptic, what have you). Whatever is inscribed in display is always already modulated, and this modulation emerges from ‘a formless soup of meaninglessness,’ that is, a hyperchaos of data. [Clemens & Nash, 2010]

The invitation, therefore, for the artist working in the digital realm, is to recognise that the work is modulation. A significant factor in the work of modulation is parameter selection. But this post-convergent medium virtualises everything, and so the concept of parameter selection itself becomes a parameter to be selected, at the same time as retroactively highlighting the latent cruciality of parameter selection in all prior media. This potentially overwhelmingly complex situation can elicit an extreme rear-viewmirrorism in practice, and such is the situation we often see with deterministic data visualisations and data-driven visual artworks, one of the themes of this conference. To align further with the theme of this conference, the act of modulation could also, but perhaps unnecessarily, be termed ‘interference’.

Virtual art

In calling on the concept of the virtual, I am not equating it with technology or the digital, though of course in the contemporary era it rings with echoes of popular usage in the sense of a ‘virtual friend’ or ‘virtual sex’ or ‘virtual environment’. Rather, I am evoking the Deleuzian sense that Anna Munster, in her book *Materializing New Media* describes thus:

[T]he virtual dimension for corporeal experience evoked here lies in the way it poses the potential for *embodied distribution as a condition of experience for information culture* by dislocating habitual bodily relations between looking and proprioception. Virtual forces are vectors that pulse through the contours and directions of matter. (2006, 90, emphasis in original)

In what is without doubt one of the finest studies of the nature of the relationship between the digital and the material, the virtual and the actual, Munster talks of these inter-relationships as “actualizations of virtual subjectivity” (2006, 114), and encourages us to see virtualization as “an expanding and contracting field of differentiation” (2006, 114). This is a very useful tool for understanding the nature of the digital medium in relation to Kittler’s proclamation of the movement beyond medium. Her convincing and nuanced argument extends McLuhan’s famous extensions in a richer and more practical way than Hansen or Kittler, and is particularly useful for artists or practitioners of the digital attempting to come to terms with

its intensive, and extensive, qualities and specificities. Her argument allows us to comprehend the ostensible contradiction between the collapsing, or levelling, nature of the digital and the specific differentiations required to interact with it. It does this by seeing all points of the digital - semantic sources, technical protocols and parameters, specific display instances and subjectification - as interdependently transformative negotiations of flows rather than assimilations of one thing into another. This may offer an approach to thinking the capacities of the immanently digital entity that differentiates both within and without its material manifestation, that both is and is not digital, without a semantic material provenance. I will briefly discuss this a little later in relation to my work called *Reproduction*.

In a similar vein, but in specific relation to images and visual art, Claire Colebrook calls on Deleuze and Guattari's concept of *desiring machines* to understand the nature of the undifferentiated digital. She writes: It is naive and uncritical to see the analogue as a pure and continuous feeling or bodily proximity that is then submitted to the quantification of the digital, a digital that will always be an imposition on organic and vital life. There is, however, an inorganic mode of the analogue that is not a return to a quality before its digital quantification, but a move from digital quantities or actual units to pure quantities, quantities that are not quantities *of* this or that substance so much as intensive forces that enter into differential relations to produce fields or spaces that can then be articulated into digits. (2010, 124)

Colebrook's very important point reminds us of the crucial difference between the digital and the numeric or mathematical. Kittler, Hansen and Deleuze all practice this conflation of the digital and the numeric. In fact, the digital is not numeric, it is purely binary, an enacted logic of switches. This widespread conflation is perpetuated by the popular misconception of the digital being constructed from "zeroes and ones", which is in fact simply a symbolic placeholder for the boolean logic of on/off or yes/no or is/is-not. Once we accept the numerical, or mathematics, as simply another parameter selection used to effect the modulation between data and display, we may be able to comprehend the move to pure quantities and even think the relationship between the contemporary technical interdependence of virtual/material and the Deleuzian interdependence of virtual/actual.

Immanently digital entities

Having established that there is no longer, post digital convergence, any meaning in discrete media elements, such as an image, except as it relates in a nostalgic sense to a display state, it is not difficult - very broadly speaking - to analyse the display of digitised entities that have a recognisable material provenance. For example, it is easy to see much contemporary data visualisation as a straight forward modulation of data into the visual display register using parameters selected along the lines of McLuhan's rear view mirror. Given that this act of modulation is already a formalised kind of interference, it is clear that to achieve the kind of interference that might also be considered an artist-led disruption (itself a rear view mirror kind of concept), the artist must take care to select parameters that cause the modulated display to visually question its own display. This might include questioning the veracity of the data's provenance or the assumptions made in the digitising of the data in the first place or the scale of the data and so on.

But what of immanently digital entities? In other words, digital entities that have no recognisable semantic material source. This is the question that my colleague, John McCormick, and I are investigating in our ongoing project called *Reproduction*. The work

involves experimentation in audiovisual, performative, evolving, virtual entities spawning and reproducing in virtual environments, capable of intercommunication with the material world via various systems of motion and data capture. Loosely based on principles of artificial evolution, the parameters that we as the artists initially selected are, rather than the standard artificial evolution parameters like strength and fitness, all audiovisual performative parameters like red, green, blue, opacity, rhythm, timbre, tempo, tone (pitch) and so on. The entities evolve, reproduce, live and die over thousands of generations according to a constantly emergent evolution of these crude parameters that is informed, but not determined, by both their interaction with humans in the material world and with their interactions with each other. In other words the original parameter set becomes, after the first generation, virtualised content for the next emergent generation. All the while, the entities are organising (or perhaps socialising) and improvising movements and “songs” amongst themselves, whilst observing and improvising with any human visitors to their “space”. The space in this case means both their digital virtual environment (accessible by humans via an online multi-user environment) as well as the physical space of wherever the work happens to be being exhibited. In the latter case, motion and data capture are used by the entities to perceive humans, while a modulated audiovisual display allows humans to perceive the entities. Our desire, as artists, is to engage - using sound, music, movement and dance - in what we might call a “genuine” improvisation with these digital entities, by which we mean the human and digital performers share equal responsibility and value in the emergence of the improvised performance, dynamically building a shared performative vocabulary by learning from each other’s nuances, gestures and performative suggestions.

We might be asking, at the insistence of Kittler, if there is life beyond the medium. The inter-relationships of flows investigated by Anna Munster, or the pure quantities posited by Claire Colebrook may be at work in the emergent and evolving persistent performance of *Reproduction*. Certainly, Munster calls very explicitly for media artists to move beyond what she calls “the twin premises of disembodiment and extension in space” (2006, 179). Accordingly, this work attempts to improvise in real time an enactment of these beyonds. And since this conference deals specifically with the image, and since we have established that the image cannot exist in the digital, perhaps we can leverage Colebrook’s thinking when she writes “we might aim to think beyond the body as an extended substance receiving the world only in terms of its bounded actuality? An image can be experienced as such, not as a proper body or imperative.” (2010, 128)

Of course it is possible to rationalise any interaction with or display of these entities in terms of the original human-selected parameter set, but this is no more meaningful than saying that any living material organism is nothing more than its originary DNA combination, and this is the potentially reductionist danger that informs some contemporary thinking around embodiment, framing and subjectification. Rather, there is a chance here to rigorously examine the potential, in our interactions with the immanently digital, for the emergence of what Claire Colebrook calls “sense beyond the actual” (2010, 127).

REFERENCES

Clemens, J. and Nash, A. *Seven theses on the concept of ‘post-convergence’*.

Australian Centre of Virtual Art website, accessed June 20th, 2012. http://www.acva.net.au/blog/detail/seven_theses_on_the_concept_of_postconvergence

Colebrook, C. *Deleuze and the Meaning of Life*. London: Continuum, 2010.

Hansen, Mark. *New Philosophy for New Media*. Cambridge: MIT Press, 2006.

Kittler, Friedrich. *Gramophone, Film, Typewriter*. Stanford: Stanford University Press, 1999.

McLuhan, M. & Fiore, Q. *The Medium is the Massage, An Inventory of Effects*. Corte Madera: Gingko Press, 2001.

Munster, A. *Materializing New Media: Embodiment in Information Aesthetics*. Hanover: Dartmouth College Press, 2006.

BIOGRAPHICAL NOTE

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Redundancy in Photography

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ABSTRACT

In his text, ‘Information Strategies’, written at the cusp of the emergence of digital photography in 1985, German artist and photography critic Andreas Müller-Pohle predicted that soon “it will be possible to generate and regenerate literally *every* conceivable – or inconceivable – picture through a computer terminal.” This realization coincided with Müller-Pohle’s critique of conventional photography, which he dubbed ‘photographism’ drawing on the philosopher Vilém Flusser’s work. For Flusser, photographers are functionaries of an apparatus based on automation, programmed to produce of pictures which correspond to certain general conventions and reconstructing the world as technical information. According to Flusser, the bulk of photography is ‘redundant’, exhausting itself stylistically and enslaved to apparatuses and programs. This paper revisits the ideas of Flusser and Müller-Pohle in light of developments in digital photography that throw new light on the idea of image saturation and redundant photography. In particular, I address cultures of online photosharing (such as Flickr, Photosynth and Woophy) and stock imagery in light of the actions enabled by the metadata contained within common digital file formats. I propose that the very excess of digital photographic images coincides with the reinvention of the embattled authorial image into an evolving collaboration that aggregates a multiplicity of perspectives. I argue that this shift from individual views to aggregations has potentially important consequences for how we understand acts of resistance, or ‘interference’.

KEYWORDS

Photography, photography theory, digital media, Flusser, photosharing

As inhabitants of the photographic universe we have become accustomed to photographs: They have grown familiar to us. We no longer take any notice of most photographs, concealed as they are by habit; in the same way, we ignore everything familiar in our environment and only notice what has changed. Change is informative, the familiar redundant. What we are surrounded by above all are redundant photographs. (Flusser 2000, 65)

The history of photography is also a history of *automation*. And at various moments – such as when George Eastman pre-loaded the Kodak camera with film – the activity of photography has been fundamentally altered by changes to the camera apparatus. Indeed, certain kinds of cameras – such as those designed to identify car number plates – now need no human operator at all. In the realm of consumer photography, automation has been sold on the basis that it enables photographers to concentrate on responding immediately to the world around them rather than to the technology. The camera-as-prosthetic automatically focuses and adjusts exposure, so – as a typical Minolta advertisement from the 1970s put it – you can “translate the vision in your mind to your film”. Recently, however, camera makers have sought to give a kind of different kind of control to their consumers, to revitalise and individualise their picture making. These are not the parameters we are familiar with from the history of photography – of focus, shutter speed, aperture, lens and film. The cutting edge of camera design lies in software that enables more *experimental forms of image capture*. Currently this seems to entail an extension of the moment of capture itself. Thus, the radically un-camera like Lytro lightfield camera enables a user to focus the image *after* the exposure. Meanwhile, the new Olympus OM-D camera, despite its traditional appearance, “aims to change the way in which you experience photography”. Olympus claim in their promotional rhetoric that:

Its Electronic View Finder (EVF) enables photographers to check the Art Filter effect, colour temperatures and exposure levels in real-time. When shooting, you can instantly "create" a truly unique world and preserve it in exceptional quality. The “world” will be transformed from something you see to something in which you “take part”. The OM-D is a groundbreaking new digital interchangeable lens camera perfect for people who want to “take part”, “create” and “share”.

Of course not all of this rhetoric is new or unique. But photography, it would appear, needs updating – at least in the eyes of camera company marketing departments. As their use of scare quotes in the around the words “world”, “take part”, “create” and “share” underline, this way of framing the act of photography appears to reflect a certain anxiety on the part of

the camera maker about the status of conventional photography. Indeed, the advertisement's rather phenomenological acknowledgement that photographers *take part in* and *create* the world – rather than *merely take photographs* – implicitly critiques traditional behaviours of the photographer. It is almost as though the Olympus marketing department have taken seriously Susan Sontag's well known complaint that the camera promotes a 'detached' and 'passive' way of seeing the world (Sontag 1978).

Of course these newly 'experiential' ways of framing the act of photography are perfectly understandable from a marketing point of view. Camera makers are engaged in an ongoing effort to commodify photographic activity as a leisure pursuit worthy of a dedicated consumer device. Low-fi Lomo-style analogue approaches that embrace accidents and imperfections – like the popularity of iPhone apps such as Hipstamatic – are part of a related development that harks back to the Polaroid era. But another way to understand the current rush to experiential photography is that it points to a crisis in, and consequent reframing of, the conception of photography that is sustained by the "I was there" "possession-based" ideology of what we might call "photographic individualism" – which no doubt continues to underpin most single photographic acts. Of course Olympus' exhortation to "create your own world" appeals directly to the photographer's ego, but one can speculate differently: are these new cameras not, at least in part, a response to our age of online photo-sharing, in which images produced by geographically dispersed individuals, largely redundant *on their own*, are aggregated and organised by metadata into something useful *en masse*?

Flickr and Microsoft's stitching software, Photosynth, are the oft-cited example of this new photographic universe. Photosynth is proprietary software that analyses digital images in order to generate a three-dimensional model and a point cloud of the represented space, and then reassembles the images into a near-seamless composite. In what has been dubbed an 'algorithmic turn', viewers are then free to explore the assembled photographic space from any direction, including depth (Uricchio 2011, 28). According to its website photosynth.net:

You can share or relive a vacation destination or explore a distant museum or landmark. With nothing more than digital camera and some inspiration, you can use Photosynth to transform regular digital photos into a three-dimensional, 360-degree experience. Anybody who sees your synth is put right in your shoes, sharing in your experience, with detail, clarity and scope impossible to achieve in conventional photos or videos.

Inspired by research in photographic tourism, “creating a synth”, as Microsoft’s promotional rhetoric states, “allows you to share the places and things you love by using the cinematic quality of a movie, the control of a video game, and the mind-blowing detail of the real world.” Thus articulated as a libidinal fantasy of ever-increasing verisimilitude, the user of such software is able to shape and control an image space that is both open-ended and potentially tailor-made to the individual. In the process, not only is the status of the individual photograph reconfigured, the activity of picture making is reinvented as a *participatory experience* even as the photography is assumed to remain a transparent broker of the real world.

Photographic Excess

At this point I want to backtrack briefly to a different era of photographic history. For it is worthwhile to consider how the current participatory turn in photography is fundamentally antithetical to the modern period of photography, despite the continuation of certain marketing rhetoric. Take Ansel Adams, who was arguably the most influential photographer of the twentieth century – not for his redemptive landscape images, which are admittedly well loved, but for his insistence on the photographer’s absolute control of the photographic processes. For at least three decades his instructional books – such as *The Print* and *The Negative* – were standard texts among amateurs and professionals alike. Adams’ argument was that the ‘creative photographer’ must master the craft of photographic technology and the darkroom in particular in order to be free to express themselves through the finished print. His attempt to establish artisan credentials for photography relied on a commitment to ‘pre-visualisation’ (‘real time’ ‘Art filters’ would have been anathema to Adams) – a stance that embodies the broader modernist privilege given to *subjective vision*. While the logic of subjective vision does not determine the pictorial outcomes, and a variety of results were possible, the modern photographer essentially treated the camera as a transparent medium to master, in order to represent one’s encounter with the world. Thus Robert Adams (no relation to Ansel), most celebrated for his ‘New Topographic’ work, writing in his 1981 book *Beauty In Photography*, expressed his conviction in the following way:

Without the photographer in the photograph the view is no more compelling than the product of some anonymous record camera, a machine perhaps capable of happy accident but not of response to form (Adams 1981, 15).

Needless to say, in contemporary art discourse, this arch-modernist idea of photography as a “response to form” is out of favour, and together with the ‘fine art print’ has been the subject of broad attack by ‘postmodern’ critics as irredeemably conservative and even inherently

patriarchal. By contrast, the idea of the “anonymous record camera” and the “happy accident” have both been embraced in the post-conceptual art world.

The idea of photography as a personal, pre-visualised ‘response to form’ had already been undermined from within the field of ‘art photography’ itself by those who embraced chance and the happy accident – even including street photographers such as Garry Winogrand. Winogrand is in fact an interesting case, since he amassed a famously unworkably large number of negatives in his effort “to see what the world looks like photographed.” When he died in 1984 he left 2500 rolls undeveloped, as well 6500 rolls of developed film he had not seen or edited. One is reminded of the complaint, repeated regularly since the 1970s as typified in the writings of Jean Baudrillard (1983) that the world is over-saturated with images and the result is that no single photograph can “stake a claim to originality or affect” (Wiley 2011, 88). Such claims of image saturation are invariably at once iconophobic and iconophilic, since they typically rely on a question of judgement around what is a ‘good image’. What seems more important to note in the case of Winogrand is that he treated the photograph as *information*, more or less interesting. He was completely unsentimental about ‘previsualisation’ or the ‘decisive moment’ or other Romantic photographic approaches. His approach, not coincidentally, paralleled the rise of conceptual artists adopting the camera as an art-making tool exactly for precisely the reason that Robert Adams disparages: that is, as an anonymous record camera. (Chevrier 2003, 123) The artist Ed Ruscha famously stated in a 1965 interview about his work that “photography is dead as a fine art; its only place is in the commercial world, for technical or information purposes” (Coplans 1965, 24). Ruscha’s “collection of ‘facts’” was followed by other ‘serial’ approaches in which artists took to the camera only in order to make their own *agency* within the photographic process *redundant*. In the case of Douglas Huebler, this conceptual approach amounts to a something like a philosophy of photography. The operations that Huebler set up for his ‘variable pieces’ from the late 1960s involved him taking on the role of *photographer-functionary* – most notably in *Variable Piece #70, (In Process) Global, 1971–*, his life-long project to “photographically document ... the existence of everyone alive”. As he wrote of his working method in a 1969 statement: “I use the camera as a ‘dumb’ copying device that only serves to document whatever phenomena appears before it through the conditions set by a system” (Miller 2006, 222). One might detect a certain utopianism in Huebler’s systematic deciphering of the world, but more importantly his role – performative and mimetic – appears to dutifully reenact the logic of the camera itself.

Flusser, Redundancy and Digital Photography

As John Miller has perceptively intuited, Huebler is here outlining a position that is given more full expression in Vilem Flusser’s 1983 book *Towards a Philosophy of Photography* (Flusser 2000; Miller 2006). Flusser posits the photograph as a ‘technical image’ and the

camera as a programmable apparatus, one that, paradoxically, programs the photographers (functionaries) who use it. The terms redundant and redundancy are important ones in Flusser's writing, influenced as he was by Shannon's communication theory, and the history of communication technology as a process of increasing *abstraction* and *automation*. For Flusser, 'redundant' photographs are those that carry no *new information* and are therefore superfluous. Flusser speaks of "the challenge for the photographer: to oppose the flood of redundancy with informative images" (Flusser 2000, 65). That is, those that provide the photographic universe with new information. Flusser associates 'snapshots' to the realm of redundant images, and his critique of so-called 'creative photography' is based on the idea that most of what people are doing when they photograph is to reproduce clichés set in place by the apparatus (Flusser 2000, 26). However, Flusser's critique is more complex than often recognized, counterbalanced by his praise for what he calls 'experimental photography': "to create a space for human intention in a world dominated by apparatuses" (Flusser 2000, 75). Elsewhere Flusser speaks of 'envisioners' who actively work against the automation of the apparatus – and at times he would appear to be a straightforward defender of subjective vision. Thus on the one hand he pessimistically states that "the photographer can only desire what the apparatus can do... [and] the intention of the photographer is a function of the apparatus" (Flusser 2011a, 20), while on the other hand he celebrates 'envisioners' as those with "the capacity to step from the particle universe [of abstraction] back into the concrete" (Flusser 2011a, 34).

In 'The Gesture of Photographing', published the year of his death in 1991, but only recently translated into English, Flusser presents an even more sanguine perspective of the photographer's potential. Here, between periods of reflection and moments of action, photography is part of a phenomenological "project of *situating oneself* in the world" (Flusser 2011b, 280). Flusser goes so far as to call this "a movement of freedom", "a series of decisions that occur not in spite of, but because of the determining forces that are in play" (Flusser 2011b, 289). Flusser also celebrates the "reflection" on the part of the photographer, the editing process which "rejects all the other possible pictures, except this one, to the realm of lost virtualities" (Flusser 2011b, 291). However, as we have seen, today's photographer may in fact retain such "lost virtualities" (of focus, for instance) – and one might legitimately ask how the editing of photographs in software such as Lightroom complicates Flusser's equation, given that endless virtual versions of an image are enabled by the lossless editing of RAW files. Rather than situating oneself in the world in the act of photographing, a photographer may now approach the world as fluid raw material to be manipulated later. In some sense, the photographic moment has been extended indefinitely.

Flusser's basic position is given a manifesto-like rendering in 1985 by the German artist and photography critic Andreas Müller-Pohle. In his essay 'Information Strategies', written at the cusp of the emergence of digital photography, Müller-Pohle predicted that soon "it will be possible to generate and regenerate literally *every* conceivable – or inconceivable – picture

through a computer terminal” (Müller-Pohle 1985). This realization coincided with Müller-Pohle’s critique of conventional photography, which he found ‘exhausted’ as a strategy. He wrote of its “impressionistic gestures” that “can only be consistent in so far as they are concentrated into ‘a personal way of seeing’” (‘stylization’) and dubbed this process “photographism”. Müller-Pohle’s own response as an artist was to turn his attention to the apparatus itself, and to digital code in particular. Flusser’s arguments, pitting the photographer against the apparatus, also reverberate in Julian Stallabrass 1996 essay “60 Billion Sunsets”. Stallabrass is concerned with what he calls “the demise of the amateur attitude to reality” – by which he means the meaningful use of cameras which were understood by their users (Stallabrass 1996, 36). Stallabrass argues that the increasing *automation* of cameras paradoxically disables the amateur photographer by removing their erstwhile control under a haze of electronic sophistry. As he says, “the camera becomes a mystical object which uses its possessor” (Stallabrass 1996, 36). Moreover, in the digital world, Stallabrass predicts, narcissistic simulations are likely to prevail: “the represented object loses its rights: there is no bar to unleashed subjectivity” (Stallabrass 1996, 36). One is reminded again of the marketing for the Olympus OM-D, which implores users to “create your own world”.

The Networking of Photography

What Flusser, Müller-Pohle and Stallabrass – not to mention Adams and Huebler – could not have anticipated is how the online networking of photography might alter the dynamic between photographer and machine; that is, how the apparatus of photography is reorientated in the participatory world of Web 2.0. The camera is no longer detached from the network. Thus the Dutch site Woophy (WORld Of PHotographY) encourages amateurs anywhere – in Borges-like fashion – to fulfil its modest ambition “to ultimately cover every inch of our world map with images that represent the world’s beauty”. With computer software increasingly capable of reading the images that reside in online databases, both via metadata and image pattern recognition, the status of individual image making is indeed in the process of being irrevocably socialised. Meanwhile, at the same time, viewers of online images are increasingly “free to explore an extensive and dynamic image space unconstrained by... an authorised or ‘correct’ viewing position” (Uricchio 2011, 25). Increasingly in other words, the editing process that Flusser reserved for human operators is outsourced and opened up to three different agents: other producers, software and the final viewer. All three of these networked dimensions – collaborative mass authorship, machine-readable imagery and new modes of viewer engagement – have major implications for how we think about the idea of photography and its fundamentally human-centred terms such as “witnessing”. This shift from individual views to aggregations has potentially important consequences for how we understand image-making as an act of resistance, or ‘interference’. My purpose here in this highly compressed paper is not to evoke nostalgia for master photographers and their frequently grandiose claims, nor to elicit concern about image saturation. I am simply

interested in whether photography historians, theorists and curators can and need to start thinking about photographic authorship in different ways. For the question must be asked: is the individual photographer redundant in the age of participation? I began this paper with reference to the release of recent digital cameras that seek to extend the creative act via delayed decision making – respectively, post-capture focus, and ‘real time’ engagement with the world via the electronic view-finder. We can now interpret these developments as introducing participatory experiences of a particular kind, ones that are romantically attached to the individual who is immersed in the network and yet still struggling to visualise a sense of their own position outside it. That is, participatory photography is a paradoxical appeal to resist the performative logic of the networked apparatus, and its transfer of agency, already underway, from the camera operator to the new functionaries, both human and non-human, of the database.

REFERENCES

Adams, Robert. 1981. *Beauty In Photography*. Millerton, NY: Aperture.

Baudrillard, Jean. 1983. *Simulations*. Translated by Paul Foss, Paul Patton and Philip Beitchman. New York: Semiotext(e).

Chevrier, Jean-François. 2003. “The Adventures of the Picture Form in the History of Photography.” In *The Last Picture Show: Artists Using Photography 1960–1982*, edited by Douglas Fogle, 113-128. Minneapolis: Walker Art Centre,

Flusser, Vilém. 2000. *Towards a Philosophy of Photography*. Translated by Anthony Matthews. London: Reaktion Books.

Flusser, Vilém. 2011a. *Into the Universe of Technical Images*. Translated by Nancy Ann Roth. Minneapolis: University of Minnesota Press.

Flusser, Vilém. 2011b. “The Gesture of Photographing.” Translated by Nancy Roth. *Journal of Visual Culture* 10.3: 279–93

Miller, John. 2006. “Double or Nothing: On the Art of Douglas Huebler.” *Artforum* 44.8: 220–227.

Müller-Pohle, Andreas. 1985. “Information Strategies.” Translated by Jean Säfken. *European Photography* 21 6.1: 5–14. Accessed 2 June 2010. http://equivalence.com/labor/lab_mp_wri_inf_e.shtml

Coplans, John. 1965. "Concerning *Various Small Fires*: Edward Ruscha Discusses His Perplexing Publications." *Artforum* 3: 24–25.

Sontag, Susan. 1978. *On Photography*. Middlesex: Penguin Books.

Stallabrass, Julian. 1996. "Sixty Billion Sunsets." In *Gargantua: Manufactured Mass Culture*. London: Verso, 13–39.

Uricchio, William. 2011. "The Algorithmic Turn: Photosynth, Augmented Reality and the Changing Implications of the Image." *Visual Studies*, 26:1, 25-35

Wiley, Chris. 2011. "Depth of Focus." *Frieze* 143: 88.

BIOGRAPHICAL NOTES

Dr Daniel Palmer is a writer and Senior Lecturer in the Art Theory Program in the Faculty of Art, Design & Architecture at Monash University. He has a long-standing involvement with the Centre for Contemporary Photography in Melbourne, as a former curator and current board member. His publications include the books *Twelve Australian Photo Artists* (2009), co-authored with Blair French, and the edited volume *Photogenic: Essays/Photography/CCP 2000–2004* (2005). His scholarly writings on photography have appeared in journals such as *Photographies*, *Philosophy of Photography*, *Angelaki* and *Reading Room*, and he regularly contributes to art magazines including *Art & Australia* and *Frieze*. His current research focuses upon the digital image and collaboration in photography. He is also working with Professor David Bate from the University of Westminster on a book around globalization and photography.

Looking at Drawing: A Discourse on Vision in Drawing Practice

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ABSTRACT

Contemporary image making operates within a profoundly visual culture; the increasing proliferation of images and computer vision technology offer opportunities to re-examine notions of looking. Historically, drawing has contributed to a discourse on vision, functioning as a form of visual thinking that allows us to challenge established ways of doing and imagine new possibilities. Digital technology has implications for traditional drawing processes and how we comprehend physicality, raising questions about the body in the act of making and our encounter with the Other. Throughout the twentieth century avant-garde artists developed strategies to expand the field of drawing practice, often working with procedures that isolate vision to articulate broader psychological and philosophical issues. Discourse on vision supports an understanding of Self and Other in drawing practice; looking while drawing, looking at drawings, and looking at the Other through drawing. As such this research acknowledges and extends a history of drawing practice which uses vision to deconstruct notions of representation and perception.

This paper examines the theme of ‘interference’ as a methodology of making. It will discuss a series of portraits produced with eye tracking software, constructed entirely from the recorded gaze path of the viewer. This strategy actively removes the ‘artist’s hand’ from the eye/brain/hand loop in order to resituate the role of vision and that of the spectator in drawing practice.

KEYWORDS

Drawing, Self, Other, Eye Tracking, Vision

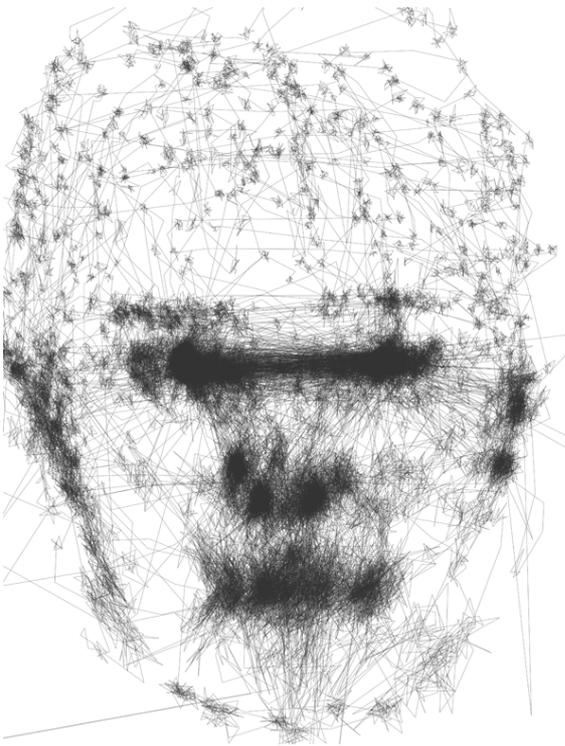
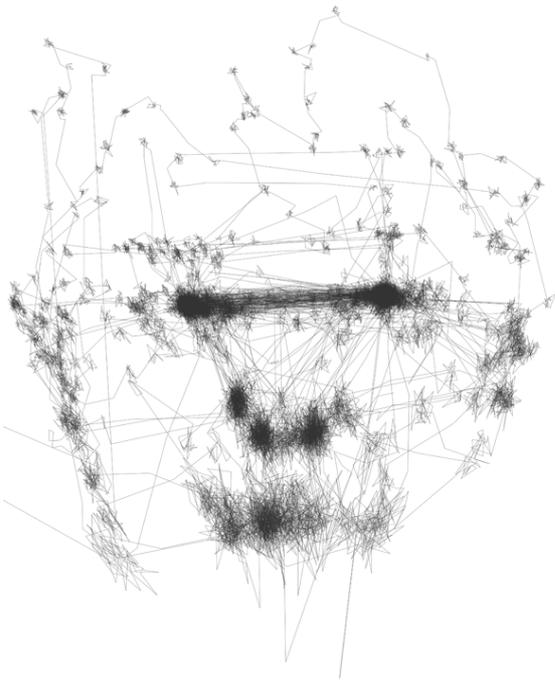


Figure 1: Kirsten Perry, *Self Portrait, Drawing*, (#3 of 20), 2012. Copyright: The author

Figure 2: Kirsten Perry, *Self Portrait, Drawing*, (#9 of 20), 2012. Copyright: The author

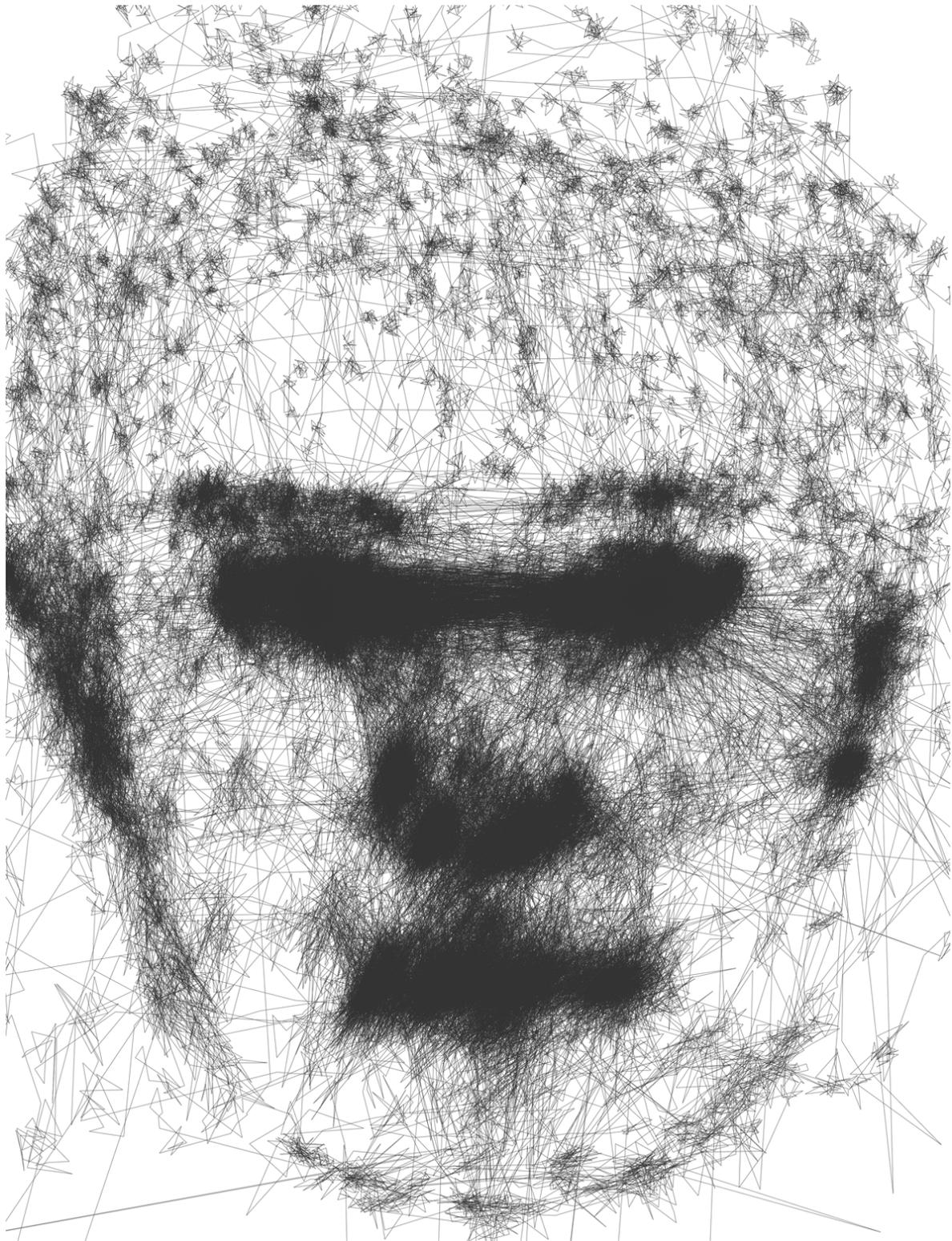


Figure 3: Kirsten Perry, *Self Portrait, Drawing, (#20 of 20)*, 2012. Copyright: The author

INTRODUCTION

Historically drawing has developed as a mode of enquiry; a form of visual thinking which allows us to question established ways of doing and imagine new possibilities. There is a tradition of artists who have challenged the conventions of drawing practice, through the invention of methods which disrupt the inherent connections between vision, mark and mind. This paper proposes the conference theme of ‘interference’ as a methodology of making. It will discuss the practical outcomes of my research, namely a series of self-portraits, which intend to disrupt the brain/eye/hand loop in order to resituate the role of vision and that of the spectator in the drawing process. The research seeks to establish the Self/Other relation as fundamental to drawing practice, and the human impulse to draw. In the acts of making and looking at drawings, artist and viewer operate as Self and Other. We may understand this encounter through vision; looking while drawing, looking at drawings and looking at the Other through drawing. The project proposes that the desire to make and view drawings is predicated on this very encounter. The idea that Self requires the Other in order to define itself has been widely discussed in phenomenological and psychoanalytic discourse, providing a theoretical context for an investigation into the roles and motivations of artist and viewer.

Deconstructing the drawing process, the project marks a turning point in my practice which has necessitated the shift away from process driven works in traditional media towards methods which incorporate the use of eye tracking technology. The sequence of self-portraits has been constructed entirely from the recorded gaze path, as I stare at an image of my own face over an hour long period. The images are processed using specialised software and a drawing is output for every three minutes of ‘sitting’ time. Diagramming sight, the process operates as a kind of prolonged and deliberate looking; actively removing the ‘artist’s hand’ from the drawing process, to draw directly with the sight lines of the viewer. The drawings intend to make visible how we see, and in particular how we look at the Other; as driven by a basic need to understand and respond to one another we focus on the areas of the face responsible for sensing and reacting. The following text outlines the three principle elements of the drawing process and will discuss them in relation to my research project.

The Mind: The Origins of Drawing

The self-portraits are an investigation into the subjectivity of drawing and vision. My drawing process recalls the work of Russian scientist Dr Alfred Yarbus who pioneered studies on vision in the 1960s. Yarbus influential research was able to prove that human saccadic eye movements are dependent on the cognitive process of the viewer and the task at hand. In order to illustrate his results Yarbus employed the use of diagrams which mapped the candidates eye movements in response to viewing a provided image. These are displayed next to the visual stimulus and invite one to make comparisons between them. They demonstrate the selectivity of sight; that rather than scan an entire scene, we look for areas of meaning within an image. I found myself attracted to the mirroring qualities of the diagrams, in particular those of faces, where the accumulation of data appears to construct facial forms. My choice of subject matter is integral; the human face being perhaps the most recognisable

of all images, allows the viewer to discern the face within the final drawing, and provides an opportunity to map our relation with the Other through vision.

I am attracted to the drawing medium because of its primacy. We all draw; drawings are amongst our earliest records of mankind, a part of most cultures and a key stage in the development of children. Mythology surrounding the original drawing act variously describes the tracing of a man's shadow. I have become particularly interested in one of the most pervasive legends on the origins of drawing, told by the first-century Roman author Pliny the Elder. This story outlines the principle thematic concerns and underpinning ideas which inform my investigation of the gaze, and the relationship between seeing, Self and Other which occurs in the drawing process. It describes a maid of Corinth, who traces in outline the shadow of her lover's face thrown up on the wall in candlelight. Her lover is soon to leave for war and the profile will provide a memory of him. (Elder, 1991, p.336) What interests me about the story is that the origins of drawing are rooted in absence, desire and memory of Other. The maid, in comprehending the metaphorical loss of her lover, makes the original drawing by tracing his outline. Her attempt to capture his likeness by tying a line around his shadow is an action driven by a belief that the body lost from vision ceases to exist.

Desire, memory and loss are at the core of the myth and are central to my concerns with the motivations of artist and viewer. Consequently, I have produced my own interpretation of the story, constructing a drawing of my partner using only my gaze. Re-enacting the charcoal trace of the maid's hand, the image retains a sense of longing, as the line of sight searches for the returned gaze of the Other. The drawing is projected directly onto the wall at a larger scale allowing the viewer to re-trace the lines which form the image, echoing the artist's own gaze. Evocative of the candlelight and shadow integral to the myth, the drawing provides associations with impermanence, memory and trace.

Metaphors of presence and absence are common to theoretical discourse on both vision and the drawing process. Drawings allow the paper surface to remain visible, disclosing the process of making and the hand of the maker. Furthermore, the association as a preparatory stage for other mediums attributes a sense of 'incompleteness'. Petherbridge argues that it is this 'unfinished' quality of drawings which establishes them as part of a 'continuum' and allows the viewer to step in and 'complete' the image. (2010, p.16) Significantly, absence, memory and desire are also often articulated through the act of looking in psychoanalytic theory. For Lacan, (1989 p.2) a child's first recognition of Self seen in the mirror, operates as "the agency of the ego". His 'Mirror Stage' theory proposes that the human identity is decentred; that the ego is fundamentally dependent upon external objects or the Other. He states that the image of a unified and separate Self is at odds with the child's underdeveloped state, this gap means the child will continue to look for itself in every Other which it meets.

These ideas provide an interesting framework through which to contemplate my practice, which also deals with identity and loss. The drawings I produce make visible a need to connect with the Other, but equally reveal what we don't see. The scrawled concentration of data around the eyes, nose and mouth, demonstrate that rather than scan an entire image, sight is selective. Returning to Pliny's story we notice that the maid looks not at her lover but his shadow. Derrida uses this to point out that we cannot see the subject at the same time as the page; therefore drawing is essentially a 'blind act'. He proposes perception as recollection, referring to the gap in vision which is completed through memory. He writes,

it is as if seeing were forbidden in order to draw, as if one drew only on the condition of not seeing, as if the drawing were a declaration of love destined for or suited to the invisibility of other... (1993 p.49)

My drawings make visible commonalities in how we see, however I am particularly interested in this gap or what we don't see. As an artist I am fascinated with how we look at images and the role of the viewer in assembling the image and assigning meaning. This project has implications for how we understand the relationship between artist and viewer, challenging ideas of the artist as author and vision as truth.

The Eye: Looking at Vision

The practical outcomes of the project have been informed by a discourse on vision and perception. The drawings tap into a rich history of observational drawing, traditionally associated with knowledge and truth. Historically drawing practice may be understood as split; categorised according to either observational or expressive purpose. This classification, according to visual or tactile qualities, is indicative of the hierarchy of the senses and their relation to bodily proximity. Vision has long been the privileged sense in Western thought; the invisibility and seeming effortlessness of sight lends it an air of distance, so that we think we are removed from tampering with what is seen. Vision is distanced from the body and is therefore understood as objective truth. Whereas the more proximal sense of touch, 'the artist's hand', is seen as subjective.

The project intends to challenge assumed notions of perception and to reposition vision as an embodied act. Investigating the sight/site of drawing, my research has shared concerns with Phenomenological philosophy which rejected the Cartesian view of perception as perpetuating a false dichotomy of the interior and exterior worlds. Writing on vision and Being Merleau-Ponty positions consciousness at the site of the body. He writes,

A human body is present when, between the see-er and the visible, between touching and touched, between one eye and the other, between hand and hand a kind of crossover occurs, when the spark of the sensing/sensible is lit... (1964, p.4)

Similarly, Irigaray's alternative theory of vision challenges the split between mind and body, objective and subjective. Irigaray describes 'the touch of light on the eye' that both connects us to the world and discerns us from it. She states that rather than operate separately, vision is dependent on the sense of touch. (Vasseleau, 1998 p.13) In the process of making the drawings my experience of looking became apparent in tactile terms; my eyes seeming to caress the face, identifying its forms and sculpting its surface. Over the duration of an hour the data builds, etching away the sensory organs to reveal them as holes in the skull. Interestingly, I approached the image of my own face as Other, finding myself naturally 'drawn' to the sensory organs, and formal oppositions of dark and light, near and far, space and form.

These strategies connect my research to the interventionist practises of the Process artists, which challenged the conventions of drawing at the same time as extending notions of the body and perception. Many of these artists positioned drawing as an embodied engagement with the world rather than a detached observation. (Macdonald) During this period drawings

became liberated from the picture plane and the responsibilities of representation and illusion. A number of artists began working within strict parameters developing “non-visual principles for organizing the pictorial image,” (Lee) strategies which attempted to do away with the preconceived aesthetics of form. In 1973 Robert Morris began to produce his *Blind Time* series of drawings, produced with the artist’s eyes shut. In each case Morris would assign himself some task, the drawings were then produced using graphite dust applied to the paper by hand. Facilitated by the fine qualities of the dust these images retain traces of their construction, often containing hand and fingerprints, suggesting blindness in their tactile and searching gestural qualities. Inversely, the drawings I produce deny the artist’s hand yet retain this searching quality of line, rather than merely look; they are actively looking for something or someone.

The Hand: The Mark of the Artist

The artist’s hand is a potent symbol of humanity and the Self. Hand prints and stencils are amongst the oldest phases of cave art, suggesting an instinctive connection between the action of drawing and the Self/Other relation, a reaching out. As Laning (1971, p.) writes,

drawing is not visual imitation. It is rather a matter of setting down symbols and signals of touching, feeling, clutching, grasping, stroking. When we draw, our hand makes marks upon the paper which *stand* for touching, stroking, grasping.

The tactile qualities of drawings are commonly described in terms of intimacy, providing a direct connection to the artist via the self referencing mark. The drawn line, like a signature, evokes tactility, movement and the body, revealing the speed and gestures of its making and the hand of the maker. An awareness of the body may be perceived across all fields of drawing practice and has led to the development of tools and procedures which either exploit or remove these bodily qualities. For example, in analytical and diagrammatical drawing practices tools such as rulers, mapping pens and nibs were “made for the hand but designed to edit out any inflections of the body” (Macdonald) in favour of more objective approaches. These practices are further demonstrative of the oppositions between hand and eye, body and mind. In my own drawings I have removed the hand altogether; yet the presence of the body remains, perceived through the tactility of line which we associate with the body in action.

Furthermore, the drawn mark produces an awareness of the artist’s body (hand) which is in turn perceived through the viewer’s body (eye). As Petherbridge explains, drawn lines are “indexical signs that are reconstituted by the movement of the observing eye.” (2010, p. 90) The physicality of line extends the gestures of the artist, generating a reflexive response in the viewer. In this way the process of looking at drawings becomes entwined with that of making them. Kovats (2007, p.8) describes this connection,

When we look at drawings we often position them very close to their maker. We are witnessing something being created at no further than arm’s reach, and we can often see the moment passing or thought emerging, right there on the page.

Kovats suggests that we enter drawings through the history of their making and a connection with the maker. Consider how we use our bodies to look at drawings; we get up close, we read the marks and lines created by the artist to decipher the process by which it was made.

We are mindful of proximity and connection with the Other, and this in turn directs our mode of looking at drawings through our own bodies. In this way, drawings re-enact a narrative of their own history through the spectator's vision.

Drawing Conclusions

Working with interventionist strategies to isolate vision, my drawings question our understanding of perception and the role of sensation in shaping our understanding of the world around us. Drawing may be understood as an ongoing process; a medium which connects the artist and viewer through an awareness of the body, as perceived through the senses of vision and touch. The drawings I produce are always in the process of tracing and re-tracing the path of the gaze, as each viewer in looking at an image steps in and creates it anew.

Credits

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REFERENCES

- Elder, P. (1991) *Natural History: A Selection*, London, Penguin Books.
- Derrida, J. (1993) *Memoirs of the Blind: The Self Portrait and Other Ruins*. Chicago; London, University of Chicago Press.
- Kovats, T. ed (2007) *The Drawing Book: A Survey of Drawing – The Primary Means of Expression*, London, Black Dog Publishing
- Lacan, J. (1989) *The Mirror Stage as Formative of the Function of the I as Revealed in Psychoanalytic Experience*. In *Ecrits: A Selection*. , 1-7. Hoboken: Routledge.
- Laning, E. (1971) *The Act of Drawing*, Devon, David & Charles.
- Lee, P. M. (1997) “William Anastasi: Untitled Subway Drawing 2-3-93.” Retrieved 19th April, 2012, from <http://aboutdrawing.org/essay/view/74>.
- Macdonald, J. (2009) “Hand Eye Practice” Retrieved 26th October, 2011 from http://www.julietmacdonald.co.uk/phd_files/Site_hand_eye_p/thedistinguishingmark.htm.
- Merleau-Ponty, M. (1964). *Eye and Mind. The Primacy of Perception*. J. M. Edie. Evanston, Northwestern University Press.
- Petherbridge, D. (2010) *The Primacy of Drawing: Histories and Theories of Practice*, Yale University Press
- Rosand, D. (1988) *The Meaning of the Mark: Leonardo and Titian*. Kansas, University of Kansas.
- Vasseleu, C. (1998) *Textures of Light: Vision and Touch in Irigaray, Levinas and Merleau-Ponty*. New York: Routledge.
- Yarbus A. L. (1967) *Eye Movements and Vision*, Trans. Basil Haigh, New York: Plenum Press.

BIOGRAPHICAL NOTES

Kirsten Perry is a Melbourne based artist and teacher who has completed a Bachelor of Fine Art (Painting) at RMIT and a Diploma of Visual Art (Photography) at NMIT. Kirsten has exhibited her drawing and installation based practice in solo and group exhibitions throughout Australia and has taught in the Visual Arts Department at NMIT since 2005. She is currently undertaking a Master of Fine Art at Monash University.

Photograms, Memory and Touch

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A direct encounter with material helps to frame our physical relationship with and knowledge of the world. Vital to identity, narrative and cultural memory, touch, denigration and transformation expose the ageing process. Without touch, we lose substance and the ability to perceive space. In the 1920s, László Moholy-Nagy challenged modern representations of perception through his experimental creation of images. His cameraless photographs or photograms expressed new methods of depicting objects, space and movement. The unique capability of the photogram is its reliance on light to record the surface of an object. These impressions can serve as a surrogate to our tactile memory of space. Of particular interest is how these images can then be reconstructed as three-dimensional objects which can be interacted with and viewed from various points of contact which redirect the narrative of memory as a physical occurrence. A simple change in perception allows an awareness of things we know, but did not know we knew. Under the premise that multi-sensory engagement is what constitutes our remembered happenings, how is the haptic experience necessary to image-making and meaning? The current mass of digitally-born and stored images remove us from contact with ageing and touch. This paper explores how the photogram as an image and a sculptural form is a remediation of our notions between touch and memory and how this representation calls for an interference in the governing ageless snapshots which occupy virtual space.

Framing Home

There was nothing particularly unique about the window in my childhood bedroom, only that it often became a portal into another world exercised by my imagination. How I longed for that window to be a door that I could open and step out onto a balcony. I could then shift my focus of the room from the inside to the outside. I could mingle with the branches of the tree seen from a second-story view. I could knock on my twin sister's adjacent glass window door from a visitor's perspective. Windows possess that magical bridge between boundaries; the visible and light; the invisible and the darkness. I was fond of falling asleep with my window wide open so as to listen to the sounds of summer nights. The crickets ushered in the rhythmic seasonal change; the rustling of leaves catching a breeze resonated with volatility; a neighbour closing a door or a car driving in the distance of suburbia connected me to others while I lay cradled in security under a shield of blankets. Most spectacular of these nights were the rainstorms which electrified the once blue sky turned black followed by a cascading roar of thunder and the relentless flow of water making contact with all exterior surfaces. Existential philosophy tells us we exist through our dependency on and interaction with "things" in the world (Ender 2005). My window connected me to "things" beyond myself that I as a child had not yet words for.

The familiar language of “home” occupies our imagination as a means of navigating virtual space. Home, after all, is often where we are uninhibited enough to take comfort in exploring the world of information, images, and storytelling within the protection of our walls. Home also has a particular connection with the way we locate memories both spatially and temporally. It can be viewed as a catalogue of memories and emotions, as such a stimulus for an autobiographical narrative. It is well known that Marcel Proust spent over a decade within the confines of his bedroom to write about the richness of sensory-triggered memories. The body is essential to Proust’s involuntary memory. Throughout his epic novel *Remembrance of Things Past*, a physical sensation acts as the catalyst for involuntary memory: the taste of the madeline dipped in tea, the sensation of imbalance on unevenly laid cobblestones, the scent of hawthorn, or a bubble formed against the side of a water-plant (Whitehead 2009). Proust shows us that the act of remembrance involves a new representation of what exists in latent form. Photographic paper captures this same quality of becoming. Contact with its invisibly chemically-laden surface awakens an image.

As Proust discovered, some of our earliest memories are often framed by the house of our childhood as it provides a context that helps us locate past experience. This notion of framing memory in domestic space is the focus of my current practice-led investigation, which uses photograms as a structural form. Implicit in their process, these photograms are intimate and to be opened like book, touched, arranged, and exposed to a natural process of wear through use and age. Fundamentally they are a link between a sense of home and memory of actual space. The homes we inhabit are a sort of photogram. The interior and exterior are constantly subject to light and shadow which expose and conceal surfaces. These natural conditions reflect the elusive process of transformation, ageing and perception.

Discovering the Photogram

For László Moholy-Nagy, the photogram made visible new relationships of space, form and light. This technique encapsulated Moholy-Nagy’s “productive” approach to photography and was also seen in close proximity to scientific X-ray photography emerging during the second half of the 1920s (Molderings 2009). Moholy-Nagy’s first photograms in 1922 were compositions of translucent pieces of paper cut into geometrical shapes as well as small common objects and were gradually developed in the sunlight (Heyne 2009). Not only was the image the result of an interaction between the light and the object, but it also had a tactile quality arising from the physical contact between the object and photographic paper. Moholy-Nagy’s experimental image-making processes introduce an alternative method of recording memory through touch. Contemporary artist Adam Fuss exploits further the capacity of the photogram and its relationship to physical phenomena through applying liquid in motion,

reptilian traces, and rabbit organs to the surface of the paper. The resulting images arouse our instinctive senses (Jones 1993). His works straddle between early 19th century practitioners who made photograms of plants and lace to the innovators in the early 20th century who technically and artistically expanded visual representation. The consistent advantage of the photogram lies in its reliance on the ephemeral and the tactile to reacquaint us with dimensions of memory and reality both familiar and hidden. The removal of photographed representations of space and situations fosters an atmosphere for subjective engagement that lends itself to the collective story. Cultural historian John Berger poses a similar challenge for an alternative use of photography as a medium of social memory. He states that any response to a photographed moment is bound to be felt as inadequate (Berger 1991). So why not re-direct the photographic moment as a preservation of memory to the memory of photographic paper itself?

Spatial Memory

From the outset, remembering is intimately bound to inscription. In *An Essay Concerning Human Understanding* (1700), John Locke turns to the spatial metaphors of the classical mnemonic tradition in order to (re)conceptualise memory. Memory was conceived as a space, most commonly a building, through which the individual moved in the process of remembering, retrieving the objects that have been placed there (Whitehead 2009). Locke's connection between memory and identity has been influential on subsequent thinking. However, Locke's account of memory fails to include the vital connection between the mind and the body. Recent conceptualisations of memory recognise that the body also has its own capacity to retain and recall the past, thus ending the Cartesian division of body and mind and paving the way for new understandings of memory in which materiality is given a more active role (Whitehead 2009). For example, central to neuroscientist Antonio Damasio's model of memory is the articulation between brain, body and mind. In *The Feeling of What Happens* (2000), he conceives of mental images as an interface between inner bodily processes and the outer world. "Images, Damasio states, are constructed when we engage objects, from persons and places, from the outside of the brain toward its inside; or when we reconstruct from memory, from the inside out..." (Ender 2005).

Memory takes on a distinct spatial dimension because it literally takes place in space. In one body of work, I have made hundreds of paper sculptures of personal, familial and associate rooms by photographing the photogram models and folding them into iconic furniture found within either the kitchen, the bedroom or the living room. In the process of reconstructing these various rooms I have discovered dormant memories that become present and have been hand-writing the details which emerge exclusive to these spaces, such as the boiling water left on my future landlord Phil's stove in his kitchen while he showed me the apartment for rent upstairs. The paper sculptures give this memory a tangible place and validate perhaps an

otherwise insignificant occurrence. Objects, thus emphasise the spatialisation of memory (Plate 2009). Memory becomes tangible when it is made—a discrete function of touch. In my own practice, this link between memory and touch is made manifest when the material and the immaterial touch each other. In the creation of my photogram ‘rooms’, rooms are placed on top of one another and light is invited to grace the top room’s surface, creating a trace of the ‘room’ onto the following one.

Haptic Memory and Materiality

Artist Rosalyn Driscoll has been investigating the concept of ‘aesthetic touch’ through making, exhibiting and documenting the haptic experiences of people’s descriptions of her sculptures. Moreover, an encounter with any work of art functions as a link between the maker and viewer. She has found that touch and art are deeply compatible: both inform us about the world around us as well as the world within us. Driscoll states, “We cannot truly see something unless we have touched it.” (Driscoll n.d.) ‘Aesthetic touch’ amplifies the meaning of visual perception by creating a physical connection to the art work. The sensations of touching elicit emotion, association, memory, and imagination. Touching also requires close contact, creating a sense of intimacy. When I hold a scalpel in my left hand and carefully cut out the remembered architectural features of a particular room, the memory of my body in that space directs the image. I do not know how the final image will present itself as the paper transforms under the conditions of light, shadow and in the chemicals in the plastic trays in the darkroom. Touch, a complex processing of information, convey details about the properties of material, texture, pressure, temperature, pain, as well as various combinations. Touch is about discovering aspects of material that cannot be seen; and that is where it’s unique function lies.

The hand, when it inscribes an image onto a material surface documents the complex interplay between recollection and handiwork; it shapes memory by literally shaping materials. Memory and the physical properties of the image form an essential relationship. Durability and loss are potential in every image, while recollecting and forgetting are functions intrinsic to memory (Küchler 1991). Remembering is also about reconnecting parts of the wider picture distributed over space and time—intimately connected with material and process. But the process of remembering is as much about separating as it is about reassembling. Aligned with evolutionary theory, the process of becoming is essential. And memory is a creation of the self as it is becoming. Factual accuracy is not a prerequisite to the re-enactment of memory—whether in the form of images, sensations, objects or affects; memory describes one’s physical relationship to the world. Autobiographical theorist James Olney makes the assumption that experience, until given formal ordering and completion in the art work is void of meaning; and that design or pattern is the thing which, relating part to part and part to whole and implying an end in the beginning and middle, demonstrates

significance in otherwise meaningless experience. But pattern is not discovered within experience, rather it is we who create pattern and impose it onto experience. Art formalises this process; form implies an end and an intention, and so a meaning (Olney 1972). By working with both the fragility and enduring qualities of paper, continuity is established between materiality, ageing and remembrance.

The Medium and the Human Condition

It is implied that ageing and transformation are a substance of memory. The use of material can enhance the way we mediate our relations over time and as circumstances change. Andre Gaudreault and Philippe Marion suggest, “A good understanding of a medium thus entails understanding its relationship to other media: it is through intermediality, through a concern with the intermedial, that a medium is understood.” (Gaudreault 2002). And as Jay David Bolter and Richard Grusin state in *Remediation: Understanding New Media*: “A medium in our culture can never operate in isolation, because it must enter into relationships of respect and rivalry with other media.” (Grusin 1999) Contemporary artist, Tacita Dean explores the minutiae of memory: a contemplation on the space, time and materiality of the everyday and typifies this rivalry. She defines analogue as “implying a continuous signal—a continuum and a line,” whereas “digital constitutes what is broken up.” With no physical imprint, no chemical reactions, she questions how digital photography can be viewed as progress (Dean 2006). Ignaz Cassar claims “the survival of the analogue photographic process works in support of the hand-crafted photograph as a model through which to follow the developmental stages of the photograph.” (Cassar 2012) Without materiality and rapidity of capture, the digital image is incongruent with memory. While stimulating our sense of sight, the use of our hands to click, type and scroll as well as the option of activating various sounds, digital space remove us from the haptic experience of sifting through a book and feeling its weight and texture of the paper or turning the pages of a photo album and smelling the ink or the photographic print while sitting on the family chair passed through generations. We are also removed from the conditions of light and its effect to change the atmosphere and our perception of space throughout the course of a day. Change that does occur in the digital realm is most often tied to more content being uploaded at a rate beyond manageable visualisation. This abundance lacks a visceral resonance and a vital gestation for reflection. What is to be retained from these vast volumes of coded material that may become obsolete within hours, generated perhaps naively, crudely or impulsively, situated out of context or narrowly searchable through commercial interests?

Value in material resides in how it reflects our human condition; our own mortality. Artefacts communicate directly because they have presence, but they also tell us something about the values of their creation because of the media that were used. A common medium on which to record a value such as, history, is paper. Paper appropriately links memory and the sensory

experience to process and technology. Paper and memory are inherently familiar, malleable and tactile and are vulnerable to loss, neglect or deterioration. Paper has a 2,000 year history and photosensitive paper dates to the late 1830s. Both are intimate and flexible materials that can be used to bring us into direct contact with change. Composed of gelatin, emulsion, silver nitrate and salt, photographic paper embodies transformation. In the darkroom, its alteration is rapid, akin to sudden changes in appearance such as losing a tooth, a radical haircut or a wound from an accident. Once processed the photographic image enters the same conditions we are subject to in ageing; uncertainty, fading, weathering, physical wear. The removal of “the precious” to my art work allows them to live and adapt to static or changing conditions within my domestic studio. Solace may be found in identifying and accepting the fragility of material over time.

The traces of the past are not just found in material, but also in our embodied skills and spatial orientations. According to cognitive linguistics, meaning does not objectively exist (what Lakoff and Johnson (1980) call the objectivism myth), and it is closely related to our bodily experiences and therefore to our perception, hence the notion of embodiment (Jamet n.d.). Home provides an adequate metaphor as an extension of our bodies. The metaphors used to refer to the internet are also based on our bodily experience. We experience our bodies as containers; we are contained within rooms, walls, ceilings. We also understand our bodies as containers for our emotions; our minds containers for our ideas; our linguistic expressions containers for our thoughts (Johnson 1991). Gaston Bachelard poetically investigates the house as a metaphor of being human. He suggests that memory is not a wholly interiorized experience in which we seek to retrieve the lost time of the past, but a practical activity involving the substances and sensations of the physical world (Bachelard 1994). Our bodies are in constant interaction with the environment; the world and the self inform and redefine each other continuously. The body is not a mere physical entity; it is enriched by both memory and dream. The world is reflected in the body and the body is projected on the world (Pallasmaa 2008). We all have our own ways of sensing personal space and of moving through that space, as well our own ways of making meaning of space. These reflections of the physical human condition help to determine the way we communicate about our private, yet often shared space (Lawson 2007).

CONCLUSION

If we define reality primarily by sight, we exclude information from other sensory systems and we may lose touch with our bodies. In *The Denial of Death* (1973) Ernest Becker argued that psychosis or psychological ailments arise because of an inability to comprehend mortality. How might this disconnect between the material and the immaterial be addressed through exploring analogue techniques of light-sensitive image-making on paper to render a novel approach to the inscription of memories within domestic space? I suggest we can

continue to translate and share the enduring process and time-dependent features of this medium to express the subjective experience of memory, touch and ageing. The photogram as an image and a sculptural form can mediate of our notions between touch and memory and this representation can interfere with the dominance of ageless snapshots which occupy virtual space.

REFERENCES

1. Gaston Bachelard, *The Poetics of Space* (New York: The Orion Press, Inc., 1964, Boston: Beacon Press, 1994), 143.
2. John Berger, *About Looking* (New York: Vintage International, 1991), 43.
3. Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* Cambridge, MA: MIT Press (1999): 65.
4. Ignaz Cassar, "Imagining the Image: Photography, Psychoanalysis and the Affects of Latency" *Photographies* Vol. 5, No. 1 (March 2012): 12-36.
5. Tacita Dean, Theodora Vischer, Isabel Friedli, Schaulager (Bâle, Suisse) *Analogue; Drawings 1991-2006* (Basel, Switzerland: Göttingen: Schaulager; Steidl, 2006): 8.
6. Available from: <http://www.rosalyndriscoll.com>; accessed May 2012.
7. Evelyne Ender, *Architexts of Memory* (Ann Arbor, MI: The University of Michigan Press, 2005), 57, 184.
8. Andre Gaudreault and Philippe Marion, "The Cinema as a Model for the Genealogy of Media" *Convergence* No. 8 (2002): 12-18.
9. Renate Heyne "Light Displays: Relations So Far Unknown," in *Moholy-Nagy The Photograms Catalogue Raisonné*, ed. Renate Heyne et al. (Ostfildern: Hatje Cantz Verlag, 2009), 29-30.
10. Denis, L. Jamet, "What do Internet metaphors reveal about the perception of the internet?" Available from: <http://www.metaphorik.de/18/jamet.pdf>
11. Mark Johnson "The Imaginative Basis of Meaning and Cognition," in *Images of Memory*, edited by Susanne Küchler and Walter Melion (Washington, D.C.: Smithsonian Institution Press, 1991), 76-77.
12. Ameila Jones, *Artforum International* Vol. 31 No. 5 (Jan 1993): 90.
13. Susanne Küchler and Walter Melion, edited by, *Images of Memory* (Washington, D.C.: Smithsonian Institution Press, 1991), 6-7.
14. Bryan Lawson, *The Language of Space* (Oxford: Architectural Press. First edition 2001. Reprinted 2003, 2005, 2006, 2007) 15.

15. Herbert Molderings, "Light Years of a Life: The Photogram in the Aesthetic of Laszlo Moholy-Nagy" in *Moholy-Nagy The Photograms Catalogue Raisonné* edited by Renate Heyne and Floris M. Neusüss, in collaboration with Hattula Moholy-Nagy (Ostfildern: Hatje Cantz Verlag, 2009), 16.
16. James Olney, *Metaphors of Self* (Princeton, NJ: Princeton University Press, 1972), 270.
17. Juhani Pallasmaa, *The Eyes of the Skin* (Chichester: Wiley-Academy; Hoboken, NJ: John Wiley & Sons Ltd., 2005, Feb, 2007, Nov. 2007, 2008), 27-31.
18. Liedeke Plate and Anneke Smelik, edited by, *Technologies of Memory in the Arts* (Palgrave Macmillan, 2009) 9-10.
19. Anne Whitehead, *Memory* (London; New York: Routledge, 2009), 53, 58-59, 104.

BIOGRAPHICAL NOTES

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Machine Autobiographies for Art Making

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ABSTRACT

Alongside human narratives which stitch continuous threads through media and create histories, a parallel written record exists authored by the machines themselves - the cut of the stylus to the wax cylinder, the colour of celluloid crystals. This mark making forms a corpus of written history which exists alongside the numerous human commentaries offered. Such inscriptions form the basis of a productive and articulate alternative to media history as a mere eulogy of technology. These other histories, inscribed as they are into ancient and contemporary media are gradually losing their voices to decay in the same way that the European climate once silenced papyrus. This paper will consider the implications of producing artworks which adopt machine voices as co-authors. It will be argued that in such conditions, where the productive agency of machine error is given reign, straightforward descriptions of subject-object relationships which give meaning to terms such as 'noise' and 'interference' become problematic. With reference to two contemporary artworks, Jamie Allen's 'refractive index' and fieldVenture's 'Burj Babil', this paper will describe how artists and other practitioners are creating works indebted to various theories of 'new materialism'.

KEYWORDS

visualisation, data, media archaeology, materialism, hacking

INTRODUCTION

There is a growing strain of media art practice and theory which concerns itself with what - for want of a better word - we can call 'materialism' in technological art culture. A glance at the programme of Berlin's Transmediale festival will suffice to confirm this. Materialism, in this context, will be taken to mean an attempt to engage with new and old technologies beyond the *interface*, that is delving through layers of programmatic abstraction or plastic cases to the unattractive guts of *things*. In this search, practitioners often engage with redundant or obsolete technologies or the unexpected effects of contemporaries ones (for

example in glitch art). This practice is indebted to a number of theoretical sources but in particular the influence of German scholar Friedrich Kittler, and the later collection of artists and thinkers operating under the label 'media archaeology'. First a short synthesis of some of the various threads of research available will be made and then, under these influences a series of artworks will be examined which attempt to strategically and productively interfere with media of communication, storage and display.

Gramophones and fibre optics

Sound and image, voice and text have become mere effects on the surface, or, to put it better, the interface for the consumer. (Kittler, von Mücke and Similon 1987, p102)

...and if the optical fibre network reduces all formerly separate data flows to one standardised digital series of numbers any medium can be translated into another. With numbers nothing is impossible. Modulation, transformation, synchronisation; delay memory, transposition; scrambling, scanning, mapping - **a total connection of all media on a digital base [sic] erases the notion of the medium itself.**(Kittler, von Mücke and Similon 1987, p102, emphasis mine)

For Kittler the future of media is as a *generalised* conduit retaining only surface effects of previous media. Interoperability and technological standards which allow one machine to talk to another about *anything* using the same protocols, mark the death of the medium itself. No medium can survive this process of abstraction and fibre optics is the perfect instantiation of this theory - a pure medium of exchange without the possibility of interference from magnetism, radio waves or radioactivity.

Conversely, the 'discourse network' (Kittler, 1990) of the first half (at least) of the 1900s was marked by *differentiation* (Harris and Taylor 2005, pp 66-86) a new separation of the senses by technologies of the ear (gramophone) and eye (cinema). It was in the technological potentials of those technologies and not with their users that Kittler located the dominant agencies at work. The gramophone, for example allowed, for the first time, the possibility of the *production* of music from the medium of its storage. Gramophones were also able to record and by manipulating the needle, other recorded sounds could be produced.[digital matters] Have then this early creative hacking practice and its later incarnations been eradicated by this 'total connection of media on a digital base'. If McLuhan's 'the content of one media is always another medium' (McLuhan 2010, p8) has become Kittler's thesis that the content of one media is all previous media, how can such opportunities for creative (re)mediation continue to exist?

Noise

Noise is the presence of the medium through which the message must pass. (Crocker 2010)

Let us consider for a moment some of the apparent divisions between old and new media, which tend to fall into the (misplaced) categories *analogue* and *digital*. Misplaced because as Kittler has said 'there is no software'.(Kittler 1995)

Software is a manufactured illusion that shuts out users from their own hardware [...] the software industry has deprived its customers, without consultation, of a range of freedoms in favour of user-friendliness...'(Harris and Taylor 2005, p84)

The relationship between people and technology regulated by such software is one of estrangement and frustration. A desire to break down this barrier is motivation not only for many artists working with hacking (or other non-linear technological practices) but other phenomena such as the FLOSS (Free, Libre and Open Source Software) movement. It is a by-product of the use of commercial software to view digital systems as ontologically distinct from analogue ones. Similarly the focus of much interaction design practice is on 'smooth' user experiences which, mimicking 'real world' physicality do their utmost to deny the presence of interaction or process below the very highest level surface.

'When we see edges, we know where we are.' (Oliver J, 2012) The kind of abstracted *flowing* user experience we navigate when using rich user interfaces (such as the iPad operating system) is calibrated to disorientate us and distract us from the cataclysmic loss of agency which off the shelf software constrains us to. It is particularly tragic then that art schools (at least in the UK) as a whole, concentrate exclusively on teaching undergraduates Final Cut instead of programming.

Such an experience can also be linked to Heidegger's essay 'The Question Concerning Technology'. Here (to brutally paraphrase) Heidegger links the pervasive and inauthentic character of technology with a loss of connection between the four types of formal causation in Aristotle (which was the condition for 'bringing forth' being) resulting in a reduction of objects to *stock*. The link between creation and use is broken and the result is an impoverished and de-contextualised world.

How then to interrupt this smooth surface, to re-evaluate and encourage human agency while recognising that such agency exists in a domain of 'material assemblages, of which technology is one component'? (Parikka 2010) According to media archaeology:

...recognizing the way abstraction works in technical media from voltages and components to the more symbolic levels allows us to track back, as well, from the world of meanings and symbols*but also a-signification*to the level of dirty matter.(Parikka 2012, p97)

Following the train of abstraction downwards, we navigate the technological hinterland between semiotics and engineering, an under-theorised and under-explored region which can be both playful and provocative. An attempt to formalise this practice forms the basis of the critical engineering manifesto devised in 2011 (Oliver, Savičić, Vasiliev 2011) which articulates a basic ideology for hacking practices. The manifesto describes not only a pragmatic starting point for artists but, crucially emphasises continually the blend of culture, politics and engineering that lies at the heart code writing:

The Critical Engineer notes that written code expands into social and psychological realms, regulating behaviour between people and the machines they interact with. By understanding this, the Critical Engineer seeks to reconstruct user-constraints and social action through means of digital excavation.(Oliver, Savičić, Vasiliev 2011)

Critical Engineering shares, with Media Archaeology, a regard for the stratified nature of media in its layers of symbolic abstraction and a recognition that such strata can be mined creatively. Where Media Archaeology continues is applying more explicitly Foucauldian concepts of discourse which touch on the *specificity* of the agencies in question. One way of doing so is to examine, as Wolfgang Ernst does the *archaeographies* of technological objects.

machine autobiographies

Media are not only objects but also subjects (“authors”) of media archaeology. The term *media archaeography* describes modes of writing that are not human textual products but rather expressions of the machines themselves, functions of their very mediatic logic ...(Ernst 2011, p 241)

Many practitioners, in particular visual and sound artists are taking such ‘modes of writing’ as materials for art making. Magnetic traces, vinyl scratches and computer log files are all subverted into art making materials and processes. If though, as described above, media subject/objectivity is disrupted by these voices, notions of interference and noise become immediately problematic. If media assume the role of both subject and object, if media tell stories about themselves, then noise is no longer interference, no longer a barrier or distraction to be filtered out. Noise becomes a descriptive message.

When we hear the earliest sound recordings of Tennyson reading Charge of the Light Brigade, for example, the watered-down and scratched-out sound conveys the enormous passage of time, just as the static sound of Neil Armstrong's voice on the moon tells us something about his physical distance from us and the newness of space technologies in the 1960s. (Crocker 2010)

presentness to hand

As a small aside, we might also examine how the presence of such traces plays out within a Heideggerian terrain. To Dasein (an agent who is capable of asking the question ‘what is being’) the noisy recording is a defective tool. The recording becomes a tool whose ‘readiness to hand’ (the state in which we normally use tools without regard for their own being but seeing *through* them to the task at hand) has switched to ‘presence at hand’. The data moshing videos of Takeshi Murata for example, by disrupting the compression algorithms behind quicktime video confront us with the presence of that video as an entity, its mathematical complexity, the rules on which it depends. Increasingly we adopt a picture of a media landscape where the agency of things, where the voices of the non human become part of an ecology. It is such landscapes which Jane Bennet has described as being populated by ‘Vibrant Matter’(Bennet 2010). A dynamic and not un-Latourian network where the ontologically heterogeneous vie against one another, collaborate, interact parasitically or symbiotically.

Of course if only the most literal data (the moon is a long way away) were all we gained from such an exploration, we would soon arrive at a very impoverished notion of creativity but many artists are exploring how such remnants can be stretched, mashed and otherwise deconstructed to create more eloquent soliloquies:

refractive index

Refractive index is a visual art and research project by artist Jamie Allen shown at Future Everything 2012, Manchester and soon on the BBC big screens.

Investigations into the reflective and refractive power of public media displays. Imagery and software marks the physical effect that public media displays have on city spaces. An art-research project that uses large scale displays as a kind of active camera obscura; inverting the usual use of the screen and showing us what our screens "see" when they peer into the night sky. (Allen 2011)

Refractive index makes use of existing, large scale public displays, owned by the BBC and located in city centres through the UK. Instead of using the screens for their usual purpose (showing news content, sports etc.) the work instead realises the potential of the screens as emitters of light. Bright scanning lines and flashes are shown on the screens while the video camera (all of these BBC screens have an integrated CCTV camera used for zooming on audience members) captures images of the surrounding architecture. From this process of illumination and image capture a secondary set of images are produced. The software takes the captured images from the camera and carries out various simple analyses on them. These analyses were developed to locate the edges in performance of both the screen hardware, camera sensor and software which drives them.

For example, in one process a series of grey tones from almost black, to bright white are shown to the screen. For each individual tone a series of identical images are captured. These 'identical' images are then compared, pixel by pixel for differences which are caused by 'noise' from the camera sensor as it struggles to adjust to the low light. This noise is produced by a boost in voltage across the sensor pixel which allows more light sensitivity. The result is visualised as an image distorted on the z-axis according to the level of sensor noise at that position. Clear trends emerge as darker or lighter areas push forward or back according to performance of the camera.

Refractive index is an articulate example of machine 'auto-biographies' at work. By taking itself as both subject and object it provides an affirmation of the screen as physical object, dominant in space and energy but fallible, limited and ultimately tied to the limitations specific to the technologies which constitute it. To return to an earlier point, how can we counter the accusation that such work is reductive, that it reduces the social and political complexity of media entities to isolated glitches? In this instance there is a strong narrative regarding the *architectural* impact of such displays. BBC press releases about the screens unsurprisingly focus on the potential for shared experiences of television events, at the moment of writing for example, the olympics will soon dominate the output. The piece invokes an entirely different context around the screen, forcing a reappraisal of both its technological workings and its physical relationship to surrounding objects. The screen allows us to 'dispassionately pay[...] attention to the subconscious qualities of the technical media.' (Ernst 2011 p242)

Burj Babil

Burj Babil is a computer-generated video piece by fieldVentures (the group consists of artist Guy Schofield and the author) and was shown at SIGGRAPH Asia 2011, Hong Kong. The work takes a 3D computer model of a fictionalised contemporary Tower of Babel and corrupts the source code, twisting the tower out of shape until it is no longer recognisable. To explain the process of corruption it is necessary to briefly explain the makeup of a 3D object file. Each shape is composed of vertices - points in three-dimensional space with an x,y and z coordinate. Those x,y,z positions are written in a file like so:

```
v, 10,1,3  
v, 10,20,20
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By building a model on the scale of 1-26 it was possible to map numbers to letters so 10,1,3' becomes 'j,a,c' etc. The resulting 'words' were then translated into a series of human languages using the google translate API and finally those results converted back to numbers.

By direct intervention in the source code, the illusion of CGI *as cinematography* is broken. 3D models oxymoronically attempt both to mimic reality and surpass it and in order to do so must recreate a version of it based on rules. As Manovich has pointed it is no coincidence that the special effects industry fetishises the reproduction of natural phenomena in the forms of clouds, waves and dust particles. Those surface effects are based on mathematics, and if the materiality of CGI is to be found anywhere, the numbers provide a good place to start. An unanticipated side effect of the corruption process was the manifestation of 'z-fighting' from the model. Z-fighting occurs when 2 planes occupy the same position on the z-axis of the scene. The graphics render then becomes unable to decide which plane should appear in front of the other and will frequently flicker between them. Burj Babil introduces a layer of cultural noise into the foundation of the model, a disruptive noise which causes the software and hardware of the computer to break ranks, no longer appearing a streamlined 'pipeline' but as a series of isolated parts whose collaboration depends on carefully managed agreements.

conclusions - agency and determinism

While any invitation to attribute more agency to machines risks the accusation of technological determinism (a charge, justifiably, levelled at Friedrich Kittler), it is not the intention of the author to suggest that machine voices are the only ones worth listening to. It is in fact with the purpose of better understanding the context and relationships in which humans interact with technologies that we continue to re-evaluate each new innovation with an eye to the past. 'Syntheses [of media histories] should be productive, not conclusive -- hence disjunctive as well.' (Parikka 2010) By making media historical research a productive process we adopt a new vision of a dynamic and active state of things:

Equipment is no longer a silent laborer; it has surfaced as a visible power. It is a tool which has suddenly reversed into tool “as” tool. The visible world is the world of “as”, a tangible and volatile surface derived from a more primary dimension of being. (Harman 2010, p8)

To navigate such a surface undoubtedly requires a re-evaluation of our ‘use’ of creative media. Creative hacking allows practitioners to ‘think’ media in original ways in the true sense of ‘practice-based research’.

...I propose a multiplicity of materialisms, and the task of new materialism is to address how to think materialisms in a multiplicity in such a methodological way that enables a grounded analysis of contemporary culture. (Parikka 2012, p99)

It is difficult to generalise about the formulation of such analytical methodologies since it is, as has been repeated several times, the specifics of each medium, in fact the specifics of each object which produces this ‘grounding’. What is suggested though is ‘a kind of epistemological reverse engineering’ (Ernst 2011, p239) where discursive formations are inferred, examined and delineated by close examination of each medium as one strata in the cliff face.

The two artworks described here offer examples of the opportunity for artistic intervention afforded by a breakdown in traditional subject/objectivity. Their success as artworks is derived from the specificity of their intervention with the technologies in question. By synthesising broader social questions about our lived interactions with technology and the potential of that technology for adaptation they afford a reconfiguration of our future interactions. Balancing that synthesis is the creative challenge facing authors of such works and it is only by approaching technologies with an appropriate critical tool-kit that such an evaluation can be made.

REFERENCES

Books

Bennet, J. *Vibrant Matter*. 2010. Durham and London: Duke University Press.

Ernst, W "Media Archaeography: Method and Machine versus History and Narrative of Media" in *Media Archeology: Approaches, Applications and Implications*. Huhtamo, E and Parikka, J (Editors). 2011. Berkeley, Los Angeles and London: University of California Press,

Harman, G. *Towards Speculative Realism: Essays and Lectures*. 2010. Winchester and Washington: Zero Books.

Harris, J Ll and Taylor Paul A. *Digital Matters: The theory and culture of the matrix*. 2005. London and New York :Routledge.

Heidegger, M. "The Question Concerning Technology" 1954. Translated in *Heidegger, Basic Writings*. San Francisco: Harpers 1977.

Huhtamo, E and Parikka, J (Editors). *Media Archeology: Approaches, Applications and Implications*. 2011. Berkeley, Los Angeles and London: University of California Press,

Kittler, F A, *Discourse Networks 1900/1900*. 1990. California: Stanford University Pres.

Kittler, F A. *Optical Media: Berlin Lectures 1999*. Enns, A (translator). 2010. Cambridge and Malden: Polity

Serres, M. 1982. *The Parasite*. Balitmore and London: The John Hopkins University Press.

Conference presentations

Oliver J, "Critical Engineering in a Closed World". Presented at eyeo 2012, Minneapolis, 5-8 June 2012

Journal Articles

Crocker, S. 2010. "Noises and Exceptions, Pure Mediality in Serres and Agamben". *ctheory*. Kroker, A and Kroker, M (Editors). Accessed 15/6/2012. <http://http://www.ctheory.net/printer.aspx?id=574>.

Kittler, F A. 1995. "There is No Software".Kroker, A and Kroker, M (Editors). *ctheory*. Accessed 15/6/2012. <http://www.ctheory.net/articles.aspx?id=74>

Kittler, F A and Griffin, M. 1996. "The City Is a Medium". *New Literary History*, Vol. 27, No. 4, Literature, Media, and the Law pp. 717-729. Accessed: 19/01/2011. <http://www.jstor.org/stable/20057387>.

Kittler, F A and Ogger, S. 2001. "Computer Graphics: A Semi-Technical Introduction".

Grey Room, No. 2. (Winter, 2001), pp. 30-45. Accessed 15/6/2012. <http://links.jstor.org/sici?sici=1526-3819%28200124%290%3A2%3C30%3ACGASI%3E2.0.CO%3B2-R>

Kittler, F A, von Mücke, D and Similon, P L. 1987. "Gramophone, Film, Typewriter". *October*, Vol. 41, pp. 101-118. Accessed 15/6/2012. <http://links.jstor.org/sici?sici=0162-2870%28198722%2941%3C101%3AGFT%3E2.0.CO%3B2-F>.

Parikka, J. 2012. "New Materialism as Media Theory: Medianatures and Dirty Matter". *Communication and Critical/Cultural Studies*, 9:1, pp. 95-100. Accessed 15/6/2012. <http://dx.doi.org/10.1080/14791420.2011.626252>

Parikka, J and Hertz G. 2010. "Archaeologies of Media Art Jussi Parikka in conversation with Garnet Hertz".Kroker, A and Kroker, M (Editors). *ctheory*. Accessed 15/6/2012. <http://www.ctheory.net/articles.aspx?id=631>

Thrift, N. 2004. "Remembering the technological unconscious by foregrounding knowledges of position". *Environment and Planning D: Society and Space*, volume 22, pps 175-190. Accessed 15/6/2012. DOI:10.1068/d321t.

Websites

Allen Jamie, 2011-12 "refractive index". Accessed 15/6/2012. <http://www.refractiveindex.cc>

Oliver, Savičić, Vasiliev, 2011. "The Critical Engineering Manifesto", Accessed 15/6/2012. <http://www.criticalengineering.org>

Manovich, L. "Digital Cinema". Accessed 15/6/2012. <http://www.manovich.net/TEXT/digital-cinema.html>

Schofield, T and Schofield G, "Burj Babil", Accessed 15/6/2012. <http://www.tomschofieldart.com/burj-babil>.

Cutting on action: Interference strategies in contemporary art practice

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ABSTRACT

The domestication of creative software and hardware has been a significant factor in the recent proliferation of still and moving image creation. Booming numbers of amateur image-makers have the resources, skills and ambitions to create and distribute their work on a mass scale. At the same time, contemporary art seems increasingly dominated by ‘post-medium’ practices that adopt and adapt the representational techniques of mass culture, rather than overtly reject or oppose them. As a consequence of this network of forces, the field of image and video production is no longer the exclusive specialty of art and the mass media, and art may no longer be the most prominent watchdog of mass image culture.

Intuitively and intentionally, contemporary artists are responding to these shifting conditions. From the position of a creative practitioner and researcher, this paper examines the strategies that contemporary artists use to engage with the changing relationships between image culture, lived experience and artistic practice. By examining the intersections between W.J.T. Mitchell’s detailed understanding of visual literacy and Jacques Derrida’s philosophical models of reading and writing, I identify ‘editing’ as a broad methodology that describes how practitioners creatively and critically engage with the field of still and moving images. My contention is that by emphasising the intersections of looking and making, ‘reading’ and ‘writing’, artists provide crucial jump cuts, pauses and distortions in the medley of our mediated experiences.

KEYWORDS

editing, images, art, film, seamlessness

We continually hear that today, more than ever, we are surrounded by images. Many of us spend the majority of our waking hours connected to computers, staring at televisions and fondling smart phones. At work, at home, and even in the transitions between, we saturate ourselves in the glow of these illuminated rectangles. For many of us, they are our primary sources of news, communication, entertainment and labour. The ubiquity of graphical user interfaces across our hardware and software means that even our interactions with text and sound have become distinctly visual. The ways we receive, reflect on, articulate and share our experiences are increasingly graphic. It is such conditions that allow W.J.T. Mitchell (1994, 11) to propose that, following Richard Rorty's 'linguistic turn', our array of social, cultural, political and philosophical activities are undergoing a 'pictorial turn', or in other words, a restructuring of knowledge according to images.

We have signs of this shift in global, mass culture, in contemporary art, and perhaps most vividly in the twilight of distinctions between the two. In mass culture, the 'passive consumer', so derided by the Left, has been replaced by the ambivalent 'prosumer' with proactive capacities to download, manipulate and repost dominant culture at will. Images are key tools for the prosumer in fashioning Tumblr microblogs, uploading Youtube mashups, collaging Facebook identities and friendships and in their almost-hieroglyphic texts and Tweets. In contemporary art, the omnipresence of the image is either completely obvious or counterintuitive, depending on our perspective. On the one hand, of course art is dominated by images. Its primary materials and questions often emerge directly from the visual realm. On the other hand, however, contemporary art is flush with practices that seem to resist images. From Lawrence Weiner to Tino Sehgal, we find artists creating with words, ideas, conversations, relationships, environments and experiences. Whether we label these 'conceptual', 'post-medium' or 'relational' practices, this essay proposes that images, especially moving images, provide models (if not materials) of structuring experience and activating meaning in contemporary art.

This paper looks to the structure of images and moving images to understand and articulate the creative strategies of contemporary artists and amateur creators. Informed by Mitchell's 'pictorial turn', it seems pertinent to look beyond the limits of the verbal-visual analogies that have become customary in structural and poststructural debates, and instead look to the characteristics of images and moving images for ways of understanding and describing the contemporary conditions of creative practice. My aim is not to distinguish between art and non-art practices, but to identify and describe some broad methodologies that may be applicable to both. Following Mitchell's lead, this paper suggests that the ambiguous and

iterative qualities of images provide ways to understand how artists and amateurs creatively engage with dominant culture. I want to argue that moving images, particularly through a broadened understanding of ‘editing’, can provide important models for articulating how creative practitioners manipulate the seams between looking and making, reading and writing.

I have tried to initiate an analogy between art and moving images in the title of this paper. ‘Cutting on action’ refers to a fundamental technique of continuity editing. Its premise is fairly simple: it uses the action on screen to smooth over what could otherwise be a jarring edit point. Typically ‘cutting on action’ involves matching the movement in one shot to the continuation or completion of that same movement in another. For example, in Tom Ford’s *A Single Man* (2009), we see George (Collin Firth) lighting two cigarettes as he lies on the floor next to Charley (Julianne Moore). As he flicks the lighter open, we cut to a close up showing the lighter opening and igniting. Separated out, the two shots are completely different. In the first, we see the two characters from the torso up. In the second, we see only George’s hands and the lighter. They are shot from different angles, show different things, and were most probably shot at different times. Yet, by cutting on action, the movement in the frame directs our attention to the activity, and we effectively ‘read out’ the momentary clash of the edit point.

I want to argue that contemporary artists not only employ similar formal techniques in their work, but that they also purposely manage and manipulate seamlessness as a conceptual strategy. Two recent video or ‘filmic’ artworks exemplify this, and although this paper is not a detailed analysis of these works, they serve as important reference points for my purposes. Douglas Gordon and Philippe Parreno’s *Zidane: A 21st Century Portrait* (2006) and Christian Marclay’s *The Clock* (2010) mime the editing conventions of mainstream film to bring us into close proximity with cinematic viewing experiences. *Zidane* follows the French footballer Zinedine Zidane over the course of a match. Regardless of the ball’s location on the pitch, the work intercuts between 17 cameras, in real time, to provide a poignant portrait of the player wavering between action and inaction. *The Clock* is a 24-hour montage of film fragments representing the passage of time. It sequences appropriated film fragments, often displaying clocks and watches in the frame, to create a ‘real time’ functioning clock. Yet, despite this severe structural imposition, it also seems to allude to the presence of an underlying cinematic narrative.

The degree to which these and other works actively and deliberately absorb into cinematic form, points to one potential of ‘cutting on action’ as a conceptual strategy. That is, by mimicking the conventions of our dominant visual systems, these works operate *through*, rather than in opposition to, popular culture. They allow us to ‘read out’ the clash or opposition of art to mainstream media. Hence, ‘cutting on action’, evokes a second analogy

for contemporary art practice – to ‘cut in on the action’. I’d like to propose that by resisting direct opposition to mass culture, artists are able to insert their work, more or less seamlessly, into it. Rather than repeat modernist models of opposition and rupture, or postmodern parodies and pastiches, contemporary artists are able to cut in on the action of dominant culture. By doing so, they reconfigure and interfere with prevailing ways of seeing and making sense at the site of their greatest influence.

I want to unpack the creative and critical potentials of these strategies by examining the characteristics of images and moving images. The problem is that when we ‘turn’ to images we seem to encounter unavoidable allusions to language. If structuralism and poststructuralism have taught us anything, it is that representation is structured like a language. We know now that material images (actual pictures, photographs, paintings, posters etc.), as well as broader social and cognitive ones (‘mental pictures’ of gender, race, sexuality and so on) are not ‘natural’. Rather, we create and perpetuate them through the evolving codes and conventions of our shared symbolic systems. While this theoretical insight has been invaluable in opening up images and their meanings to the complexities of social, cultural and political forces, its limits are perhaps becoming more visible through the ever-increasing prevalence and potency of images. In other words, theoretical analogies between representation and language have not demystified the efficacy of images. Instead, with our experiences becoming increasingly mediated through visual activities (apropos our ubiquitous ‘cut and paste’ GUI lives) – with knowledge itself becoming structured according to images – the problem is not how to demystify and reject the potency of images, but how to manage and manipulate images as ways of knowing, experiencing and communicating.

In response to this shift, contemporary artists are operating through creative and critical strategies that no longer rely on models of opposition or parody. Indeed, *Zidane*, *The Clock* and many other examples of contemporary art appear to strategically manage seamlessness as a way to enable more subtle forms of interference. Following Mitchell’s (2005, 9) call to resist repeating hermeneutic and semiotic arguments, and instead to read through the methods of images, it is pertinent, then, to look towards models of seamlessness in visual culture. One obvious place to start is film editing.

Predictably, the problem when we turn to film theory for an understanding of seamlessness in continuity editing is that we again encounter the limits of visual-verbal analogies. We can see this most directly in Christian Metz’s (1974) attempts to apply Ferdinand de Saussure’s linguistic categories to filmic meaning. In seeking out the consistencies between film and semiotics, he reworked linguistic divisions such as *langue* and *parole*, and encountered a range of incongruities. Undeterred, Metz proposed that although filmic meaning did not strictly adhere to the linguistic model, its intertwining with the symbolic procedures of

narrative and the 'denotative' qualities of the film image, enabled it to function like a semiotic system, or to be more precise, "as a language without a system" (Metz 1974, 65).

Everything is present in film: hence the obviousness of film, and hence also its opacity. [...] A film is difficult to explain because it is easy to understand. The image impresses itself upon us, blocking everything that it is not. (Metz 1974, 69)

The issue with Metz's proposition is that it relies on a particular understanding of the film image as denotative, as a kind of direct, unambiguous and self-articulating signifying unit. While Metz's argument has been revised and critiqued, much film theory still follows this troubling trajectory with its reliance on the 'self-presence' of the image: *film appears to operate like a language because the images communicate so clearly; editing services images like syntax, but due to the obviousness of images, there is no need or capacity for a universal code. Editing conventions like 'cutting on action' preference the invisibility of the cut so as to ensure the lucidness of the image. The invisibility of the cut is not really worth discussing since it is practically imperceptible, immaterial, and secondary to the image.* I would like to propose a different route and suggest that it is because of the ambiguity, not the obviousness of images that film communicates so effectively and seductively. Furthermore, this is what contemporary artists actively manipulate when they 'cut on action'.

In taking up the challenge of rethinking filmic meaning, Laura Oswald (1994) proposes the idea of 'cinema-graphia' as a critical and creative possibility for film theory and practice. Drawing on Jacques Derrida's philosophical interrogations of Saussurian linguistics, Oswald essentially shifts the debate from Metz's image-as-speech model, to understanding editing as a form of writing. She suggests that in the various ways they call attention to the constructed or 'written' characteristics of film, 'cinema-graphic' principles can be recognised in the works of Sergei Eisenstein, Jean-Luc Godard, Marguerite Duras and Andrei Tarkovsky (Oswald 1994, 261). As these examples may suggest, for Oswald, 'cinema-graphia' presents the possibility of filmic meaning articulated through the fissures and disjunctions of montage editing. These montage practices revel in the 'non-site' of the splice.

The notion of cinema-graphia locates the question of cinema in the spaces between the terms of the enunciation, with those traces of non-presence variously called the splice, the cut, or the frame [...] (Oswald 1994, 261)

Rather than revert to the obviousness or self-presence of the image, Oswald thus suggests that film editing can enable meaning to be constructed through absence and non-presence. In

actively contesting film's dominant models of seamlessness, cinema-graphic practices preference the non-site of editing; the 'invisibility' of film editing is deliberately opened up to the play of meaning through processes of discordance and difference. In many ways then, we can understand Oswald's model as an extension of Derrida's (1997) broader challenge to the priority of presence running through the theories and practices of representation in Western thought. Struck by the implicit metaphysical assumptions of a unified, self-present relationship between speech and thought, Derrida (1997, 27-73) argued against the supposed coherence of Saussure's distinctions. Instead of situating writing as a secondary practice to speech, he proposed grammatology as a broad model of inscription that actively engages with the processes of spacing, delay, deferral and difference. Oswald's cinema-graphia is the correspondence of grammatology to film practice.

This shift towards a model of film-as-writing, rather than film-as-speech, is important for understanding 'cutting on action' as a creative strategy. While on the surface we are still working with an analogy between images and language, importantly, grammatology provides an understanding of language as a distinctly visual practice. Rather than a secondary, less pure version of oral language, it emphasises the extent to which all writing is essentially hieroglyphic, pictorial and graphic. Hence, Derrida's model provides us with forms of both 'reading' and 'writing', in their broadest possible applications, that stress the impure, multi-media and contingent characteristics of symbolic activity. In many ways then, what Derrida advocates are new modes of literacy that prompt us to read and write in the gaps, splices and edit points of symbolic assemblages. Montage practices that preference discontinuity may appear to make the operations of spacing more obvious, but grammatology also allows us to envisage how seamless strategies have the potential to activate the non-site of editing in more subtle and nuanced ways. Artworks like *Zidane* and *The Clock* cut on action so that we experience the seams between multiple viewing modalities. They combine familiar cinematic strategies with non-cinematic ideas, formats and structures. In *Zidane*, portraiture fuses with the spectacles of cinema and sport. In *The Clock*, cinematic temporality bends to linear clock time. By amalgamating multiple viewing modes, these works encourage us to 'read' and 'write' through the numerous, composite and impure lenses of visual culture. They call attention to the processes of looking and therefore to the often-unacknowledged operations of visual literacy.

There is one final 'turn' to images that helps us more fully understand the importance of these 'composite' (perhaps 'transdisciplinary') creative practices. In many ways, what these and other artists manipulate is the extent to which images and moving images function as simultaneously powerful and powerless; a condition Mitchell (2005, 7) calls a "double consciousness". The danger in Oswald's model is that the non-site of editing seems to allow for destabilisation precisely because of the apparent potency of the image. It is the jump cut's clash of pictorial counter forces that indicates how non-presence and non-identification structure meaning. Rather than yielding to the assumption of pictorial potency, Mitchell

(2005, 34) suggests that the forcefulness of images might, in fact, be a corollary of their implicit impotency. He argues that the self-presence of images is such a strong and enduring illusion precisely because of what images *lack*. We project meaning and attach power to images precisely because of their proclivity to incompleteness, fleetingness, repetition, citation and fragmentation. This is another way to say that images are already edited, and as such, they are articulated as much through absence and misconnection, as presence and connection. Like the supposed ‘obviousness’ of filmic meaning, the image’s claims to self-presence and immediacy are false impressions prompted by our compulsions to fill in the gaps. Our fascinations with images result from their ‘magical’ resistance to discursive resolution and absolute translation that result from their status as already edited, as inherently partial, impure and fragmented (Mitchell 2005, 30-36).

In this ‘turn’ towards pictures, Mitchell deliberately applies Lacanian psychoanalytic terms to the examination of pictorial meaning. By doing so, he incites an analogy between images and desire, and asks us to consider the slightly odd question: “What do pictures want?” (2005) To treat images as if they could want something is to re-imagine them like us, driven by incomplete thoughts, unfulfilled wishes, unpredictable impulses, self-perpetuating habits, misconstrued motivations and varying levels of agency. To think of images in these ways helps us understand their contradictory status as simultaneously potent and impotent, meaningful and meaningless, profound and banal. It also, therefore, helps us more thoroughly question and engage with the contemporary conditions of visual culture.

Whereas models of spectatorship may have once been dominated by reverence and passivity, today the ‘prosumer’ occupies simultaneous roles of viewer-maker, reader-writer. Notions of the image as sacred and self-contained are being eroded by the every-expanding array of images and videos made and remade, posted and reposted, in the new public forums of creativity and critique. These pro-active attitudes to re-edit visual culture demonstrate the tendencies of images to self-propagate, multiply and take on “lives and desires of their own” (Mitchell 2005, 11).

Contemporary artworks like *Zidane* and *The Clock* resist closing off the ‘lives’ of images to narrative resolution, discipline purity or oppositional critique. Images are not simply the materials of these works; they are also the models through which they emphasise speculative and provisional modes of knowledge and understanding. What these and other contemporary artworks ‘lack’ is discursive closure. These works absorb into cinematic and other visual forms to bring us into proximity with popular viewing modalities. By emphasising the multiplicity and composite constructions of these viewing experiences, they deliberately deny conventional climaxes and conclusions. By doing so, they highlight the ways that our experiences are structured by, through and like images – that is, as conditioned through operations of spacing, deferral, multiplicity and lack.

We use images to help us comprehend our lives, and in turn, they appear to take on lives of their own. The relationship is reciprocal and self-perpetuating. 'Cutting on action' may be one analogy, a double-analogy, that helps us understand the ways that contemporary art practices interfere at the seams between subjectivity and visual culture. Instead of rehearsing models of opposition and parody, contemporary artists are subtly interfering in the fuzzy zones between potency and impotency. By holding these forces in tension, they are opening up the seams of dominant culture to unsecured, unsanctioned and unpredictable plays of meaning. If they are at once compelling and troubling it is because they remind us of ourselves. Editing, as an umbrella term for various methods of managing such seams, is a crucial strategy for contemporary creative practice and critical thought. Editing is both the method and the site/non-site through which we might come to more fully grapple with the ambiguities and inconsistencies of images, artworks and ourselves.

REFERENCES

Derrida, Jacques. 1997. *Of Grammatology*. Translated by Gayatri Chakravorty Spivak. Baltimore: Johns Hopkins University Press.

Ford, Tom. 2009. *A Single Man*. USA: Fade to Black Productions, Depth of Field and Artina Films. DVD, 99 minutes.

Gordon, Douglas and Parreno, Philippe. 2006. *Zidane: A 21st Century Portrait*. France and Iceland: Anna Lena Films, Naflastengir. DVD, 90 minutes.

Marclay, Christian. 2010. *The Clock*. Exhibited Museum of Contemporary Art Australia, Sydney. Single-channel video: 24 hours (viewed 29 March, 2012).

Metz, Christian. 1974. *Film Language: A Semiotics of the Cinema*. Translated by Michael Taylor. New York: Oxford University Press.

Mitchell, W.J.T. 1994. *Picture Theory: Essays on Verbal and Visual Representation*. Chicago and London: The University of Chicago Press.

Mitchell, W.J.T. 2005. *What Do Pictures Want? The lives and loves of images*. Chicago and London: The University of Chicago Press.

Oswald, Laura R. 1994. "Cinema-Graphia: Eisenstein, Derrida, and the Sign of Cinema." In *Deconstruction and the Visual Arts: Art, Media, Architecture*, edited by Peter Brunette and David Wills, 248-263. Cambridge, UK and New York, USA: Cambridge University Press.

BIOGRAPHICAL NOTES

Grant Stevens is an Australian artist and academic based in Brisbane. Working primarily with video, but also with sculpture, photography, drawing and installation, his creative practice explores how the verbal and non-verbal ‘languages’ of popular screen culture interface with contemporary subjectivity. He has exhibited widely in Australia and internationally. Stevens received his PhD from the Queensland University of Technology, Brisbane, in 2007. His thesis examined theories and practices of editing in art, film and writing. He is currently Lecturer – Media Arts in the Visual Arts discipline at QUT and is represented by Gallery Barry Keldoulis, Sydney.

The Autopoiesis of Colour in the Age of Machinic Shine

Mark Titmarsh

ABSTRACT

This paper begins by arguing that the enduring mystery of colour has led to an unspoken prejudice against chromatic excessiveness. Yet colour continues to break free of its constraints, it bursts out of the earth and sky in an audacious display of autopoiesis, tempting artists to reveal its power. Colour rather than being seen and calculated, shines out, shimmers and reveals a world in much the same way that thinking does. The ontology of colour and the phenomenon of shine stand apart and are incommensurate with the science of light, the psychology of seeing and the subject of vision. Understood phenomenologically colour makes things manifest by revealing them in their unique presence rather than merely facilitating communication, representation or spectacle. Before colour is seen, before colour can be looked at, colour looks at us in such a way that looking and seeing are provoked. In its ordinariness colour is captured and quantified by the grasp of scientific technical rationality. In its extraordinariness colour demands a certain attentiveness, a responsive lingering on the edge of the visible and invisible. Using Thierry de Duve, David Batchelor and Martin Heidegger it will be shown that these ways of being with colour are enabled by a formal evolution in painting whereby expanded painting addresses everything in the everyday world that carries colour from data screens and plastic utensils to even paint itself. In the process a new kind of language or poetic saying will be developed in an attempt to find another way of talking colour that honours and justifies its uncanny contemporary presence.

Colouring Colour

Colour is a very familiar experience. We are always already immersed in it, but when it comes to speaking or writing colour, something else happens, that is neither colour nor

language. The more we talk about colour the more we talk about language and its limitation at the phenomenal edge of perception.

Because of this, as David Batchelor demonstrates in his book *Chromophobia* (2000), we tend to live in a world of colour prejudices. Prejudices that fall mostly on the side of deeply ingrained cultural taboos against colour, that align good taste and cultural sophistication with a severe restriction on the use of colours. As such the West is inherently chromophobic, equating taste and sophistication with clothes, houses and paintings that are black, white, grey, or brown. This is to be contrasted with chromophilia (Batchelor, 2000, 21) a wantonness of colour that erupts in the excessiveness of the “feminine, primitive, infantile, vulgar, queer or pathological” (Batchelor, 2000, 22). This apartheid of colour is also reinforced by the ancient argument between colour and line, dating back to Aristotle who argued that the “repository of thought in art is line, the rest is ornament.” (Batchelor, 2000, 29) Ever since then colour has been understood as superficial, an ephemeral occurrence on the surface of things, whereas line and the under-coloured is permanent, structural and meaningful.

Despite some of the prohibitions against immodesty in colour, the meaning of the most basic term in this discussion, namely “colour” itself, is poorly understood. The slipperiness of colour has been sometimes held in place by symbolism that ties some colours to specific social purposes and meanings. For example the Sumptuary Laws of Elizabethan England mandated that only royalty could wear purple attire. In the 20th Century, various modern artists attempted to develop a grammar of colour linked to music or emotions. Kandinsky developed a primary polarity of yellow and blue that suggests active and passive perceptual sensations. Johannes Itten a colleague of Kandinsky at the Bauhaus, developed a complex colour theory that linked colours to certain emotions and spiritual states.

Colour is verifiable, it surrounds us at all times, but the words we use to divide the spectrum of colour into functional divisions is quite arbitrary and untranslatable between different cultures and ages. The Inuit supposedly have a vast array of terms for the single colour we call white, the French use brown and purple as interchangeable in certain situations, Russians see two colours where we just see blue, and Hindus don't differentiate red and orange. The

word 'red', or any colour term in any language, has no inherent chromatic value and is only an arbitrary signifier shifting under cultural and historical differences. Colour is there, but it continually slips through the grasp of linguistic possession.

Batchelor cites Plotinus (Batchelor, 2000, 85-86) to show us why. He argues that there is an incommensurability between colour and language because colour is indivisible, there are no breaks in the rainbow, while language is based on divisions and conceptual units that contradict colour's natural tendency to "spread, flow, bleed, stain, soak, seep, and merge." (Batchelor, 2000, 86) The differential between the individual perception of colour, the social experience of colour, and the evolving history of colour terms, has produced a bewildering set of possibilities. At various points physics weighed in as the most authoritative voice, but due to an irresolvable uncertainty between wave and particles theories it has resulted in "one of the worst muddles in the history of science." (Eco, 2008, 178)

Colour as Concept

Colour is a constant challenge to our understanding. It challenges the scientist to quantify light, the thinker to bring colour to language, and the painter to embrace it elementally. It is the indeterminacy of colour in its movement between physical presence and modes of understanding that leaves us with a bewildering array of colour strategies in art. In 20th Century art whenever there was a struggle between concepts as pure idea, unadorned by colour, and perception embodied in colour, idea always won out. Consider the different status of Conceptual Art and Cubism versus Op Art and Fauvism. This goes back to the birth of Modernist principles in the 1910s and 20s with figures like LeCorbusier, an architect and painter, who wrote after visiting Athens,

"I write with eyes that have seen the acropolis,

Oh! Light! Marble! Monochromy!

The Parthenon is somehow beyond colour”

(quoted in Batchelor, 2008, 44)

The polarity of colour and concept is a lingering Platonism that favours the immortal realm of ideas over the temporary and sensuous. (Ranciere, 2009, 71) Colourist artists are usually associated with a kind of anti-realism, breaking with the natural colours of things, to make colour an expressive, affective or formal element as in impressionism, abstraction, and colour field painting. The nature of colour for a colourist changes with time and according to the presence of pigments and how they are harnessed and made available. Before the 20th century colour came from earthly pigments sometimes captured in a tube. Later on synthetic colours were produced in tins and made from laboratory concoctions. Now, in an electronic screen based environment, colour is largely pixel based. The demand for colour in various non-art situations, house paint and industrial surfaces, pushed the nature of art making away from the accurate representation of flesh to the seductive presentation of colour that might compete with the spectacular materials of modern industrialisation. To be a colourist in the 21st Century means thinking colour anew, specifically in terms of the ubiquity of coloured plastics and the plasticity of colour on an electronic screen.

As Batchelor points out the difference between colour in the first two stages is symbolised by the difference between the colour wheel and the colour chart (Batchelor, 2000, 104-6). The colour wheel is historically steeped and scientifically justified in its hierarchies of colour, that rationalise the visible and makes it ready for representation. Whereas the colour chart is a ”disposable list of readymade colour” in a “grammarless accumulation of colour units” (Batchelor, 2000, 104-6) that strips colour free from colour theory and places it in an entirely autonomous zone ready for abstraction. We might take a similar step from the colour wheel through the colour chart to the colour cell, that is, the picture cell or pixel of the video and computer screen. These are the colours of any screen we might use for domestic entertainment, telephony, global location, gaming platforms, video art or media facades.

The pixel that makes up the LCD screen on a phone or the plasma screen that hangs in a gallery is electronically endowed with a colour more intense than any painting could ever be. As Jeremy Gilbert-Rolfe puts it, these kinds of screens

“make the world more than it is, more colourful and more defined offering painting another surface to which to refer brighter than any that preceded it, unimaginably thin, a surface without depth.” (Gilbert-Rolfe, 1996, 14)

What permits the impossible brightness and thinness of electronic colour is plastic itself, the plastic of the surface of the monitor and the plastic components that hold the screen elements together. Plastic, the ultimate technological surface has also become the agent provocateur of colour, transmitting a new kind of colour while also challenging painting to find ever new intensities that can match it.

Structural Colour

In the history of colour, pigments were originally refined by hand from natural materials such as ochre, beetle eggs, flowers and crushed shellfish. Later industrial science and the petrochemical industry produced synthetic pigments that were more intense and not reliant on expensive exotic biomass. Today the colour cell has no origin in material substances at all, shining out from the interior of electronic light itself. The colours of a digital screen have moved beyond the materiality of pigment towards something like structural color. Structural colour occurs in nature without pigment through optical effects such as interference, refraction, and diffraction. It happens when the arrangement of physical structures interacting with light produce a particular iridescent colour such as in peacock feathers, mother of pearl shell, beetle shells and butterfly wings.

Many things today aspire to the condition of structural colour whether it is made of plastic or pigment, whether it is material or electronically immaterial. The challenge is taken up in the laboratory where new synthetic chemicals attempt to reach the colour intensity of a data

screen through fluorescent paint or the integration of LED technology into wearable fibre and building exteriors. As such the electronic monitor and painting reach out to each other through the medium of colour and the format of the screen, alternately embracing and exceeding each other. If Pollock and Newman embraced wide angle cinemascope screens and Technicolour film stock aspired to the intensity of painterly expressionism, then contemporary painting refers to the digital monitor in its luminescence and multimodal forms while small digital screens show complex visual presences mimicing miniature painting and postage stamp design.

This change in the nature of colour involves refiguring the presence of paint and the object of painting itself. The matter of paint in this new environment of colour can no longer be constrained by coloured stuff gathered from a tube, but must also include any object that has been invested with colour such as string, clothing, furniture, cars, data screens and buildings. Similarly the object of painting can no longer be confined by a flat surface but must include works that spread out across space and time encroaching on other media like sculpture, installation, performance and video. Riffing on painting, mixing colour in different painted materials, some things are left out of the painters repertoire, such as brush and easel, and new things are introduced, such as anodised aluminium, coloured smoke, and architecture. These works are not nameable as painting but nevertheless originate within the differential field of colour (Fig 1).



Figure 1, Performance View, Mark Titmarsh, Chromophile, MOP Projects, 2009

In the current situation there is nowhere that colour can't go, there are green stripes on toothpaste as it is extruded from the tube, cars and cleaning utensils have an infinite array of tones, human limbs as well as everything plastic can be injected with myriad colour variations. Wherever colour is, in commodities, on screen interfaces, in experiential environments, painting can take a stand, addressing colour as that which is environmentally all around.

Ontology of Colour

One thing is certain at this stage, colour *is*. Quite literally it appears and has a presence, everywhere. However the nature of its presence has not yet been defined or captured (Derrida, 1987, 169), since it is essentially resistant to nomination (Melville, 1994, 33-48). We have fragile names for colours, but colour itself operates as if it has no name. Because of its inherent slipperiness, colour provokes a series of nested questions such as, how does it present, how is it experienced and how can it be spoken? Colour is interrogated in this way

by science, philosophy and art, but it refuses to respond to the third degree. Until it is approached in the appropriate manner colour offers no answers, only more questions.

Experientially colour rains down from the sky in the warmth of the sun and erupts up out of the earth as raw pigment and the hues of nature. Colour is awesome and ubiquitous in its presence, it is in everything, on everything, everything is shot through with colour, colour shines out from a world of things, and in its shining brings a world into existence. Colour is not a solitary separate thing or event, it is always the colour of something. The whole world is coloured and so to some extent the world is colour. Everything is in colour, colour emerges from the obscure ground of things, it is all around like air, things are always already coloured. In the everyday we are so immersed in colour that it is taken as granted, it becomes unthought, a background phenomenon, until a sunset or work of art shocks us into remembering its uncanny way of being surprising, awesome, astounding. As Michel Haar puts it, “Colours are all at once the ground, ‘the secret soul of what is below’, the surface, and what sublimates the surface, ‘the ideas’, substance, figure, and ‘general harmony’, ‘the life of God’.” (Haar, 1993, 185) Colour is not just seen, it is experienced in depth, through and through. It is an unfolding encapsulation from sensation to perception, to affect, to my sense of being in the world. In this movement from perception to being, “colour cracks open the form-spectacle.” (Haar, 1993, 188) Thus colour is not a spectacle or an element of form, but a necessary precondition to both. Colour is more than my affective or sensory experience, it moves me to a place of ecstatic embeddedness. Through the sensation of colour I am of the world.

Colour, like the act of thinking, can be forgotten and at times must be forgotten, so that performance and experience can take place. One way of remembering the forgotten of colour is through painting. In painting, touching colour as a maker, or being touched by colour as a viewer, is much the same thing. It begins with seeing colour, then really seeing colour, then touching colour, then feeling colour, then knowing colour, then being in colour, then in colour, being.

Colour as Shine

This kind of language is an attempt to find another way of talking colour that honours and justifies the new ways we walk with colour today. I find some help in this process from the

German philosopher Martin Heidegger. Heidegger was not known for his chromatic sensibility despite the fact that he was a personal friend of modern masters such as George Braque and Paul Klee. His writing does briefly mention colour as lighting or shining out, in an ontological sense, without relying on any scientific theory of colour or light.

In “The Origin of the Work of Art” he mentions stone, colour and language as various materials that can be used to set forth a work of art, such that “rock comes to bear and rest; metals come to glitter and shimmer, colours to glow, tones to sing, the word to say. All this comes forth as the work sets itself back into the massiveness and heaviness of stone, into the firmness and pliancy of wood, into the hardness and lustre of metal, into the lighting and darkening of colour, into the clang of tone, and into the naming power of the word.” (Heidegger, 1977, 171)

All these types of work from sculpture, to painting to poetry rest back into a material element. If we try to understand the work by analysing the materiality of stone, metal, colour, tone and word, the material itself simply withdraws. Thus for example “if we attempt a penetration by breaking open the rock, it still does not display in its fragments anything inward that has been opened up. The stone has instantly withdrawn into the same dull pressure and bulk of its fragments.” And similarly with colour, “colour shines and wants only to shine... when we analyse it in rational terms by measuring its wavelengths, it is gone. It shows itself only when it remains undisclosed and unexplained.” (Heidegger, 1977, 172)

It is the work of art that allows us to see the shine of colour as opposed to a more direct physiological and scientific understanding. Art, particularly painting reveals an ontology of colour in which shine and radiance is experienced as “showing self-showing.” (Maly, 1989, 201) The artwork introduces what is undisclosed about colour into the world, while a scientific grasping of colour simply dims it down as explanation or calculation. The shining of the earth through the material of colour radiates through the world as a sense of manifest meaning. “The world stands as the medium through which the shining of the earth distributes itself through relations of significance.” (Mitchell, 2010, 12) Colour as an aspect of earth, presents a radiance that penetrates or ‘juts’ into the world as pure shine or shimmer. Kenneth

Maly describes it as a “shimmering that shines with a certain unsteadiness where it is always at something like a boundary, it can never cross that boundary, even as it is always moving ‘across’ the boundary.” (Maly, 1989, 197) At that point, colour casts an ontological light rather than an optical presence, moving closer to the movement of thought and away from the physiology of vision.

In *The Age of the World Picture (1938)*, (1977, pp 115 – 154) Heidegger develops a post subjective position where things other than humans can have this kind of agency. He argued that Modern humans looks upon the things of the world and represent them as way of understanding them. By contrast, pre-moderns stood in the exact reverse situation, they were looked upon by the things of the world and *apprehended* that very experience.

“That which is, does not come into being at all through the fact that man first looks upon it, in the sense of a representing that has the character of subjective perception. Rather man is the one who is looked at by that which is, he is the one who is ... gathered towards presencing, by that which opens itself. To be beheld by what is, (is)to be included and maintained within its openness...” (Heidegger, 1977, 131)

As such light has the character of the incalculable. It is both the light of our understanding and the shadow that surrounds us as an unthinkable limit, that defies being pictured. Art, and painting in particular, indicates this in its apprehensiveness, in the apprehension of being looked at by colour, caught up in its shine, shining out in the midst of being, an open place where colour, light and meaning occurs.

CONCLUSION

The enduring mystery of colour has led to a scientific muddle, a linguistic aporia and an unspoken prejudice against its apparent excessiveness. Just in case it should overwhelm us in its elemental effusiveness colour is restricted by good taste that equates cultural maturity with a limited palette. Yet colour continues to break free of its constraints, it bursts out of the earth and sky in an audacious display of autopoiesis, tempting poets and painters to reveal, but not capture, its power. The science of colour based on image, mimesis, physiology of the eye and individual subjectivity has somehow missed the phenomenon of colour altogether. Colour rather than being seen and calculated, shines out, shimmers and reveals a world in much the same way that thinking does. This new understanding of what colour ‘is’ is exemplified by

shifts in emphasis from the colour wheel in its rationality, to the colour chart in its availability, to the pixel in its shimmering intensity.

The ontology of colour and the phenomenon of shine stand apart and are incommensurate with the science of light, the psychology of seeing and the subject of vision. Understood phenomenologically colour makes things manifest by revealing them in their unique presence rather than merely facilitating communication, representation or spectacle. Before colour is seen, before colour can be looked at, colour looks at us in such a way that looking and seeing are provoked. In its ordinariness colour is captured and quantified by the grasp of scientific technical rationality. In its extraordinariness colour demands a certain attentiveness, a responsive lingering on the edge of the visible and invisible.

All of these ways of being with colour are enabled by a formal evolution in painting whereby expanded painting addresses everything in the everyday world that carries colour. Expanded Painting, unlike painting, no longer addresses an audience directly, an audience that might validate it through critical and financial response. Instead Expanded Painting addresses a non-human respondent, the medium of painting itself. By analogy, the medium of painting however deconstructed or expanded, has become the entity to 'whom' the work of colour is addressed.

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REFERENCES

David Batchelor, *Chromophobia*, Reaktion Books, 2000

David Batchelor (Ed), *Colour*, Whitechapel and MIT Press, 2008

Jacques Derrida, *The Truth in Painting*, Chicago, 1987

Umberto Eco, "How Culture conditions the Colours we See" in David Batchelor (Ed), *Colour*, Whitechapel and MIT Press, 2008

Jeremy Gilbert-Rolfe, "Cabbages, Raspberries and Video's thin Brightness, in *Painting in the Age of Artificial Intelligence*", *Art and Design*, Vol 11, No 5/6, May June 1996

Michel Haar, 'Late Merleau-Ponty's Proximity to and Distance from Heidegger', in G. Johnson (Ed) *The Merleau-Ponty Aesthetics Reader*, Northwestern University Press, 1993

Martin Heidegger, "The Origin of the Work of Art," in *Basic Writings*, New York, Harper & Row, 1977

Martin Heidegger, "The Age of the World Picture" in *The Question concerning Technology*, Harper, NYC, 1977

Kenneth Maly, "Imaging, Hinting, Showing" in *Kunst und Technik: Gedächtnisschrift zum 100 Geburtstag von Martin Heidegger*, Frankfurt, Klosterman, 1989

Stephen Melville, "Color Has Not Yet Been Named: Objectivity in Deconstruction," in Brunette and Wills (Eds), *Deconstruction and the Visual Arts*, Cambridge Uni Press, 1994

A.J. Mitchell, *Heidegger among the Sculptors*, Stanford, Stanford Uni Press, 2010

Jacques Ranciere, *Aesthetics and its Discontents*, Cambridge, Polity Press, 2009

Hangin' on the Telephone

Darren Tofts & Lisa Gye



<http://www.secretprehistory.net/?p=272>

The image seems innocuous enough. Ireland's Ronnie Delany stands over a fallen John Landy at the dramatic conclusion of the 1500 metre final in Melbourne in 1956. An iconic expression of the Olympic spirit, the image captures the wrenching disappointment as the gutted favourite is consoled by an unlikely victor. The image's studium is straightforward, sport photojournalism witnessing a moment of completion, the realisation of the promise of a

winner and loser. The detail that punctuates and disrupts this generic effect is literally a distraction from the central detail, as you need to stray into the crowd observing the scene for it to exert its effect. The punctum here is a sensation of the uncanny, an anachronistic impossibility. It is the image of a man apparently talking on a mobile phone at a time when television had only just been introduced into Australia (and selectively at that) and international direct dialling was still two decades away. This image is part of a Melbourne Olympic Games memorabilia display at the eponymous Olympic Hotel in Preston, a northern suburb of Melbourne.

In itself the image, while a curiosity, doesn't amount to much. It has the same *mondo-cane* style sense of weird novelty, like Erik Von Daniken's astronauts glimpsed in Inca rock carvings, the flight paths for extra-terrestrials on the Nazca plane in Peru, crop circles in a Wiltshire barley field or images of Christ or the Madonna in vegemite toast or a Big Mac from Mexico City. In critical remix, the found object is certainly not enough. An act of counter-denotation is required to alter the morphology of the image, to translate it into something else, something it was never intended to be, nor could have ever been, but can become. When the image can become a different iteration of itself, it is always already an image of someone using a mobile phone. Like anagrams, which generate lexical variation within a finite set, linguistic denotation must also, and at the same time, be a *detonation*, an explosive reprogramming of the image's semiotic DNA. This is what we set out to do with the *Secret Gestural Prehistory of Mobile Devices* project, to seek out other images like the one found at the Olympic Hotel.

Morphology

What if the semiotic DNA of an image could be recoded, interfered with, to irresistibly alter that contract, to supplant the image's noeme? What if the accidental, the whimsical or indeed wilful misprision could transform the unlikely into the only possible meaning? This means nothing short of short-circuiting the semiotic contract of the image as a supplement of and for the real. Within critical remix, the metaphysics of the real yields to that of the unreal, the fabulatory insinuation of a real in excess of the real, the prescient announcement of a real yet to come that, after Borges, needs only to be possible for it to exist. What we want to describe here is a morphology of this shift in a selection of indicative images from *The Secret Gestural Prehistory of Mobile Devices*. As we described in the *Secret Gestural Prehistory* blog, the

visual archive foreshadows the “psychopathology of unconscious gesture in search of a purpose... (the) unconscious of contemporary media culture's obsession with the occupation of the hands. It is a familiar, too familiar gestural ergonomics, a bodily pantomime imagining an indispensable, intimate apparel that has modified the body's relation to itself and remote others. At times this seems ordinary, in the form of a glancing touch of the ear, a casual glimpse of one's own hand. Yet it can be uncomfortably distorted, a contortion of ear and shoulder reminiscent of the arthritic malaise known as St. Vitus' Dance. Or an obsessive flailing of the hands while talking to oneself, as in certain pathological forms of mania and hysteria. These images are suggestive of gestural rhythms that synchronize the hand, the ear, the eye and the mouth. In this they foreshadow the potential media that will, in time, resolve these postural gestures into a meaningful function: the immediate and continuous communion with unseen and absent others” (Tofts & Gye, 2010).

Literal

With many images in the archive the caption is not necessary to set off a semantic chain reaction or interference of the image's semiosis. Some have a convergent and suggestive immediacy that brings to mind gestures that have become part of the technologically modified body. These are suggestive of the pleasant aesthetics of coincidence. The 1976 photograph of two women in a Manhattan jewellers, for instance, is for us an indicative image of the techno-mediated body. The older woman in the background cradles an analogue handset between her left shoulder and ear that in a weird way is more contemporary for us perhaps than that of the woman in the foreground whose gesture resembles a pre-mobile ergonomics, even that of an ironic “I'm talking on the phone” pantomime.



<http://www.secretprehistory.net/?p=642>

This is for us the heraldic *mise en abyme* of the entire project. It is an image, in miniature, of the expansive journey of postural distortion suggesting the becoming-media as intimate apparel associated with the vectors of mobility. This was something of the response we had when the *Atlantic Monthly* ran a feature on the project in 2010 (Madrigal, 2010). One of the many blog discussions that followed included a comment on the image of a guy jogging in Central Park in 1976: “this guy really looks like he is rocking an iphone”.



<http://www.secretprehistory.net/?p=640>

Here too is the intuitive, becoming third nature of the seamless punctuation of immediacy by mediation, of doing something, in this instance, jogging, that not so long ago would require a more elaborate and labour intensive rupture of the event; a definite pause, stop jogging, go to a phone booth, have a conversation, resume jogging.

Here the two actions are co-existent: the seamliness of different things are seamless, as in a suturing or stitching together of separate and even discordant elements. Here, to borrow from Derrida, is an aphoristic counter-time. Paul and Linda McCartney visit Bill Wyman backstage at a Stones concert New York in 1978. The mediated countenance of both Linda and Paul distract the eye and the ear respectively, suggesting something, perhaps, of the quality of their company (the caption for this image reads “Bill basks in self-congratulation, knowing that at least two people bought, or at least have seen *Stone Alone*. Its influence exceeds his expectations as Paul McCartney brings a new inflection to ‘the look’”) (<http://www.secretprehistory.net/?p=315>). The idea of the “look” was developed early on in the history of the project, to capture anachronistic, pre-mobile gestures that would not emerge till the end of the century but seem to have been anticipated in Swinging London. For instance, Students, University of Sydney, 1969.



<http://www.secretprehistory.net/?p=615>

This is accompanied by a literal caption describing what is familiar to us via the “look”, but also of the social displacement associated with mobility. The kid is there but not there, present, but absent; the familiar punctuation of the social by a tacitly accepted multi-tasking of orality and literacy, of talking and texting.

Another example, Melbourne University Student 1967, unwittingly adds a nuance to the idea of the academic Trivium: grammar, logic, rhetoric, banality.



<http://www.secretprehistory.net/?paged=10>

Here we see at work the notion of performative utterance per se, simply for the fact of its possibility wherever, whenever. “Whatever, whenever” sounds like a patented slogan for a telco/mobile phone dealership. It’s no accident, of course, that Sadie Plant’s notion of “enforced eavesdropping” was coined in relation to a Motorola-commissioned study of mobile phone use in 2001) (Plant, 2001). The cultural critic Mark Dery wrote an eviscerating 2010 essay on the same topic called “The Age of Always Connect”, in which he described the pathogens of over-sharing and the implicit death of shame that comes with it as the psychopathology of our mobile times. The essay is a cautionary tale about the allegorical aspects of mobility explored in the *Secret Gestural Prehistory* images, the double-headed hydra of mediated solipsism (the silent fixation on screens that makes “solitude portable”) and the unwanted broadcasting of privacy (“the stranger with the headset, chattering blithely about her irritable bowel as she elbows past you at the supermarket meat counter”) (Dery, 2010).

The doxa of certain physical contortions and gestures to do with cradling a phone to the ear while carrying two bags of shopping and opening a car door is now so imprinted on the

psyche that when we look at historical images it seems, uncannily, to be the only possible explanation, even in the event of its impossibility. A group of students in Tel Aviv in 1968 sit talking in the sun. The caption, “Yet another early instance of cervical spine dysplasia” pretty much says it all, as well as referring to another image in the blog that it self-consciously cross-references.



<http://www.secretprehistory.net/?p=610>

The contortions of telesthesia range across class, anonymity as well as celebrity. Two shots of John Lennon captured during the *White Album* sessions in 1968 reveal a new locution of the body to do with a new medium, that finds a new use for the body akin to the becoming prehensile of the thumb in primates on the way to lighting fires (<http://www.secretprehistory.net/?paged=8>).

Or putting out fires, as in the case of a group of protestors in Saskatchewan in 1979. The caption underlines the point: “Citizens of mixed heritage (metis) denied the status of ‘treaty

Indians' blockade the entrance to a national park in Regina, Saskatchewan. Reinforcements will soon be on their way".



<http://www.secretprehistory.net/?p=145>

The anonymous image of a sheep farmer in the Wimmera in the 1940s similarly engages quite self-consciously with a mobile narrative: "Checking the latest bale prices from Dalgety. The loyal heeler awaits the resumption of his master's voice".



<http://www.secretprehistory.net/?p=12>

And fittingly, trend-setting teenagers in Australia in 1974 proved once again that the antipodes is a relative concept, as a bunch of Melbourne sharpies prove that *The Coloured Balls* and Conte cardigans were not the only thing on their minds (<http://www.secretprehistory.net/?p=256>).

Relational

Ostensibly a writing project, *The Secret Gestural Prehistory of Mobile Devices* tactically juxtaposes captions with images to generate a composite meaning that suggests an alternative to what we are looking at. The suggestiveness of the relations between text and image is crucial, since it enables a dramatic, rather than didactic engagement between viewer and image. The moment of realisation, of seeing something that might not have been immediately apparent, is akin to the generative force of a Joycean epiphany, the sudden manifestation and radiance of, in this instance, the unexpected *quidditas* or whatness of a

thing. This was very much the motivation behind the caption for the image of an unnamed archaeologist in 1908: “One can only wonder if the classicist Eric Havelock drew inspiration from this image while writing his *Preface to Plato* (1963).



<http://www.secretprehistory.net/?p=232>

It is indeed a fitting emblem of his ‘silent revolution’”. The caption not only frames the image, but re-defines it. As in this image of Andy Warhol and Mick Jagger from the early 70s: “At first appearance this image suggests that Andy has clearly had enough of Mick’s relentless talk about himself. A closer reading reveals Mick’s displeasure that his friend prefers the company of others not even in the room” (<http://www.secretprehistory.net/?p=304>).

The relational aesthetics at work here seem to be perhaps always *in potentia*, as Aristotle would have it, in relation to photographic imagery. What we were surprised to find, though, was how potent this dramatic relational aesthetic was in relation to the rich and varied history of visual art. It would seem that the unconscious becoming of mobile ergonomics has always been part of the Western imagination at least. One may not be surprised, then to encounter during the Renaissance such an image of technological innovation, as in Botticelli’s “Three Miracles of St. Zenobius”, from 1500-1505. The rather droll caption, “The fourth, unforeseen miracle in this image would only become apparent several centuries later”, is

deliberately dramatic, in the Aristotelian sense, in that it prompts the viewer to seek out the fugitive image of the miraculous.



<http://www.secretprehistory.net/?p=300>

Even the imagination of the late middle ages seems to have been preoccupied with the unconscious lure of a modernity to come. In Bosch's 1475 "The Cure of Folly", the allegorical image of folly that is central to the image, when detonated by the caption, re-wires the image in such a way that, once seen in this light, is difficult to see in any other way: "Medieval allegory bespeaks a folly to come, in the form of grandiloquent banality. Researchers at the University of California (Davis) recently identified a previously unknown Latin inscription in this image, discovered from X-Ray analysis of the book teetering on the nun's head (historically taken to be an image of folly). The text, "Non ultum. Quis es vos usque?" roughly translates as 'Not much. What are you up to?'"



<http://www.secretprehistory.net/?p=298>

Narrative

The centrality of a meta-narrative of “the look” to the history of modernity became a recurrent theme as the project evolved. This was irresistibly suggested by a Eugene Atget portrait of a vernacular street scene in 1900: “Eugene Atget unwittingly captures an image of an unforeseen expression of literary modernism in the streets of *belle époque* Paris” (<http://www.secretprehistory.net/?p=179>). Again, this is where the caption, as a micro-narrative, re-writes the image in the diegetic process of the telling. A 1967 image of the Velvet Underground in situ at the Factory focuses attention away from John Cale, who seems to be the focal point of the shot, on to Paul Morrissey in the background: “At the Factory with Andy’s latest find, The Velvet Underground, collaborator Paul Morrissey has tuned in and turned on. With a discreet turn of the head John Cale senses what is happening and is keen to succumb to the new habit” (<http://www.secretprehistory.net/?p=306>).

In an image of Warhol and Jonas Mekas from 1965, the banality that Warhol made famous in his signature utterance of “gee” seems to be the downplayed, underwhelmed vibe of the image’s portent of a banality to come (<http://www.secretprehistory.net/?p=308>).

And of course we all learned to love the alien during the 70s. Ziggy not only played guitar, was well hung and snow white tanned, but he also blew our minds (<http://www.secretprehistory.net/?p=72>). Images such as this one (and there are many others like it) almost preclude the need for a caption; the relational situation of the image under the rubric of something called *The Secret Gestural Prehistory of Mobile Devices* is sufficient to make the it bristle with an impossible echo of a past-future tense. The strategy of the double-take, the invitation to look again, was also a key to the tone of the captions, as in this image of John Lennon in Hamburg in 1962: “Rare image of John Lennon distracted during a performance at the Kaiserkeller Club”.



<http://www.secretprehistory.net/?p=68>

Other images irresistibly invite a more mischievous approach to the relational intimation of a hidden narrative to be discovered. In such examples a more expanded and ponderous approach to the writing was required. An unidentified man at a picnic in Madeira in 1959. If the punctum doesn't find you, the caption prompts you to be more responsive to its possible call: "The *Echium candicans syn fastuosum*, not to mention Malvasia, Terrantez and Verdelho may well be known throughout the world. Here we see the innocuous, vernacular potential for a new Pride of Madeira".



<http://www.secretprehistory.net/?p=138>

Similarly, the image of a group of young Italian lace makers in 1959 is irreversibly short circuited by a rather oblique caption: "Dating back to 1530, *Lo Giuoco del Lotto d'Italia* (more commonly known as Bingo or "Housey Housey") was the first known instance in

Western culture in which participants observed the call to ‘eyes down’. These young Italian women respond to the irresistible call of another”.



<http://www.secretprehistory.net/?p=136>

This project, and others like it, discipline their objects into loose coalitions that only hold together as long as they are held together. In this case, the detonation that reprograms the image is temporary and will only last as long as it is remembered by the viewer – who will often actively seek out their own sample to add to the mix. In this sense it fits with Ted Colless’ description of the “trans-” which he argues suggests “drift and errancy, as disciplines cross each other with the eventful possibility of collision or collusion but without the eventuality of their consensus” Colless, 2011).

In the spirit of critical remix, it is appropriate to conclude by speaking through someone else, in an act of remixological ventriloquism, as Mark Amerika would have it: “This transit of disciplinarity is itself unsettled by an etymological alternation between being a passage ‘across’ states (a transfer that doesn’t lose its sovereignty or citizenship) and an extensive

vector 'beyond' states, but into nothing. This transit implied in the transdisciplinary is, then, a freedom of movement only in the most negative sense: of dispersal and dispossession of properties, of annulment— a crossing over but without merger, without decision, without profit, without any positive value. It is an eclipse” (Colless, 2011).

REFERENCES

Colless, Ted. “Transdisciplinary aesthetics: An occultation and occultism”, 2011, <http://blogs.unsw.edu.au/tiic/leaf/leafwire/darren-tofts-being-indisciplined/leafisea/edward-colless-transdisciplinary-aesthetics-an-occultation-and-occultism/>.

Dery, Mark. “Always connect”, 2010, <http://markdery.com/?p=118>.

Madrigal, Alexis. “Cell Phone Users Through History”, *Atlantic Monthly*, November 10, 2010, <http://www.theatlantic.com/technology/archive/2010/11/cell-phone-users-through-history/66363/>.

Plant, Sadie. *One the mobile: the effects of mobile telephones on social and individual life*, 2001, http://books.google.com.au/books/about/On_the_mobile.html?id=DWcEAQAIAAJ

Tofts, D & L. Gye, *The Secret Gestural Prehistory of Mobile Devices*, 2010, <http://www.secretprehistory.net>.

Transdisciplinary Form and Production: Reflections on Translation, Embodiment and Mobility (through *Alma Mater*, 2011).

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INTRODUCTION

This paper is the result of an emerging collaboration and performed series of dialogues, through the everyday, mobile, practice-as-research explorations of colleagues in a performing arts/art school setting. The collaboration itself is an imagining of transdisciplinary research. This written articulation of our initial explorations is now in its third iteration. It began with two conference papers that were performed in parallel (almost), across two countries and two hemispheres on the 23rd of June 2012 - where Robert Walton began the papers at the University of Melbourne, and some 9 hours later James Oliver completed the presentation at The University of Chichester, UK.¹¹³

This on-going, iterative and conceptual ‘journey’ of collaboration therefore operates across a practice of transdisciplinarity - between forms of theatre, live and visual art, and between a theatre maker and an artist-anthropologist - with particular reference here to *Alma Mater* and mobile performance. As a research collaboration it is an interrelation and imagining of the exploratory potential, and practice of, the value of embodied *translations* being engaged in our practice-as-research exercise.

To borrow from Jon McKenzie (2001), there is already a ‘liminal norm’, and increasingly so, in terms of the crossing of disciplinary thresholds of practice, between art and technologies and of becoming ‘in-between’ and being ‘mobile’ with practice. This is now a *form-of-norm*, evident in much contemporary and live-art practice (see Wilkie 2012, Wilson 2012). Building on these developments, our contextual approach to the transdisciplinarity highlights the

¹¹² This joint publication brings together a theatre, live-art and performance practitioner, who has a background in ICT (Walton); and a cross-art-form artist-researcher with a background in anthropology (Oliver). Both practitioners are migrants to Australia.

¹¹³ Robert presented the original paper at The Transdisciplinary Imaging conference, The University of Melbourne, 22-23 June 2012, as *Disrupting The Gaze: Transdisciplinary Reflections On Mobile Media And Theatre Production, Through Alma Mater (2011)*; James presented a paper at the Somatics and Technology conference, The University of Chichester, 22-23 June 2012, as *Domesticating Performance in the Digital Age: Alma Mater (2011)* and the *Using Mobile Video in Theatre-Making*

process of *embodied translation* in art practice, towards a form(al) outcome - through collaboration and/or participation - and how the practice that leads to such form(ation)s can also be research.

It occurs to us that this *translation* is further evident as immanent in process, where transdisciplinarity is also a mode of disruption and interruption towards a reimagining of practice, and not a remediation towards an established form, or indeed a renaming in a different language. This connects back to a certain in-between-ness quality in transdisciplinary practice, and how we then reimagine form as a re-presentation of practice, and practice as a form of research. These questions of practice and form can be achieved in multiple ways; for example, in our case the context is to consider mobile, itinerant theatre practice, and particularly through adaptation with new technologies.

But to what end? Is it for the sake of form alone, or is it the relationship between forms and their practices (their formations)? Is it how they are influenced by (or influence) embodied socio-cultural and technical relations? If so, what are the ‘structures of feeling’ and meaning associated with practices of embodied, transdisciplinary translations in these formations and relations (cf. Williams 2005 [1980], Read, 1993)? These are somewhat ambiguous questions at the start of our collaboration, but, importantly, we discern them to be important, innately reflexive starting points for a first-stage reflective practice, even before pushing for an iterative, reflexive creativity from practice. To further borrow from Raymond Williams, these questions are, ‘crucial everywhere in art but in drama always and especially central and evident,’ (Williams 2005 [1980]: 164).

In short, our exploration here is preliminary to further engagement with such questions, towards developing a practice-as-research collaboration. This paper largely serves as a provocation for reflection on arts practice as a possibility for a disruption of arts practice, as it engages with the world, the everyday. In this sense, this is where we can return to the relevance of the in-between, and a *translation* towards *transdisciplinary* practice, and as a reflexive move towards practice as a form of (becoming) research.

Work in context - *Alma Mater*

Following from above, we now wish to reflect on the internationally toured work *Alma Mater*, created by *Fish and Game*¹¹⁴. This paper addresses two particular points relating to this volume’s theme of Transdisciplinary Imaging. *Alma Mater* has been defined as a ‘filmic

¹¹⁴ Robert Walton and Eilidh MacAskill

tour for one' that uses mobile high-definition video with high-fidelity original music to create an artwork that sits between theatre, film and installation. Individual audience members enter a specially constructed, full-scale child's bedroom to immerse themselves (via iPad) in the world of a little girl in this handheld, 21st century fairy tale.

You can view a range of videos of this project here:

<http://www.fishandgame.org.uk/?portfolio=almamater>

The artwork consists of a 20-minute silent film with a complementary musical soundtrack screened on an iPad, and an exact replica of a set of a child's bedroom, complete with bed and stool. The audience member holds the iPad and wears noise-cancelling headphones throughout the piece while the film is played back. Beginning at the door to the bedroom, the film depicts movement through space that the audience member is encouraged to replicate. In this way the movement in the film causes the audience member to recreate action that took place in the room and encounter characters that were also once present there. Over the 20 minutes of the piece the audience member interacts with the room by changing their position and sitting on the stool or bed. The audience member is completely alone in the room and may choose at any moment the level of precision and extent to which they will recreate the movement; some people choose sit still and not engage physically while others become fixated on aligning the iPad to the shots very precisely.

Alma Mater exists in the meeting of the film on iPad with the audience member in the space where the film was shot. Removing any one of these axes renders the work incomplete, and so it is in this sense that it is performative, only gaining traction in reality by the act of its doing. Screening the film out of the context of being alone in the exact replica of the room is not the how the work was intended.

Translation, Embodiment and Mobility

Two participatory technologies in *Alma Mater* seek to present authoritative interpretations of the work, and by extension, the world. The first and most obvious of these is the iPad, which informs visual and sensorial perception of the ostensibly 'blank' reality of the second technology, the child's bedroom. The embodied experiences of these technologies, as spatial translations, operate across the work's dramaturgy on two levels: *synchronically*, for each moment, the participant is provided an image and relating sound that correspond to a physical position within the room; *diachronically*, over the period of the piece, the participant is

provided with a dramaturgical, narrative and physical path that leads them from beginning to end.

iPad

At the beginning of *Alma Mater* the images presented on the handheld iPad are very similar, almost the same, as the participant's point of view of the physical objects in the room. Over time, the room and film realities diverge. While the participant continues to follow the movements of the camera around the 'blank' room, characters enter the filmed reality and begin to introduce new objects. This divergence continues until the filmed world, controlled by the characters of the fiction, has been completely decorated with the specific, and 'realistic' objects that populate it.

It is in this divergence that a hierarchy of mutability is established that prioritises the reality afforded by the iPad, which has the capacity to transform faster and more fully than the temporal landscape of the physical room the viewer is in. There is disruption. One is initially aware of the offer of seduction, but remains cognisant that the embodied meeting of *this* film in *this* space, that is to say, a previous reality of the space with the one currently being experienced. There is the experience of both realities simultaneously but to fluctuating levels of affect and presence. The participant spends increasingly less time examining and exploring the tangible reality of their immediate corporeal circumstances within the actual bedroom. Increasingly, more attention is paid to the iPad's fictional reality than to the ever-receding memory of corporeality and awareness within the blank room. In *Alma Mater* this flight from the real and advance into fictional or dream space, creates the palpable sensation of being drawn in, or as Michael Fried puts it, 'absorbed' (1980). One remains bewildered by the embodied meeting of *this* film in *this* space, at *this* time. It is in this sense that *Alma Mater* approaches the phantasmagorical, a momentary in-between-ness, a fleeting occupation of translated embodiment.

In *Alma Mater* a character will turn and look directly at the camera, therefore directly engaging the viewer in a mutual gaze. In this moment the participant is implicated, and translated, in the act of performing at the axis of two worlds. They are performatively present, where the subjective 'I' is reflexively re-articulated: *I can see her through this screen, can she see me? Is she a ghost in my world, or am I a ghost in hers?* We are at a threshold of embodied consciousness, in between the perceived world and the conceived world.

In alternative examples, as the subject-participant is translated through the disruptions in the piece, it becomes clear that they are in the ‘wrong’ place at the ‘wrong’ time, through choice, design or mistake. The participant can also chose to look away from the screen at any point. In these moments of frisson with the insinuated desire for seamlessness between worlds, the dominance of the iPad is undermined, however briefly, and corporeal agency within the room erupts once more. The spell is broken; the dreamer awakes.

The child’s bedroom

Alma Mater’s set is the replica of a child’s bedroom, and is the second participatory technology that seeks to present an authoritative interpretation the world in this analysis. Although the outside of the box remains unfinished and clearly a fabricated set, stepping into it gives rise to the irresistible belief that one is in an actual child’s bedroom, however blank and simply it is decorated. This is achieved by the combination of complimentary signifying objects, (skirting-board, floor boards, window and door mouldings etc.) that working together delimit the possible readings of the space through what Aston & Savona (1991) refer to as a ‘redundancy’ of signs all reinforcing the same representation of reality. In this way we are seduced into believing that, like we are with the majority of the architecture of domestic space, we are in a home like any other. And with this evocation of the house and home it is possible to situate the audience’s experience in what is perceived to be a *real place*, as opposed to an abstracted *any space*. It is this irresistible belief of specific placement within a real room that imbues involvement in *Alma Mater* with what Bachelard terms the ‘fundamental value’ of ones earliest experiences of ‘imagination augmenting the values of reality’. (Bachelard 1994: 3)

Bachelard suggests that the child’s burgeoning sense of reality accrues from the experiences of solitary daydreaming in her or his specific home, a sanctuary from the world. At this early stage it is inescapable and essential that the presented reality of the domestic room is accepted as reality. And in so doing the imagination of the space becomes indelibly combined with the physical experience of it. From this point onwards into the rest of our lives we are forever held between our actual physical reality and our imagination of reality - encompassing that relationship between lived, perceived and conceived worlds, cf. Lefebvre (1991), or as Pink (2009) describes as ‘sensory emplacement’.

So upon entering *Alma Mater’s* set, the solitary participant compares this room with all rooms, and specifically to all bedrooms, from which her earliest memories, dreams and conceptions of herself issue. The voyager through the piece becomes an involuntary topoanalyst. Bachelard captures this nostalgic sense of wonder in recognising space in the following short passage:

And so, faced with these periods of solitude, the topoanalyst starts to ask questions: Was the room a large one? Was the garret cluttered up? Was the nook warm? How was it lighted? How, too, in these fragments of space, did the human being achieve silence? How did he relish the very special silence of the various retreats of solitary daydreaming? Here space is everything, for time ceases to quicken memory. (Bachelard 1994: 9)

The set, even without the iPad, causes the audience member to react to their conception and memory of their childhood bedroom. The bedroom is clearly enough that of a child, yet plain enough to initiate a sense of oneiric (that is to say absent-minded dreaming while awake) association specific to each audience member. Initially only a small amount of detail is needed to begin the process of nostalgic association, as the participant will creatively augment the blank reality with imaginative detail as Bachelard suggests, ‘All I ought to say about my childhood home is just barely enough to place me, myself, in an oneiric situation, to set me on the threshold of a day-dream in which I shall *find* repose in the past.’ (*Ibid*: 13) And it is within this extended, liminal threshold that *Alma Mater* operates between unstable realities and in-between-ness. It draws upon the concept of the house and home which Bachelard aimed to establish as ‘One of the greatest powers on integration for the thoughts, memories and dreams of mankind.’ (*Ibid*: 6).

Notes on Interference and Inference in Translation

The imprecise alignment of two representations of the same reality also gives rise to interference in embodied translations. *Alma Mater* prescribes a stricture that often requires the participant to attempt this impossible alignment. This gives rise to conscious renegotiation of the terms of engagement within the body of the participant in physical space. In each of these negotiations the participant must decide whether or not to continue to play the game and follow as the stricture dictates, or instead to break the ‘rules’.

The film on the iPad is a continuous flood of constructed images. The screen can be negotiated, by glancing away, but the sound delivered through the headphones cannot. The film’s images and sounds seek to augment the participant’s reality, more, it seeks domination over space. This elicits a critical consciousness of a mode of being, where the embodied translation of lived experience confronts the power of the cognitive over material practice, and the power of the symbolic realm. This is also an example of Lefebvre’s (1991) ‘spaces of representation’ in action (where lived sensory experience informs material and cognitive relations).

The iPad establishes such a requirement of stricture, asking of the participant too much, and more than is possible within the confines of the room, and so it is inevitable that the audience experiences a moment of rebellion when they choose to drift into their own way of doing things. In that moment they alter the power relation within the work and become led by their own senses like in Debord's *Situationist* conception of the *dérive*. This shift interferes with the domination of the theatre as a 'representative space' of institutionalised behaviours, promoting instead a social 'spaces of representation' (Lefebvre 1991).

Alma Mater's stricture also demands that the participant place their body in relation to the shot presented in the film. How then does the participant deal with moments of editing in the film, the cuts into action? The desired imperceptible seamlessness of the cut into action in normal cinema becomes a major rupture, or interference in *Alma Mater*. An editorial cut into action is impossible for the viewer to achieve, and therefore becomes a literal cut in the otherwise fluid action of their traversal of the set.

Finally, the iPad invades the hallowed domestic space of the bedroom that is set apart from the world as a sanctuary preserved for dreaming. A fear might be of the interference of the iPad in the process of dreaming, by providing or even replacing the dream image. Yet as the mode for engaging with reality is forged in the meeting of the physical space and the imagination of the child, all subsequent additional objects and screens must subscribe to this fundamental framework of apprehension. The reason the iPad is so seductive is because it engages with us in an oneiric mode, reminiscent of Bachelard's memory of his garret or attic room. Instead of being opposed to this state of sense making and apprehension, which it can never be a threat to, the iPad draws upon the house's success, and becomes a portable abstraction of our 'corner of the world' and our 'first universe' (Bachelard 1994: 4). Building on Bachelard's claim that 'The normal unconscious knows how to make its home everywhere', we now do not need to be within the house to precipitate the sanctuary of the oneiric state, we just need a symbol of it. Thus we have the iPad as a portable, imagined, private home outside of the body, it is our childhood bedroom dreamscape that we can carry with us, it is portable solitude.

Spatial Translation and Transdisciplinary Practice

And all the spaces of our past moments of solitude, the spaces in which we have suffered from solitude, enjoyed, desired and compromised solitude, remain indelible

within us, and precisely because the human being wants them to remain so. He knows instinctively that this space identified with his solitude is creative; that even when it is forever expunged from the present, when, henceforth, it is alien to all the promises of the future, even when we no longer have a garret, when the attic room is lost and gone, there remains the fact that we once loved a garret, once lived in an attic. We return to them in our night dreams. These retreats have the value of a shell. (Bachelard 1994: 10)

Such ‘structures of feeling’ and affect as highlighted above point to the sensory dimension of understanding space. There is a lived human aspect in spatial constructions and translations, as already suggested with our concept of *embodied translation*, in a transdisciplinary and participatory project such as *Alma Mater*. The experience of *Alma Mater* can be given a spatial translation, such as with Lefebvre’s (1991) spatial triad, on the articulation of the mutuality of perceived/physical space, conceived/mental space and lived/social space. For Lefebvre, this is a means to counter the hegemonic power of conceived space, what he calls *Representative Space*, relating to the power of ideas and the symbolic.

Adapting his model, a spatial translation (or triad) for us helps clarify our notion of *embodied translation* as a form of transdisciplinary practice. So, in its doing, *Alma Mater* articulates a particular combination of the participant’s (lived) experience of coming into being in their own childhood home (as with Lefebvre’s lived/social *Spaces of Representation*); within the blank set of the room, guided to move by the film and music on the iPad (as with Lefebvre’s perceived/physical space of *Spatial Practice*); with the iPad this becomes a directed, exploratory, oneiric reverie through the staged bedroom, and so to all bedrooms and all dreams (as with Lefebvre’s conceived/mental space of *Representative Space*). The specific subjective relations and mutuality of these overlapping spaces are, crucially, also to be understood as embodied and emplaced. This is significant to each individual participant in *Alma Mater*, as theirs is the only life in the bedroom, and they become the re-centred site of the work, an *embodied translation* of a situated imagination and experience.

Alma Mater is a ritual that performatively enlivens and foregrounds the embodied experience of topoanalysis that gives rise to the participant’s nascent ability to enter an oneiric state of imagination in a waking dream: a translation. And like in a dream, the participant is the central protagonist and interlocutor, physically engaged in each moment of the chain of events as they unfold: an *embodied translation*. However, she has no choice or agency in the given circumstances of the dream, only whether or not to stay engaged or try to wake up.

In conclusion, as a reflection on a transdisciplinary form, production and imagining of practice, this paper is a proposition on a new research project. It sets the scene for the further

explorations and questions we propose – on using the body and other (new) media, in spatial relations, as a way of addressing questions of practice and its social, cultural and technical formations. To explore embodied translations and what is possible through a practice engaged with the representation and experience of the everyday, of community, of home.

REFERENCES

Aston, E. and Savona, G. (1991), *Theatre as a Sign-System*, London: Routledge

Bachelard, G. (1994) [1969], *The Poetics of Space*, Boston: Beacon Press

Foucault, M. (1991) [1975], *Discipline and Punish*, London: Penguin

Fried, M. (1980), *Absorption and Theatricality*, Chicago: University of Chicago Press

Lefebvre, H. (1991), *The Production of Space*, Oxford: Blackwell

McKenzie, J. (2001) *Perform or Else*, London: Routledge

Read, A. (1993), *Theatre and Everyday Life*, London: Routledge

Williams, R. 2005 [1980], *Culture and Materialism*, London: Verso

Wilkie, F. (2012), 'Site-specific Performance and the Mobility Turn,' in *Contemporary Theatre Review*, 22:2, 203-212.

Wilson, J. A. (2012), 'When is a Performance: Temporality in the Social Turn,' in *Performance Research: A Journal of the Performing Arts*, 17:5, 110-118.

