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Su Ballard
University of Wollongong, sballard@uow.edu.au

C McCaw
Otago Polytechnic, New Zealand

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Article

EMBEDDED ECOLOGIES: TEACHING DIGITAL THEORY IN ART AND DESIGN

Susan Ballard & Caroline McCaw

This article was first written and co-presented as a paper at the MEDIANZ conference, Victoria University, Wellington, 8-10 February 2007. It is the initial proposition of a larger research project in which the two authors begin with reflexive considerations and conversations about the teaching of digital media theory to art and design students. The first part of the article outlines and positions our definitions of theory, media and ecologies. The second part of the article uses examples from our classroom learning practices to clarify how our notion of embedded ecology might be practiced.

THINKING ABOUT METHODOLOGY

Our paper was originally entitled "Embedded Ecologies – teaching digital theory in Aotearoa New Zealand". However, we realised early on that we were not talking about a physical or necessarily cultural location but rather about our disciplinary location. The project began with recognition. We are both researchers in a traditional sense and also design and art practitioners. We work in an environment where our students make things as well as study theory. Our hypotheses surround our experiences, both as academic 'makers' and through our observations in the classroom. Our position is, that if practice and theory are integrated and embedded within art and design educational experience, meaning is brought to theory and thoughtful positioning to practice. There is a wide range of literature on the theory/practice relationship within art school environments.[1] We draw on this material but in many ways diverge from it as we consider the impacts of students' experiences and knowledges from outside the institutional environment as equal to those they experience within it. This paper suggests that an examination of the wider contexts and cultures within which students operate can lead us towards a consideration of relationships of theory and practice within the classroom environment as a media ecology.[2]

DEFINING MEDIA ECOLOGY[3]

The interrelationship of three key terms: *ecology*, *theory* and *media* form a starting point for the position adopted in this article. Each of these terms has a varied political and social history and in recent times each has gone in and out of fashion.

ecologies

In a recent discussion of "media ecologies" Matthew Fuller broadly defines ecology as "the modes or dynamics that properly form or make sensible an object or process."[4] Fuller's emphasis is on the formation and dynamics of media systems. His use of the term *ecology* draws upon Félix Guattari's formulation of ecosophy that examines dynamic systems "in which any one part is always multiply connected, acting by virtue of those connections, and always variable, such that it can be regarded as a pattern rather than simply as an object."[5]

Guattari extends the definition of ecology to include human subjectivity and social concerns. This does not mean that everyone operates together to shared ends but that a social ecology is one born from dissonance, including the

Figure 1

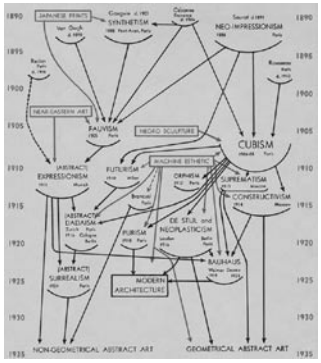

Figure 2

wider tensions of different material forces, be these human, spatial, cultural or linguistic as they operate alongside each other.[6] So while we might isolate something (for example, a television advertisement) in order to study it, it is first necessary to examine the various contexts or systems within which it is embedded. These connections are necessarily part of the system in which the television advertisement is produced, and must be read. These ideas of dynamic ecological systems are not unique to media, but are found in a surprisingly diverse range of subjects and disciplines. For Guattari, ecologies are dynamic immanent systems.

Figure 1 illustrates one such a dynamic system. Across a park we can see 'desire lines', paths that have been walked and traced by the users of the park. Desire lines are found in urban planning ecologies (in many ways they serve as an urban test of usability) where people are first encouraged to construct their own routes across a given space and develop their own relationships to these urban areas before paths are laid. Desire lines traverse the formal concrete paths of a space. These common tracks leave material traces.[7] Conversely, 'desire lines' may be identified as a result of poor urban planning, where users form their own tracks outside of formal paths. Both types of desire lines may be identified by the direction, shape and size of people's movement. The direction of a desire line is usually the shortest across a given space; the width of the line reflects the usage or demand for that particular route. Even given this understanding, a desire line can be prepared for but not necessarily predicted. As people trace paths through a park they are adding material layers that are manifestations of movements and flow. The paths are visible maps of transversal actions.[8] To invoke the desire lines as a transversal within the media ecologies operating in our academic institutions and in the teaching of media theory to art and design students opens possibilities for movements *across* the multiple domains or disciplines we engage with rather than *between* them.

theory

In this discussion about desire lines we are slipping away from a definition of ecology and into the use of theory. What do we mean by theory? In art and design 'theory' is the field of ideas and their relationships, not things, objects or outcomes. Theory is a tool to think, make and play with. Figure 2 shows a well-known image (a book cover design) by Alfred Barr. It depicts the relationships of early modernism in art in 1936 and despite its problematic and historically specific categories maps theoretical and material movements. This time, however, they are not paths crossing a preexistent place like a park. Rather they generate and create material connections between immaterial representations, in this case between and across Modern art movements. Although Barr appears to be concretising flows and relationships within broad categorical imperatives, what he does is demonstrate the relational yet provisional formation of material clusters. His map does not and cannot perfectly map the paths taken by abstract and cubist art. Instead he argues for an immanent and located perspective, albeit one located within the

mainstreams of Western European art history. The 'park' in this sense is not a material or pre-existing field but is a set of art practices recognised by their relational networks. The 'park' becomes a "visual machine for the generation of connections" in formation.[9] It is here that Barr's approach to art's histories shares something with our approach to working with digital media theory. As we will discuss, by mapping possible theoretical connections, art and design students are able to form material connections in their work.

media

Sean Cubitt has argued that "media mediate – they are physical and dimensional and informational structures of real materiality that communication embodies in."[10] 'Media' is the third term addressed in this article. Media do not operate in isolation and because of this have proven extremely difficult to define. In digital contexts media are often recognised as technologies – television, film, a photograph, MP3 recording etc. However, the conflation of technology and media means that attention is frequently paid to the properties of things, resulting in a closed definition of media. We prefer Cubitt's active model of media as processes. For example, Raymond Williams' groundbreaking study of television demonstrated that television was much more than the technology of broadcast and transmission but the whole changing economic, cultural and social sphere within which television emerged.[11] As processes, media are dynamic operations within social and cultural frameworks. Using media and media theory to consider the ecological relationships offers us two perspectives. Firstly, this relationship allows us to examine the way in which technologies are embedded in different material forms. Secondly, media theory demands that both teachers and students pay attention to the movements of materials across and through media. Within current contexts such as the cell phone or PDA one medium may mimic, copy, or perform the properties of another. The mobile phone is a medium through which other media perform and operate. Media play out in multiple layers. And media are pervasive, always operating within our social lives. Media are both object and process, not simply a layer within which other things are contained. The relationship of theory and practice in art and design contexts are most evident when we engage multiple layers of mediation.

all together now, how ecologies, theory and media relate

We are convinced that theory should not be disassociated from experience but embedded within experience. Within this balance, theory and media are patterns of activity and not objects of study. They are tracings like the desire lines crossing the park, dynamic ecologies. The problem we perceive with theory taught in Design and Art schools – and particularly in digital programmes – arises when theory is mistaken as an object and becomes objectified and separated from practice. As we have begun to demonstrate, theory is a dynamic system operating within other systems. Theory needs to be understood as both the model of the context and the context itself – and this is what we call an embedded theoretical approach. In art and design learning, embedded theory helps to develop conceptual and contextual understandings of both making and made.

LEARNING ECOLOGICALLY

We understand both theory and media to operate ecologically within open, networked and dynamic systems. However, as a tool for making things theory is contradictory. Many of us expect theory to be something that confirms existing hunches… 'there must be a theory about that'. But the way theory is often experienced by students in tertiary education is as something that either disrupts and challenges their established beliefs or fills in gaps. As educators we do not need to work inbetween but *across* these twin expectations. What tools do we have to understand and communicate these ideas and relationships? How might we identify movements across the multiple domains or disciplines we engage in. How might we traverse various experiences in a manner that would

be useful for students? And how might we encourage students to consider this an ecological model or relationship between theory and practice? The remainder of this article will use an ecological approach that includes media contexts and concepts to examine two teaching examples where theory has been embedded in material practice.

THE OTAHEITE DOG: MATERIALS AS A TOOL FOR THEORY

Many examples of theory and its relationship to media are found in art's history. The very construction of art history as a subject of study is based on the identification of different fixed media.[12] Twentieth-century approaches to media in art history formed around notions of media-specificity. Media-specificity is a particular deterministic approach based on the idea that media should present and engage the content most appropriate to them. Rosalind Krauss argues that medium-specificity is not about materiality but suggests "a structuring appropriate to the formal characteristics of a generic medium."[13] Media-specific approaches assume that a specific medium should produce media-appropriate sensory affects for a viewer. That is, a painting should investigate the effects of surface and flatness rather than theatrical or representational movements and sound. Krauss argues that even though modernism's fracturing of representational space allowed the appearance of new media, media do not exist in isolation from each other nor do they sit apart from some kind of external theoretical apparatus.[14] Being able to separately identify medium (the work's processes and formation) and materiality (what it might form from) of a studied art work becomes necessary.

Figure 3

Media-specificity can seem removed and irrelevant for students engaging directly with the study of media objects. However, it is the very need to be able to distinguish media from material that generated our first example. In an art history course we were discussing *The Otaheite Dog* (by Charles Catton, 1788) as a useful example of the role of art in colonisation and the construction of naturalist discourse in the eighteenth century. As with many other images at the time, strange hybrid pictures had resulted from the notes and drawings of an explorer as they were transformed by the later hand of the engraver across time and distance. The colonialist definition of the exotic, in this case in the Pacific, is more about the needs and desire of European culture than it was about the transliteration of a Tahitian animal. In discussion though, it became apparent that these art history students (who were not art makers) were unaware of any difference between a drawing and an aquatint. Their reading of art history prioritised image content and not the material art object. An aquatint could not have been made in the South Pacific at this time. Because they did not understand the materiality of a print, they were unable to see the shifting media contexts – cultural, economic and social – that surround the production of image representations of the South Pacific.

Although it may seem obsessive on my part, for the purposes of the discussion I felt it was essential that they understood how an image (as object) might have travelled around the world pre-telegraphy, and how in that very slow process of materialisation and due to the very materials and processes being used, some 'information' may have been lost or mis-understood. It was important that the students understood both the physical material and the media *processes* of the artwork. An aquatint is an early form of mass media imaging able to be reproduced and circulated, unlike the original sketch. In order to be able to read the artwork, they needed to be able to separate the apparent media of the work from an assumption of fixed materiality.

This example raised the question of generating and introducing materiality as a necessary aspect of media ecologies. The cultural, economic and social relations to the material reproduction of the image we looked at are also a part of our learning ecology. I introduced issues of media and materiality within the classroom, so that such details became explicit, rather than exceptional. These details were able to be read and understood both historically, as well as within a contemporary digital context.

Most students have grown up on a diet of digital media and understand all images by way of digital content. This presupposed digital image obscures the material image. This was the case with *The Otaheite Dog,* a 300-year old print, but also evident in its online or printed version. The image connects its media. Additionally, if students cannot see that a work might have material form how can we expect them to recognise materiality through theoretical paradigms? While in the teaching of art history, media and materiality have their own charms and loaded histories, the question is raised: is there a difference between the art history student, savvy with their personal digital technologies, utilising cross media platforms within their personal and academic lives, and the student who incorporates these mediated understandings into their very subject of study? How can we compare the art history student above with the digital youth below and use both methods in the classroom? The interfaces that our students experience are multi and cross media.

The democratisation of media tools means that any student (given full access to these tools) can, for example, quickly achieve a short video project. This places us all in a position not unlike that which Nam June Paik found himself in when first handed a Sony Portapak – where to point the camera? His seminal video of the Pope visiting New York – which has attained mythical status as the first handheld video made by an artist and has recently been discredited as factually impossible because of a lack of battery power in that particular model – was filmed either out a window or out of a moving taxi cab and remediates a pre-existent media event, transforming it into something totally other. In Paik's video we can locate the intersection of media and practice.

To make this argument, we find ourselves stuck with another problem. The problem we have here is that the word 'media' means two things. Firstly, media refers to the solidification of materials into fixed boxes, and secondly, to the circulation of information. So for example, digital media includes computers, cameras and phones, but also

what those things do – they circulate, they inform, they store. This circulation of media in social life relates to Guattari's ecological definition of media: media are both the object and the process, not simply a layer upon which other things are placed.[15] Students need to be able to identify other social and historical media contexts in order to recognise their own.

theory as a tool for making

As the previous example demonstrated, we approach digital media theory from the perspective of not only what it does, and what it is, or appears to be, but how it behaves. Furthermore, our classroom strategies seek to analyse the social and cultural terrain in which digital media operate.[16] Overall, we are concerned with the integration of theory and practice. Because it is in the integration of theory, or what we are calling embedded theory, that we locate the materiality of media in art and design digital practices. To restate, materiality happens not in between but *across* media, time and space. For example, audio media were once associated with the material object of the 'wireless' – a large solid material receiving object centred in a living room – and are now distributed across many different modalities, producing a very different understanding of 'wireless'.

Our next example of embedding theory in practice comes from teaching a new media theory course. Students began by studying the principles and practices of interface design. Their two projects involved reading and making, theory and practice. The first part of the course involved reading theory, discussion and blogging. Once I was confident that students could both recognise theoretical paradigms and articulate their experiences of the media, we started on field trips.

I encouraged the students to explicitly make connections between theory and practice in order to enrich their practice and for them to recognise theory embodied in practice. Initially this was through analysis of news media stories, blogs and personal experience of the latest invasion of Iraq by the US. Students learnt to identify their own specific cultural, historical and social positions both within the class and in relation to current news media stories both official and unofficial.[17] That is, they learnt to use cultural and media theory and this analysis not simply as vocabularies for studying things but as tools for making things. Their analysis of media stories reflected their own positions and locations.

These students then worked collaboratively on the design of an online environment, a virtual hotel. The virtual hotel was used as a simulated training environment for the teaching of hotel management to tourism students. Fundamental to the project was the understanding that both the design and tourism students already had lived experiences of hotels. They all understood, without tertiary education, the role and material experience of visiting a hotel. This enabled and informed their scripting of the hotel as an interactive environment, beginning with classroom role-play and paper-based story boarding. The students developed an online graphic chat environment that involved numerous role-played scenarios, each involving customers, staff and managers in a hotel. Their ability to trade places, to imagine the place of each character and their various scripts and relationships to each other, was compared to the circulating media of war we had spent time in and with during our blogging project.

In order to assist students to develop the connections between theory and practice and the two projects, three aspects were introduced to the class in a connected way. First, we all played an online game, one similar to this. You know the type, *America's Army* is an example of an online first person shooter game where people who don't know each other run around a fixed 3D space and shoot each other. Ironically, this game is used to lure game players into recruitment for the US Army. A branching class discussion evolved from this example and their previous analysis of Gulf War media, official and unofficial. This discussion connected topics ranging from historic and current US military involvements with the internet, through to the relationship between digital simulation, warfare and the material world.

Directly after shooting out the enemies online, we walked down to the nearby "Laser Force" centre, where running around a wooden maze we played out essentially the same game, shooting classmates in a game

Figure 5

Figure 6

of warfare. In this example, the mediated stories of war were first traced onto digital media through online game genres, and then experienced in a more material and embodied way. The students inevitably found that though a shift in media affected their experiences, their roles and gameplay essentially remained the same.

Through shifting the modes of experience surrounding representations of war, the students were able to understand the difference between mediated, embodied and received experiences. The material, contextual, social and historical relationships of digital media were embedded in one class. Students experienced models of theory they had read about in a lived way. And they really did engage with theory, and with new realisations. This example, while different in content and context (and student membership) from the art history class described earlier, managed to cover many of the same sorts of topics. Historical specificity aside, issues of the materiality of different media and its ability to communicate in different ways (and their own materiality as participants) became experienced and communicated in an immediately relevant fashion.

We then had to abstract and translate this understanding back to the project of the virtual hotel. How did their knowledge of the difference between mediated, embodied and received experiences contribute to the way in which they would construct the interactions in the virtual hotel?

Aware of the problems we encountered within culturally and gendered situated experiences and perceptions of war and its retelling through official and unofficial media, students began by telling and drafting stories of their experiences in the hospitality industry.

Figure 7

It emerged that a variety of stories were also evident in the class, with students of different class, race and gender having had wildly different experiences within the hotel environment. All had experienced hotel service, either as employees or guests, and through the retelling of stories could better understand the problems of defining predictable roles. Their personal experiences brought a breadth and depth to a project that could be analysed and critiqued in terms of mediated, embodied and received experience. They began to see how even the highly crafted relationships experienced within the hotel environment and hospitality industries could be 'read' as mediated. This in turn affected their 'writing' of the virtual hotel and its many scenarios in terms of media. The key success of this project, however, lay in the collaborative, offline and embodied classroom discussions. It is here that students as individuals had to share and face social realities that each other had to offer, and realise their own roles and experiences as necessary sources of knowledge in an ecological relationship with the media they were producing. This circulation of media in social life relates again to Guattari's ecological definition of media: media are both the object and the process, not a layer upon which other things are placed that may be seen as separate or discrete from other relationships we have to each other in our social world.[18]

While the first example highlights the necessary understanding of material processes in order to read images, this second example reminded students of their material participation in media processes in the design and experience of images, spaces and interactions which are rich and informed by material and lived experiences. Students actively reflected upon their sense of living in a material world, and in turn designed in relevant and thoughtful ways for the online interaction experiences of others.

IN CONCLUSION: EMBEDDED MEDIA ECOLOGIES

This paper maps a personal exercise, and represents the opportunity we have had to reflect on our respective teaching and learning practices. Currently, we find ourselves situated within a Polytechnic sector that is being broadly directed towards 'professional and vocational training' and within shifting contexts and definitions of 'research'. These directives return us to the question that formed the beginning point for this research project: how does our use of theory in the classroom both shift and employ the existing knowledge of media savvy youth, who are learning to make and use digital media? For those planning to enter the digital creative industries this approach seems to offer students a set of tools that will both advantage them and fulfil our own agendas based on the importance of critical thought. What does it mean for theory to be embedded? In 1928, French writer and thinker Paul Válery wrote:

> Just as water gas and electricity are brought into our houses from far off to satisfy our needs in response to a minimal effort, so we shall be supplied with visual and auditory images, which will appear and disappear at the simple movement of the hand, hardly more than a sign…I don't know if a philosopher has ever dreamed of a company engaged in the home delivery of Sensory Reality.[19]

It is no longer the philosophers who dream of such a home, but the marketing and development departments of major digital companies who push towards this "sensory reality" of digital visual and aural experience. It is necessary to engage a historically informed analysis that does not begin with the advent of digitality, but, as our first example above demonstrates, engages in the examination of the impacts of mediated thought on all image making and media production. An embedded digital theory that examines the histories and materials of digital media, and the role of ourselves within this, needs to become part of the toolbox that students use for making things. It begins with an awareness of their own place in the reading of images and media texts and shifts to a sense of personal relationship to the produced image or media text. This does not mean that practice is unified by theory, but that examination of media images and texts must be accompanied by contextual and critical thought. Our students are already familiar with digital media, but we hope that by employing an embedded approach we can also encourage students to be materially, contextually, socially and historically aware of the media they work with and live with - as a part

of an ecological system. By employing an approach that is embedded and uses transversal connections, we aim to produce students who use theory in a way that does not lie between disciplines but cuts across them.

The next step in this project is to do work on further methods and contexts within which we can do this. Rather than simply analysing existent media objects, our students must be able to discuss and critique the objects that they are creating themselves. They must be able to cross registers, whether vernacular or corporate, material or media, social or cultural; and engage in these processes mutually – aware of the changes that occur when they do cross. In doing so, they will understand themselves as embedded actants within a participatory media culture.

Figure 1: People defining desire lines in the paths they take to cross a space, Otago University, Dunedin, 2007 (photograph courtesy of Caroline McCaw).

Figure 2: Alfred H Barr Jnr, chart for dust jacket of book published to accompany the exhibition *Cubism and Abstract Art (*The Museum of Modern Art, New York 1936, image courtesy of MoMA from http://www.moma.org).

Figure 3: Charles Catton, *The Otaheite Dog*, aquatint, from *Animals Drawn from Nature and Engraved in Aqua-tint,* 1788 (courtesy of New Zealand Birds, www.newzealandbirds.co.nz).

Figure 4: *Virtual Hotel*, visualisation prototype. Vector works model, Michael Findlay and students at Otago University Design Studies, 2005. The *Virtual Hotel* was a collaborative research project between researchers at the University of Otago Design Studies (Caroline McCaw, Michael Findlay), the Tourism Department (Richard Mitchell) and Otago Polytechnic (Martin Kean, Design and David Scott, Tourism).

Figure 5: http://www.americasarmy.com, screenshot published on site as last accessed on 12 March 2007.

Figure 6: www.laserforce.com.au/ screenshot as last accessed on 12 March 2007.

* The research for this project has been supported by an Otago Polytechnic Research Grant.

1 See in particular Susan McKenna, "Theory and Practice: Revisiting critical pedagogy in studio art education", *Art Journal*, Spring 1999.

2 "Digital theory is responding to the process of change, describing and analyzing a medium (or cluster of media) still being born." Henry Jenkins, "The Work of Theory in the Age of Digital Transformation", *The Brain Trust DV*, 2006. Available from http://www.braintrustdv.com/essays/work-of- theory.html (as last accessed on 14 December 2006).

3 Neil Postman writes that "Media ecology looks into the matter of how media of communication affect human perception, understanding, feeling, and value; and how our interaction with media facilitates or impedes our chances of survival. The word ecology implies the study of environments: their structure, content, and impact on people. An environment is, after all, a complex message system which imposes on human beings certain ways of thinking, feeling, and behaving." Neil Postman, "The Reformed English Curriculum" in *High School 1980: The Shape of the Future in American Secondary Education,* ed. Alvin Eurich (New York: Pitman, 1970), 160-8.

4 Matthew Fuller, *Media Ecologies: Materialist Energies in Art and Technoculture* (Cambridge, Mass. and London: MIT, 2005), 2.

5 Fuller, *Media Ecologies,* 4.

6 Félix Guattari, *The Three Ecologies*, trans. Ian Pindar and Paul Sutton (London and New York: Continuum, 2000).

7 James A Throgmorton & Barbara Eckstein, "Desire Lines: The Chicago Area Transportation Study and the Paradox of Self in Post-War America," *The Three Cities Project.* Available from: http://www.nottingham.ac.uk/3cities/throgeck.htm (as last accessed on 10 June 2007). See also Brian Holmes, "Drifting Through the Grid: Psychogeography and Imperial Infrastructure" *Springerin*, (Issue 03/04: World Provinces). Available from: http://www.springerin.at (as last accessed on 10 June 2007).

8 In his analysis of Guattari's multiple uses of ecology Andrew Murphie highlights transversal movements and process as the main operations of a media ecology. The focus for Murphie is on the process and activation of the transversal as it cuts across existing lines, processes, operations or systems. Andrew Murphie, "Putting the Virtual Back into VR," in *A Shock to Thought: Expression after Deleuze and Guattari*, ed. Brian Massumi (London and New York: Routledge, 2002), 188-214.

9 See WJT Mitchell "Ut Pictura Theoria: Abstract Painting and the Repression of Language", *Critical Inquiry,* 15 (Winter 1989), 348-371. In his discussion of Barr's diagram Mitchell comments that the diagram is inherently paradoxical. He writes: "Barr's abstract grid… opens onto a history and a social reality that complicates itself - representation as a quest for purity." (367)

10 Sean Cubitt, "re:[Ada_List] Digits and Names," *Aotearoa Digital Arts*, Sun July 18, 2004, discussion list archived at http://list.waikato.ac.nz/pipermail/ada_list/2004-July/date.html#start (as last accessed on 18 July, 2004).

11 Raymond Williams, *Television: Technology and Cultural Form* (London: Fontana, 1974). McLuhanist visions dominate media theory. See Jay David Bolter and Richard Grusin, *Remediation: Understanding New Media* (Cambridge, Mass. & London, England: MIT, 2002).

12 Gotthold Ephraim Lessing, *Laöcoon: An Essay Upon the Limits of Painting and Poetry*, trans. Ellen Frothingham (London: Noonday, 1963). See also, Rosalind Krauss, *"A Voyage on the North Sea": Art in the Age of the Post-Medium Condition* (London: Thames and Hudson, 1999).

13 Alex Potts, "The Interrogation of Medium in Art of the 1960s" *Art History,* 27, no. 2, April (2004): 296. Potts extends this discussion saying that "Greenberg envisaged the art work as being structured by very basic visual qualities that…governed how we saw the material world, namely form, colour and optical effect. As a result the qualities of substance and materiality that fascinated artists such as Beuys were considered by him to be formally irrelevant." (298)

14 Victor Burgin explains that "it is essential to realise that a theory does not find its object sitting waiting for it in the world: theories constitute their own objects in the process of their evolution." Quoted in Martin Lister et al., eds, *New Media: A Critical Introduction* (London & New York: Routledge, 2003), 62.

15 See John Hanhardt "Dé-Collage/Collage: Notes Towards a Re-Examination of the Origins of Video Art" in *Illuminating Video*, eds Doug Hall and Sally Jo Fifer (New York: Aperture, 1990), 71-79. See also Félix Guattari, *Chaosmosis: An Ethico-Aesthetic Paradig*m, trans. Paul Bains and Julian Pefanis (Bloomington & Indianapolis: Indiana University Press, 1995).

16 Formulated as an aesthetics of media practice that is, at the same time, an ethics and a politics: within this class there was an Iraqi student from Bagdhad, Iraq and an American student as well as the usual mix of New Zealand and international students. The major media event covered by mainstream media at this time was the invasion of Iraq by US Troops. Various stories and perspectives emerged around this media event from the constituency of the class.

17 We found examples from mainstream media and blogs from within Iraq to compare the telling of stories across media. We also identified the inherent problems of cultural generalisation and that power cannot be inverted through our cultural relationship with the internet. We saw that power and privilege were not easily exchanged or relinquished.

18 See John Hanhardt "Dé-Collage/Collage: Notes Towards a Re-Examination of the Origins of Video Art" in *Illuminating Video*, eds Doug Hall and Sally Jo Fifer (New York: Aperture, 1990), 71-79. See also Felix Guattari, *Chaosmosis: An Ethico-Aesthetic Paradig*m, trans. Paul Bains and Julian Pefanis (Bloomington & Indianapolis: Indiana University Press, 1995).

19 Paul Válery "the conquest of ubiquity" 1928, quoted in Anne Friedberg, "The Virtual Window," in *Rethinking Media Change*, ed. David Thornburn and Henry Jenkins (Cambridge, Mass. & and London: MIT, 2003), 337.

Su Ballard is Head of Art Theory & History in the School of Art, Otago Polytechnic, Dunedin, Aotearoa/New Zealand. She is currently completing her PhD through the Centre for Contemporary Art and Politics, and Art History and Theory at COFA, UNSW Sydney, Australia. Su is a practicing artist and musician, whose research focuses on digital theory and aesthetics within visual culture.

Caroline McCaw is a Senior Lecturer in Communication Design at Otago Polytechnic, and a practicing media artist and designer. She is currently researching towards a PhD at Queensland College of Art, Griffith University, Brisbane, Australia.