The Aotearoa Digital Arts Reader
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Designed by Jonty Valentine
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ISBN: 978-0-9582789-9-7

A catalogue record for this book is available from The National Library of New Zealand

Title: The Aotearoa Digital Arts Reader
Author/Contributor: Brennan, Stella (ed); Ballard, Su (ed)
Publisher: Aotearoa Digital Arts and Clouds

Aotearoa Digital Arts Trust
www.aotearoadigitalarts.org.nz

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PO Box 68-187, Newton, Auckland 1145
Aotearoa New Zealand
www.clouds.co.nz

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Editing a book takes a long time, and many people have helped along the way. Stella and Su would like firstly to thank the authors and artists who have contributed to this book, and the institutions and individuals who shared their image archives with us. We would also like to acknowledge the work and support of the following: Nova Paul, Leoni Schmidt, Col Fay, Khyla Russell, Justine Camp, Letitia Lam, Pam McKinlay, Geoff Noller, Sarah McMillan, Robert Leonard, Melinda Rackham, Mercedes Vincente, and Gwynneth Porter, Deborah Orum and Warren Olds from Clouds. And of course, Jonty Valentine for the hours spent in design. Thanks also to the ADA community, and especially to the other ADA trustees, Janine Randerson, Douglas Bagnall and Zita Joyce.

Thanks most of all to our families: Nathan, Moss and David.

The *Aotearoa Digital Arts Reader* would not have been realised without the support of AUT University, Otago Polytechnic and Creative New Zealand.

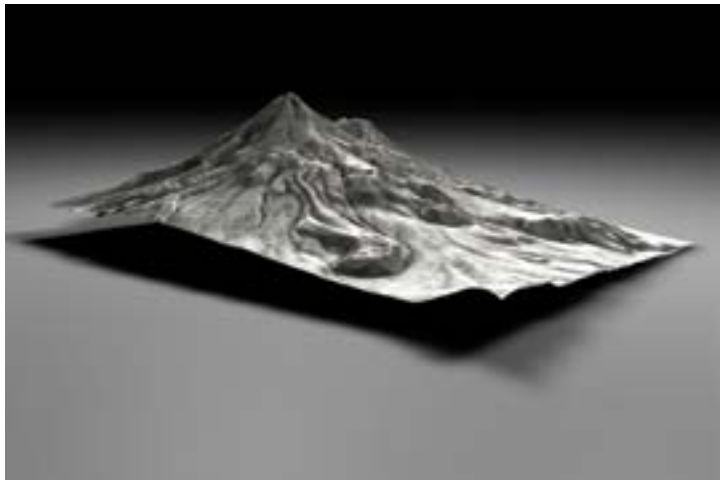

fig. 1

fig. 2

ADA: A Web of Sites

Caroline McCaw

A recent Air New Zealand marketing campaign produced by the Auckland-based office of Colenso BBDO for television and cinema promotes the importance of 'being there'. The agency's website claims the brand campaign reinforces the emotional connection New Zealanders have with their national airline through a sense of flight, celebration of the landscape and powerful moments of connection.[1] One commercial depicts a man working in a kitchen in Auckland. Looking doleful, he walks outside to a jetty. Leaping into the air he flies the length of New Zealand (with backing soundtrack in *Te Reo Māori*), touching down outside a landmark building in Dunedin, some two hours away by plane, to kiss his girlfriend.

These commercials explore the displacement and re-connection made possible by travel technology. However, the visualisation of travel does not refer to airplanes at all, but the sense of disembodied flight made familiar by new media and popularised by online worlds and digital game play. One by one, lonesome New Zealanders fly out of windows and glide low over iconic landscapes and green rolling hills to join the ones they love. The perspective is first-person. Empty plains and mountains roll out beneath us as distance is compressed to keep the story snappy. We see through the eyes of the traveller flying disembodied, above—but not too far above—the landscape below. It is our journey too, personal and romantic. None of the clutter or delay associated with airport lounges or security screenings accompany this flight.

The idea that space can be actively and socially produced is explored by Marxist sociologist Henri Lefebvre. He writes:

> *We are confronted not by one social space but by many. … Considered in isolation such spaces are mere abstractions. As concrete abstractions, however, they attain 'real' existence by virtue of networks and pathways, by virtue of bunches or clusters of relationships. Instances of this are the worldwide networks of communication, exchange and information. It is important to note that such newly developed networks do not eradicate from their social context those earlier ones, superimposed upon one another over the years.*[2]

The production of space is for Lefebvre a creative act, a process: organic, fluid and alive.[3] Lefebvre's spaces flow and collide with other spaces. They are not a fixed geography but respond to social life. Spaces formed within different timeframes are superimposed upon one another to create a present space. We can recognise these simultaneous flows of different types of space, both in the example of the Air New Zealand advertisement and with the kinds of space that is cultivated through online communities.

In the Air New Zealand commercial, different types of space are depicted quite literally as geographic locations: beautifully shot, iconic places, empty and 'natural' landscapes. And while New Zealand has plenty of these postcard scenes, in these commercials, there are few depictions of urban space and no industrial landscapes. Extraneous people and places are just not visible.

1. Colenso BBDO. http://www.colensobbdo.co.nz/
2. Henri Lefebvre, *The Production of Space*, trans. Donald Nicholson-Smith, (Oxford: Blackwell, 1991), 86.
3. Andy Merrifield, "Henri Lefebvre: A Socialist in Space," in *Thinking Space*, ed. Mike Crang and Nigel Thrift, (London and New York: Routledge, 2000), 171.

1: C5, high resolution model of Mt. Shasta based on United States Geological Survey data, 2005. This 3D model of the mountain was milled out of foam by a rapid prototyping machine, then moulded and cast in aluminium.
2: Rachael Rakena, Rerehiko, 2003, two-channel video projection with sound, 21 minutes.

The gaps between these locations are articulated through isolated individuals emoting visible longing and sadness, perhaps enacting New Zealand painter Colin McCahon's "landscape with too few lovers."[4] The message of the advertisement is that Air New Zealand can reconnect people in the same way that online worlds can. The campaign overlaps connection and distance in one story in a manner resembling the way meeting a close friend online, or receiving a sister's text message connects us in a way that feels intimate. Air New Zealand is selling physical presence, but their imagery draws on virtual presence.

Colenso's strategy identifies vernacular circumstances, experiences that are personal and familiar, connecting these moments to their corporate clients. Other advertisements featured on the agency's website include advertisements for New Zealand Insurance associating 'stolen stuff' (Pavlova, Split Enz, Dame Kiri) with the insurance company, and 'Bum Cracks' and 'Girl Germs' (New Zealand pop culture mythologies) in the 1970s with drinking L&P today. In layering these two types of messages a space is created: a siting of New Zealandness. New Zealand culture is located in the network formed between these (and other) stories and images in common, the result of accumulated knowledge and signifying processes.[5] These advertisements explicitly invoke 'us' as viewers, inviting an inclusive and participatory relationship to their story, evoking and constructing a shared nostalgia.

Generating another kind of shared imaginative space, the Aotearoa Digital Arts list brings together people who may be separated by distance and time zones. Participants in this self-selected community are imaginatively connected, primarily through an identification with Aotearoa New Zealand as one of their sites of belonging. Artists working overseas, some who seldom return to New Zealand, discuss and share ideas about digital art with others who may have never left these shores. Readers, like watchers of television commercials, do not need to post to the list to feel included in this group's membership. While the media we share is literally connected, the communication we share connects us too. Like Lefebvre's space, ideas of site form and stick to the discussion list, also a site. Layers of meaning about what it is to live in New Zealand are established through talk of art researched, made and exhibited, and this talk produces and reproduces 'New Zealand', not as a subject of the list, but as a result of our 'being in common'. Aotearoa is produced as the first A of ADA, as an ongoing site for discussion and recognition, of *not* being the space we nominate as the rest of the world. As the ADA website describes it:

> *In the absence of a dedicated physical space for development of new media projects, ADA enables the sharing of practices, and contributes towards a very real sense of a digital media community in New Zealand.*[6]

The result then is that ADA, as a site for discussion, produces its own identification about what it is to be a New Zealand digital artist. The community forms a fluid and dynamic space, embracing action and lived situations. Our participation, whether silent or spoken, contributes to the active representations of a shared space. These spaces have social form, embodied and performed through ongoing, and archived, lived relationships.

Through examining the 'digital' (as in Aotearoa Digital Arts) we can recognise an historic moment as it passes, like the tail of a comet perhaps.

4. Colin McCahon, *Northland Panels*, 1957 – 58, collection of Museum of New Zealand Te Papa Tongarewa.
5. Richard Peet, *Modern Geographical Thought*, (Cambridge, MA. and Oxford: Blackwell, 1998), 101 – 104, 176.
6. Aotearoa Digital Arts (ADA) website. http://www.aotearoadigitalarts.org

This moment we are nodding to—this era of digitality—is a time when computers and their metaphors and methods have come to be a part of our media experiences. With this has come a change in the way we use and experience the term 'media'. Whereas the term 'media' once referred to the format or objects of transmission (the television, radio or newspaper) media now also refers to the very process of transmission.

As processes, media can be read as dynamic operations working within social and cultural frameworks, not limited to their historical moment of transmission and reception yet embedded in the context of that moment. In a discussion on the ADA list surrounding the terminology of digital art Sean Cubitt suggests: "media mediate—they are physical and dimensional and informational structures of real materiality that communication is embodied in."[7] A few months earlier on the ADA list however, Adam Hyde used the term media to describe a deliverable package of content in his explanation of the term "streaming media":

> *What is Live Streaming? Streaming media is the term used to describe the real-time delivery of moving images, moving text, and sound over the Internet. [Hyde continues]… Streaming media techniques work in the following way: as you listen or watch one portion of content, the next portion is downloading at the same time. The ability to simultaneously load and play distinguishes streaming from other types of Internet media. Streaming allows for live transmission over the Internet, which enables a transformation of the Internet into a broadcasting medium. Content can also be saved and archived, allowing Internet users to experience recordings of live events online after they happen.*[8]

Hyde's definition encourages us to think of media as small units that can be received, experienced at times that we choose, archived, and importantly, in turn, transmitted. This is a different sort of media relationship from tuning into a radio or television station. Where we used to wait on the couch for the next episode of our favourite television show, we are now able to search and download any episode, via TVNZ OnDemand or peer-to-peer filesharing. Not only is the moment we engage with the information no longer contingent on the choices of a programme director, but this information shifts from being an object of consumption to exchangable packages in a different kind of system, one that is potentially porous and open. And increasingly, the literacies and equipment required to produce and distribute independent media are being employed by a wide range of communities.

Cubitt's definition, by comparison, emphasises that the term media has connotations as both a verb and a noun. Media he claims *does something* in its social and cultural circulation, an operation that has a relation to the material world through its ability to communicate with and affect the people who engage with it. It could be argued that both uses of the term media are enabled by the new digitality of these forms. Digital media has enabled an exchangeability of files and formats, encouraging a shift in the relationship between those of us who consume and those of us who produce media. This is both a technical and cultural shift. And at some point soon we will no longer need to use the term digital; its use value dissipated like that comet tail, its relationship no longer 'new' to the operations of media.

7. Sean Cubitt, "[Ada_List] Digits and Names," *Aotearoa Digital Arts* [discussion list], 18 July 2004. http://www.aotearoadigitalarts.org
8. Adam Hyde, "What is Streaming Media?". *Aotearoa Digital Arts* [discussion list], February 2003. http://www.aotearoadigitalarts.org

In both descriptions—as a mobile unit of information and as a shifting process of communication—media is actively and socially produced. Our busy mediascapes interpenetrate and superimpose over other spaces. As Lefebvre suggests, in engaging 'new' media, we do not abandon other, older sorts of media. Increasingly we engage with several types of media simultaneously, for example, reading a magazine while watching television and intermittently sending and receiving text messages. Media spaces overlap but do not obscure. Rather, media forms start to imitate each other. The recent popularity of the YouTube website is in part because it seems like we are watching a larger world of television. Conversely, as in the Air New Zealand advertisement, we see the metaphors of the Internet being used on television. In addition, older media forms are digitised for archiving and distribution.

A colleague of mine once conducted management research to analyse where the best place in an office was to conduct effective communication. All his results turned to the photocopier room. While standing around waiting to reproduce pages of text, other sorts of texts were being produced. These conversations often began with stories of media consumption 'did you see that great programme on TV last night?' and these shared territories become opening scenes for discussion. However, as peoples' lives are less frequently related to synchronous media consumption, so there are fewer opportunities to develop relationships around shared media stories. For example, it is more efficient to forward the URL of a favourite or newly discovered YouTube clip directly to the email address of a colleague or friend than to discuss it at the photocopier. As a result different kinds of 'photocopier communities' are beginning to emerge. We choose what we want to consume and when, and then seek out people who like the same sort of stuff.

Social networking sites such as Myspace, Bebo and Facebook are commercial examples of asynchronous media consumption and communities of shared interests. Through collecting, editing, crafting and distributing content, people of all ages (and particularly youth) develop communities who together develop a sense of ownership and place online. These communities in turn become demographics for advertisers.

My examples so far don't necessarily include art. What might art and artists (the final A of the ADA acronym) contribute to these contested and emerging spatial practices? I keep returning to the ideas of Lefebvre and his busy, fluid, responsive and living states of space as a connecting theme.[9] Lefebvre's spaces that flow and collide create for me a simultaneous confusion and enjoyment, a sense of not knowing where I am, but being stimulated by this not knowing. I am drawn to try and map these many states of space, and in particular my 'being here'. What do we bring with us and what do we leave behind when we travel through the mediated spaces of the digital? And why does this sense of place, of belonging and not belonging, feel important to me? How may the works of artists help me in my disorientation? Can art show me how to understand, or rather to *know* about this conflation? I have chosen two artworks that may be useful as points of reference in this consideration, although they are slippery and more like the comet tail than the Cartesian allure of cartographic pegs.

The first explores knowing through data, part of an interest in locative media. In 2006 I met two American artists, Steve Durie and Bruce Gardner at

9. Merrifield, "Henri Lefebvre: A Socialist in Space," 171.

the SCANZ encampment.[10] Durie and Gardner had joined a group of thirty digital artists to consider the importance of location through two themes: environmental response and connection/disconnection. Durie and Gardner are part of a larger collective of artists based in San Jose, California, who work under the name C5. The *C5 Landscape Initiative* is a five-year programme of expeditions exploring data visualisation systems as art. The *Landscape Initiative*, "examines the changing conception of the landscape as we move from the aesthetics of representation to those of information visualisation and interface."[11] Through plotting their journeys using GPS technology these artists collect information about 'being there'. While in New Zealand Durie and Gardner planned to create their own maps of Mount Taranaki by climbing the mountain and collecting data. Previous C5 projects have included a similar collection and re-presentation of landscape as information from iconic locations such as Mount Fuji and the Great Wall of China, which, in a Situationist-style misreading of the map, they attempted to re-plot onto California.[12] These artists visualise connections, tracking their process of travel and building three-dimensional computer models of landforms from their bits of data. C5 is planning research expeditions to twenty volcanoes along the Pacific Rim of Fire. Their attempts at ascent in New Zealand were, however, thwarted by clouds and rain; vaporous meteorological complexities harder even to trace than the earth's surface.

With the availability of Geographic Information Systems and big data sets such as Google Earth and Google Maps we are able to see locations in new ways. And as Google Earth increasingly shifts from 2D satellite photographic montage to 3D representations more akin to game spaces that we can navigate through, I find the experience both fascinating and chilling. I like being able to catch the view from the London Eye without paying a penny, or to investigate the carpark of a shopping centre in Dubai, or even to see who was parked outside my house that day the satellite passed us by. But the feelings that stick with me include: being alone. The spaces Lefebvre describes just don't exist without people: "The form of social space is encounter, assembly, simultaneity."[13] And isolating spaces separate from lived experience, as data and images, seems to suggest something inhuman. I can imagine a similar eeriness surrounding the introduction of photography. The machine's ability to isolate a sliver of time, and to reproduce that moment with such confidence and likeness, must have a made it difficult to remember that moment was ever part of something bigger, something more contingent on personal relationships. Google Earth's depopulated images remind me of Daguerre's 1838 photograph of a Paris street from his apartment window. The minutes-long exposure meant that moving objects like pedestrians and carriages don't appear in the photograph. The busy street appears deserted, except for a man who stops for a shoe-shine and unwittingly becomes the first person ever photographed.

Prior to photography it was the painter's brush or the artist's sketchpad that reproduced these moments, and told particular stories about them. C5's art operates through investigating the relationship between digital landscape data and the experience of the landscape that it represents. The contingent and embodied experience this detailed information omits or obscures is the

10. SCANZ, Solar Circuit Aotearoa New Zealand was organized by Ian Clothier and Trudy Lane, and hosted by WITT and the Govett-Brewster Art Gallery, New Plymouth. http://www.scanz.org
11. C5, *The C5 Landscape Initiative*. http://www.file.org.br/file2005/textos/symposium/eng/C5corporation.doc
12. C5, *Other Path*. http://www.c5corp.com/projects
13. Lefebvre, *The Production of Space*, 101.

interesting part. As C5's Matt Mays puts it: "knowing where you are does not mean that you are not lost."

New Zealand artist Rachael Rakena's work *Rerehiko* (2004) envisages place, technology and location in a very different way, exploring negotiation and contingency. *Rerehiko* lays footage of traditional Māori dancers from *Kai Tahu Whanau* moving together underwater over a flow of text extracted from emails between the group's members. The two fluid movements, of scrolling text and swimming dancers, both mobile and without fixed positions, create a powerful and evocative image.

As email travels through the network it produces and supports a collective culture and identity. Rakena suggests that, "The digital text of the email and its aesthetic of pixellated patterns create the new *tukutuku* for the *wharenui (atea)* in cyberspace in which a community often meets."[14] The flickering surface of the screen helps form and embellish a new meeting place.

Like the expansive notion of cyberspace, the watery realm within which the video occurs is specifically non-land-based. Rakena's fluid metaphor evokes freedom from constraint and references travel and migration, but also suggests a loss. "I decided that immersion in water space would create a question, 'who are we without land?'."[15] *Whakapapa*, the genealogical foundation of Māori identity and belonging, has been undermined by separation from the land through colonisation and later urbanisation. Rakena explores how contemporary *Kai Tahu* identity is maintained both through revival of traditional artforms and through the flows of electronic communication.

Rakena and C5's artworks explore the negotiations and superimpositions of 'being there', of being in specific and located geographic and cultural spaces, while being simultaneously immersed in mediated spaces. Rakena's video is located between traditional knowledge of place and belonging and contemporary Māori communities. But unlike the empty landscapes of the C5 collective, who may find themselves lost in this fissure, Rakena finds a populated space, actively generated by its participants.

What do we keep and what do we leave behind when we travel through the mediated spaces of the digital? How do we articulate a sense of belonging? While the physical reality of 'being there' is the key message of Air New Zealand's advertising campaign, the manner in which this is depicted evokes the new metaphors technology offers for presence. In these layered, socially-produced spaces, resisting fixed positions opens up the possibility of disorientation, but it also allows new perspectives to be developed and older stories to be maintained. As the works of Rachael Rakena and C5 suggest, feeling lost or floating both disrupts and expands our sense of place and of home.

14. Rakena, "Toi Rerehiko," unpublished MFA dissertation, School of Art, Otago Polytechnic, Dunedin, 2003, 3.
15. Rakena, "Toi Rerehiko," 23.

What is Digital? Concepts and a Chronology

Douglas Bagnall

The road sign in *figure 1(a)* uses two kinds of symbols. The arrow approximates the shape of the road ahead, while the numerals advise a speed at which to travel.

The form of the arrow is an analogy for the shape of the road, so this kind of symbol is called analogue. Analogue symbols belong to a continuum of possibilities. There are an infinite number of understandable arrows, all meaning something slightly different. They form a family of symbols that, by convention, maps a continuous range of form onto a continuous range of meaning. The symbol doesn't have to look like the thing it symbolises. An analogue clock maps the passage of time onto the rotation of dials—this doesn't look like the passage of time unless you are used to the analogy.

Numerals, as symbols, do not lie on a continuum. They are discrete. There are only ten of them, and they are formally isolated from each other. Symbols that are discrete are called digital, partly because numeric digits are exemplary digital symbols.

That is the entire definition of digital and analogue symbols—it has nothing to do with microchips.

Digital symbols are arbitrary in form. There doesn't need to be anything five-ish about the symbol '5'. It follows that a system of digital symbols is always finite, because you can't read arbitrary signs that you haven't previously seen (as you could with a newly encountered shape of arrow). These restrictions—that meaning can't be improved by refining the form of a symbol, which belongs to a smallish known set—mean that elaborate meanings can only be conveyed through the juxtaposition of multiple symbols, usually in series. '3' followed by '5' means something more than their sum, and less than '5' followed by '3'. The symbols create context for each other, and a complex message arises from the whole. Digital messages are read, not beheld.

fig. 1

One practical difference between digital and analogue messages is shown in the lower signs of *figure 1*, which started the same as *1(a)*, but have suffered various amounts of random distortion. Sign *1(b)* has changed just slightly. The corner looks tighter and the numbers, although wonky, still say '35'. Digital symbols are immune to mild corruption, but distortions in the analogue will alter the message. Sign *1(c)* has had a far worse time, and while the arrow still indicates a path, the numbers are unreadable. This shows the all-or-nothing tendency of digital communication. It is hard to get the wrong message, because it is unlikely for the '3' and '5' to distort into other numbers. This clarity is the trade off for throwing away the infinite possibilities of the analogue.

The real world is neither analogue nor digital, because on the whole it is not making a communicative effort. These terms describe modes of symbolic interaction, not physical reality. The distinction is in our heads. It might seem that the world is inherently analogue, given the apparent lack of physical discontinuities, but this raises the question: if the world is analogue, what is it an analogy for? At the same time, it is now quite respectable to speculate that the universe is a digital simulation in someone else's big computer. But the supposed underlying