

Counter-Cartographies on the Google Earth

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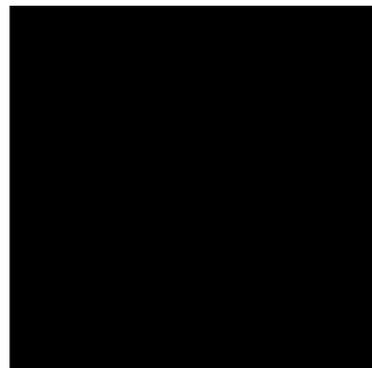
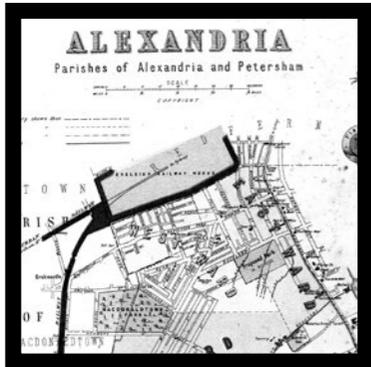
On Christmas Eve 1968, in one of the most watched television broadcasts of all time, the crew of Apollo 8 orbited the moon sending back the first colour portrait of earth taken by a human being in outer space. Sparking a court challenge from an enraged atheist, the crew took turns reading from *Genesis* ending their broadcast with the line “And from the crew of Apollo 8, we close with good night, good luck, a Merry Christmas – and God bless all of you, all of you on the good Earth.”

While Apollo 8 went into space to discover the moon it was the Earth that their voyage most tellingly revealed. The small shining blue planet, rising out of the darkness of deep space, looked so beautiful and vulnerable it provoked a protective and passionate response: one that has been credited with both spurring the growth of environmental consciousness and enabling humanity to conceptualize of the Earth as one (and thus launching the concept of globalization). Forty-five years on from that historic voyage photographic documentation of Earth

from space has ballooned into a major industry: today’s Christmas message might conclude with a message of good luck to “all of you on the Google Earth”.

The software behind the Google Earth interface was created by Keyhole Inc. a CIA funded company acquired by Google in 2004. It was launched in 2005 and promises to provide everyone with the ability to “take a voyage anywhere in the world”.¹ We no longer need NASA missions to see the earth from outer-space, a billion digital astronauts now traverse the earth’s surface from the comfort of their own computers. Google Earth superimposes satellite imagery with aerial photographs and GIS technology, as Matt Hancher, Tech Lead for Google Earth, explains: “the result is a seamless, globally-consistent image of the entire planet with a resolution of 15 meters per pixel”. As of October 2011 the program

¹ Google Earth website, <http://www.google.com/earth/index.html>, accessed July 1, 2013.



has been downloaded to over a billion users.²

The “seamless” geography presented in Google Earth is evocative of the “smooth space” of Michael Hardt and Antoni Negri’s *Empire*, a global order where territorial boundaries have been superseded by the mobility of a globalized flow of communication, labour and exchange: Empire is a “decentered and deterritorialising apparatus of rule that progressively incorporates the entire global realm within open expanding frontiers”.³ Hardt and Negri’s use of the term “smooth” is borrowed from Deleuze and Guattari – for them smooth space describes an open nomadic landscape one traverses with the flowing tides of the ocean, the shifting sands of the desert or the undulating steppes of ice. For Hardt and Negri Empire has progressively expanded into this space, subsuming this flow into one dominated by global capital.

Since the Global Financial Crisis it has become less popular to speak of globalisation, a project that seems almost anachronistic in the face of strengthening regional trading blocks, national protectionism and financial bailout packages. As Brian Holmes argued on the eve of the collapse of the Lehman Brothers in September 2008, globalization represented a utopian neo-liberal project that has been quickly replaced by more protectionist nationalist and regionalist economic strategies; “the neo-lib” has gone “neo-con”.⁴

² Google earth website, <http://www.google.com/earth/index.html>, accessed July 1, 2013.

³ Hardt, M and Negri, A, *Empire*, Massachusetts: Harvard University Press, 2001, preface xii

⁴ Taipei Biennale talk, September 2008

Yet while the economic hype surrounding globalisation has diminished its geographical equivalent remains omnipresent: Google Earth is the perfect map for a globalized world. Back in 1968, watching their first Earthrise, the crew of Apollo 8 was able to delight in quoting The Bible’s famous passage on the separation of night from day.

Today’s digital astronauts travel in a strangely lit, cloudless world of perpetual daylight. Google Earth’s progressively “expanding frontiers” actively incorporate the diversity and mystery of the world into a strangely illuminated digital backyard. Whether we are traversing the industrial ruins of Detroit or the fjords of Norway the world unfolds before us on an obedient, uniformly positioned, clearly visible map for the global “citizen”.

David Harvey, in *The Condition of Postmodernity*, traces shifts in how space has been historically understood. In the relatively isolated worlds of European feudalism, “spatial organisation reflected a confused overlapping of economic, political and legal obligations and rights” while external space was, “weakly grasped and generally conceptualised as a mysterious cosmology populated by some external authority”.⁵ The Renaissance, in contrast, organised this unbounded space through a single point perspective that grounded notions of place within functional confines of property, navigation and objectivity. The spatial requirements of this project are reflected in a very different approach to mapping.⁶

In the post-globalised world spatial

⁵ Harvey, D., *The Condition of Postmodernity*, Malden: Blackwell Press, 1990, p 241

⁶ *ibid*, p 249.

understanding has been re-organised once more. The single point perspective of the Renaissance has been replaced by an expanding spatial order that subsumes the confusion of pre-Renaissance space into a coherent yet contradictory multi-perspectival geography. According to Denis Wood maps only became the preferred way of linking political assets to geographic space during the seventeenth century. Prior to this “things” were often linked to “places” in a tabular form. The emerging nations perfected the map, as it was a powerful way to symbolically wrap up the “geo-body of the state”⁷ in a visually recognisable form.

GIS technology has changed this by recombining tabular and representational space into contemporary geography. The insertion of new technologies, into the heart of map making, has, as John Pickles argued as early as 1995, called forth new ways of “thinking, acting and writing”.⁸ What we today consider a map is technically not a map in the historical sense – it is a database. The software that Google uses overlays photographic representations of space onto 3D modelling using a process called texture mapping. The result is a simulation of the earth’s surface that provides the illusion we are roaming a space that retains an indexical relationship to reality.

Texture mapping does something to

⁷ Stallmann, T., “Denis Wood: The Power of Maps” Fringe magazine, Issue 26, <http://www.fringemagazine.org/lit/features/denis-wood-the-power-of-maps/>, accessed July 1, 2013.

⁸ Pickles, J. “Representations in an Electronic Age: Geography, GIS and Democracy, in *Ground Truth: The Social Implications of Geographic Information Systems*, New York: The Guildford Press, p641.

space that is unique to a globalized spatial consciousness. A photograph is a something that condenses 3D space into a two dimensional plane: it is something we look *through*, understanding the conventions of space it encapsulates, to what we perceive as three-dimensional reality out of frame. Texture mapping is a completely different process – it is a skin that we add onto a 3D model to provide the illusion of three-dimensionality in a simulated environment. We look *at* texture mapping with no indexical relationship to the *real*. Google Earth simultaneously combines these two approaches to generate maps we are so used to looking at that they capture global reality as ably as an Andreas Gursky photograph.

Of course there are glitches. Clement Valla is a New York based artist who has made it his project to document some of these. His series *Postcards From Google Earth* is an impressive collection of technical fails where bridges droop below lakes, roads slump over mountains like sticky treacle and buildings lean into each other like an Escher print.

As Vella explains:

*These jarring moments expose how Google Earth works, focusing our attention on the software. They reveal a new model of representation: not through indexical photographs but through automated data collection from a myriad of different sources constantly updated and endlessly combined to create a seamless illusion; Google Earth is a database disguised as a photographic representation.*⁹

⁹ Clement, V, <http://clementvalla.com/work/the-universal-texture/>, accessed July 1, 2013.



The Universal Texture is the name Google has given to its patented software for mapping textures onto a 3D model of the entire earth.

It is also the name of another work by Vella that shows a range of fantastical presentations of global geography slipping off the wall onto the floor. Vella explains that the Universal Texture promises a “uninterrupted navigation of our planet – not tiled discrete maps, but a flowing and fluid [I would add *smooth*] experience”.¹⁰ For Valla “these uncanny images focus our attention on that process itself, and the network of algorithms, computers, storage systems, automated cameras, maps, pilots, engineers, photographers, surveyors and map-makers that generate them”.

Valla’s project is self-consciously a fleeting one. Continuous improvements in Google’s software means that the fantastic geography he documents is being progressively eliminated – these breaks in the illusionary surface of Earth erased. Like freshly minted “old-world” postcards a tourist might send home from an overseas trip Valla’s postcards from Google Earth, capturing a pre-emptive nostalgia for a geography that is lost by the very nature of discovery. Yet the power of Valla’s projects is not in any sense of nostalgia for the glitches of the new technology they document, but in the way they invite us to see what mapping, or more specifically advanced techniques in mapping that combine spatial and data technologies, reveal about the world we live in.

Over the last three decades Denis Wood has been making the compelling argument that maps work in the “service of the State” and the space they represent is “socialised” in its interests. In books such as *The Power*

¹⁰ *ibid.*

of Maps Wood, along with John Fels, used semiotics to analyze how we read maps as a representation of reality and this “geographical common sense” helps align our expectations of reality with the power relationships embedded within the map.¹¹

According to Joe Bryan, in his review of Wood’s 2010 book *Rethinking the Power of Maps*, the advent of geospatial technologies such as Google Earth and Open Street Map has complexified the study of maps by “democratizing” the generation of their content. Yet as Bryan explains, this upsurge in map making cannot be understood through abstract notions of democracy and/or technology alone – as Wood demonstrates, the process by which we read maps, even those we may have contributed to, is still often shaped by the social forces that deem the perception of them as necessary.

Google Earth creates a parallel universe that is as globalised and expanding as hyper-globalisation theorists, such as Kenichi Ohmae, said it would be. No matter that the enthusiasm of the hyper-globalists has dimmed, Google Earth is the meta-map that links into social networking devices and has become an attractive fiction inscribed into our daily lives. In this world we can travel without borders or limits untroubled by bad weather, fellow travellers or darkness. We can snoop on our own houses or those of others as we conquer the world with our digital curiosity.

¹¹ Joe Bryan, “Maps and Power”, *Political Geography*, xxx (2011) 1-3.

While Clement Vella maps the strange and fantastical topography of this globalized world others have chosen different strategies to probe the limits of this digital space. Sydney artist Diego Bonetto has initiated a humble intervention into the fabric of Google Earth by mapping local weed species of the suburb of Darlington. While leaving the structure of Google Earth unchanged Bonetto pokes fun at its participatory nature by highlighting slender, transient, over looked and undervalued weeds. Projects such as this scale-down the monumental sense of space contained within Google Earth into a fine-grained and more locally specific experience.

María del Carmen Lamadrid is a media designer, researcher and writer living in Los Angeles whose research has focused on some of the absent fellow travellers on the voyage of Google Earth. She completed her MFA from the Media Design Practices and Field program at Art Center College of Design, focusing her research on land tenure and methods for economic empowerment in Uganda. In one project she documented the experience of a group of women whose livelihood was dependent on selling goods at a local craft market that was scheduled for eviction. In Google Earth imaging of the site it was portrayed as a depopulated blank space. Lamadrid used the community based Balloon Mapping process to help the community develop a rival aerial imaging that was populated by the market sellers. This counter map was useful in slowing down the process of eviction and highlights attempts made by activists to create a rival digital world to the one in Google Earth.

Public Laboratory has developed their own software, MapKnitter, which makes maps from the digital material gathered

though low cost DIY balloon and kite mapping experiments. As their website explains, the “process of making maps with MapKnitter differs greatly from automated aerial imaging systems. In those systems the imaging is of a higher precision and processed with spatial and telemetry data collected along with the imagery, typically at higher altitudes and with consistent image overlap in the flight path sequence. With MapKnitter the cartographer dynamically places each image and selects which images to include in the mosaic.”¹² Lamadrid explains this enables the map-maker to choose more mindfully what will be mapped, at what resolution and from which angle. The result is a map that reflects a more locally specific geo-political space.

Of course the catch is that grass roots mapping projects, such as MapKnitter, lay their maps over the structure already created by Google Maps. This said, they enable communities to excerpt some control over how their lands are mapped and what details are important to share with a broader digital audience. The low flying nature of balloons and kites means that the maps are often of a much higher resolution and can be used for bespoke purposes.

Denis Wood argues that the twenty-first century has lead to an explosion of user-generated map-making that marks the birth of what he calls a *counter-mapping movement*.¹³ As more of our world is mapped and shared there seems to have emerged a widespread desire for genuine

¹² Public Laboratory, <http://publiclaboratory.org/wiki/mapknitter>, accessed July 1, 2013.

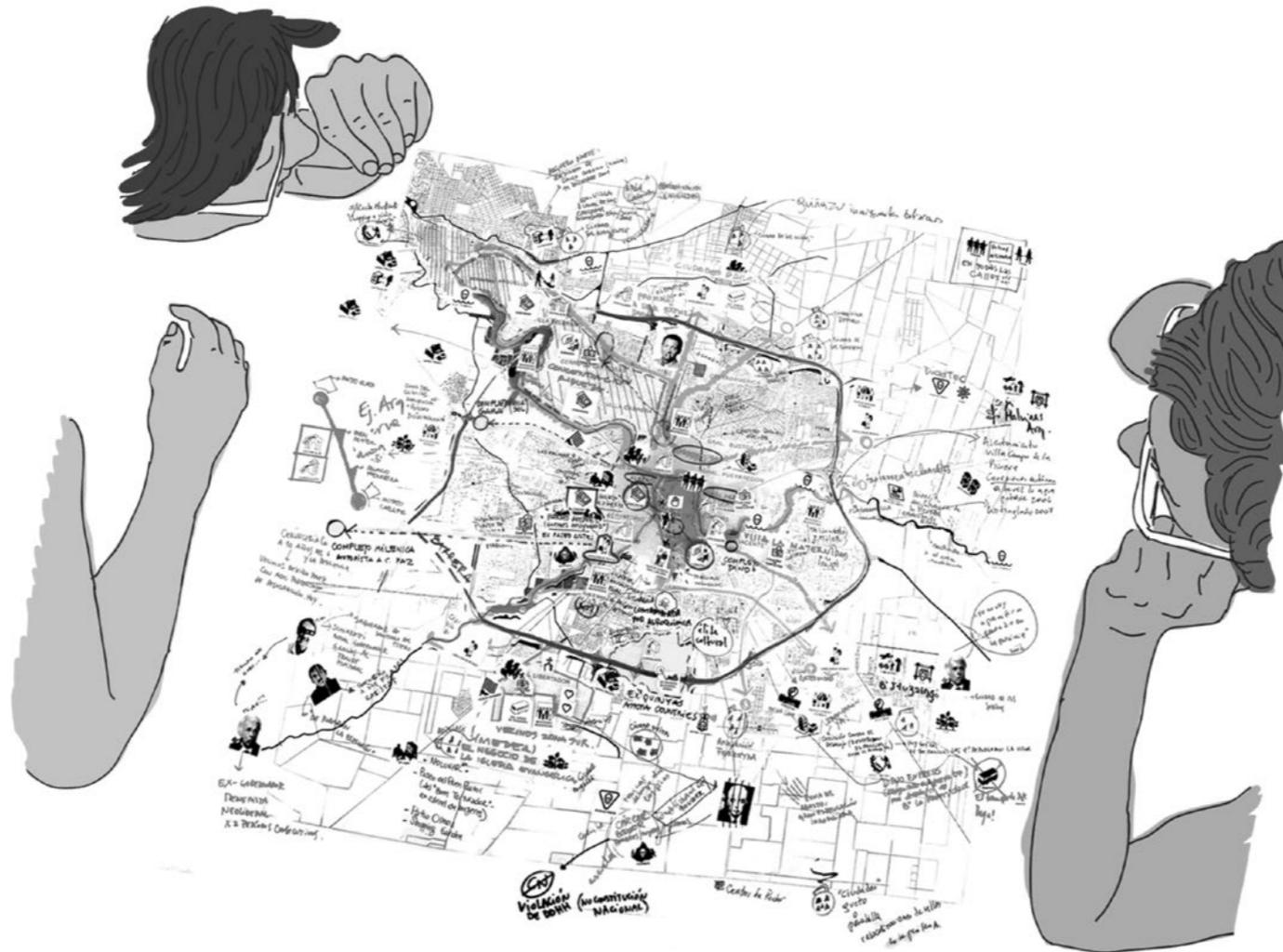
¹³ Wood, D. *Rethinking the Power of Maps*, The Guildford Press, 2010, p111

input into how space is conceived. Some of these maps have focused on spatial representation within Google Earth, others have turned away from satellite and aerial technology to focus on more handcrafted and/or speculative mapping techniques.

While significant attention has focused on the technological innovation of Google Earth, for Wood it is within art and activist circles that true innovation in map making is emerging.¹⁴ He is quick to point out that while these maps are often fragile, unfunded and obscure their creators are forging just as innovative new ways of thinking about, and living within, space. For Wood their chief contribution is to free map-making from the “tyranny of the State”.

In an increasingly nomadic and urbanised world – where space is both more tightly contested and broadly explored – counter-cartography is growing as a form of art making and activism. Groups such as Iconoclastas (Argentina) and Centre for Urban Pedagogy (USA) are forging an art practice based around community engagement and counter-cartographies. Both these groups use community workshops to create maps and data visualisations that expose contesting land uses, power dynamics and paths of resistance.

When discussing their approach Iconoclastas quote Alfred Korzybski, the founder of general semantics, who famously exclaimed “but the map is not the territory” after he ended up in a dangerous pit that was not marked on the map in a battle in World War I. As they explain “We shouldn’t forget that maps are tools that capture a snapshot of a particular moment,



14 Wood, D. *Rethinking the Power of Maps*, The Guildford Press, 2010, p111

but they do not completely reconstitute the complex, problematic territorial reality that they are based on. Rather, a map transmits a particular collective idea of a dynamic and ever-changing territory, in which the real and symbolic borders are constantly affected by the actions of bodies and subjectivities.”¹⁵

It is within this complex, problematic territorial reality that some other approaches to mapping emerge. Artists working loosely with mapping techniques have used sustained site engagement to create alternative realities and/or futures for contested urban spaces. These projects have taken multiple forms such as an alternative community development plan, Democracia (Spain), a temporary collaborative living experiment, Yurt Empire (Sydney), a series of local conversations, Here Studio (Melbourne) or an alternative travel guide, Lorenz Aggermann, Eduard Freudmann, Can Gülcü (Austria). The artists from Yurt Empire have created a monster map of Green Square, Sydney, by layering multiple plans from past, present and future proposals for the site into a dense and unreadable whole. The opaque and unreadable nature of these “maps” represents a tactical withdrawal from the “over-sharing” nature of digital cartography.

Jerome Dobson and Peter Fisher argue that GIS technologies are the third Panopticon, a voluntary and seductive form of digital surveillance and control: “GIS is changing the world. Already it has revolutionized warfare, science, navigation, security, crime investigation, tax collection, transportation and countless other aspects of ordinary

15 Iconoclastas catalogue essay.

life”.¹⁶ Today a picture of Earthrise would include a sea of satellite devices that swarm the earth’s periphery constantly updating observations of its surface. The upsurge in artistic and political counter-cartography observed by Denis Wood coincides with this more ominous upsurge in geographic surveillance and it is somewhere between these two forces of observation that a new geography is being forged.

Baadlands: An Atlas of Experimental Cartography brings together nine unique approaches to mapping from various “badlands” of the world. In strict geological terms badlands refers to barren and eroded land, which is often punctuated by dramatic peaks and hoodoos. In common speech the term has come to refer to areas one step removed from centralised rules and power, a place of danger and secrecy but sometimes also freedom. Every city has its “badlands”, places officially neglected and open to non-official uses and practices.

Baadlands: an Atlas of Experimental Cartography brings together a series of projects that use mapping as a way of revealing, challenging or engaging with the politics of space in a globalized world. The exhibition focuses on a series of undeveloped, unused or quasi-fictitious locations that often appear as glitches, empty or blank spots on conventional maps. Probing beyond this opaque exterior the exhibition invites viewers to consider new ways of seeing and thinking about the space we live in.

¹⁶ Dobson, J. and Fisher, P. “The Panoptican’s Changing Geography”, *The Geographical Review*, Volume 97, July 2007, p317

MAP #1

Córdoba, Argentina

Iconoclasistas
(Buenos Aires)