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COUNTER-MAPPING AND GLOBALISM

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To begin, two images of Enlightenment's optimism might be summoned to the convenient web browser: Thomas Hobbes's (1651) *Leviathan*, illustrating the Body Politic in the giant torso of a sovereign straddling the landscape; and Gerardus Mercator's (1609) engraving of Atlas as a 'quiet and seated scientist holding the globe in his hand' (as opposed to a God shouldering the burden).¹ Modernity's crisis of confidence in progress, political representation and a shared sense of the global might be attributed to the failure of both conceits: Hobbes's vision of a society made civil and Mercator's globe made manageable in the age of discovery. We are now perhaps more acutely aware that the Body Politic and the hand-held globe were only ever conceived from a particular perspective and by eliminating contradictory interests through a process of exclusion. So if the project has failed, what is the role of mapping as a means of representation today?

As the spatial arrangement of represented entities, a map or visualisation can strive to reveal complex networks of conflicting interests, flows and environmental change in the era of globalism. Maps and visualisations of weather patterns, oil spills, temperature and CO₂ levels, refugee paths of flight and so on can be accessed in an instant. But to what extent can mappings and visualisations be mobilised against the dominant forces that have brought us to the current crisis of confidence, confidence in a viable future? To explore this question I will first address the curious deficit of critique in data visualisation and mapping discourse, seemingly exacerbated by an epistemological gap between the related disciplines of computer sciences and geography; then I will explore the challenges of turning these tools of representation against the powerful interests that have traditionally wielded them; finally I will discuss how efforts to theorise and mobilise a resistance in mapping are manifest in repeated efforts to redefine and *rewrite* space, the emphasis being on a lexical as well as visual representation. Ultimately this leads to a conclusion that a map or visualisation by itself is doomed to remain gestural unless it is part of what

Bruno Latour (1986, p. 17) calls a 'cascade of inscriptions' that bring to the table the accumulated power of an assembly of allies and interests.

Critique and visualisation

The contemporary 'state of the art' in mapping is Geographic Information Systems (GIS), which brings together cartography and data visualisation in a powerful technological package, enabling its developers and users to bring any number of informational layers to the surface of a base map. This convergence of disciplines – cartography, computer science, statistics among them – has happened with such rapidity and technological fanfare that critical reflexivity has been largely left behind.² That the burgeoning language of data visualisation has a history indebted to cartography is usually neglected in the dominant discourse of the computer sciences. Key texts in the field (e.g. Ware 2000; Card *et al.* 1983) typically draw from a positivist conception of cognitive psychology based on testing and codifying principles of perception that can be, supposedly, universalised. This approach is critiqued as an 'engineering sensibility' by Johanna Drucker (2009, pp. 72–3),³ who counters from a perspective of theories of subjectivity in feminist and cultural studies. We need only a trace of a pre-twentieth-century history of visualisation to scrutinise the engineering sensibility, and locate its connection to what geographer Jeremy Crampton (2010, p. 9) calls 'technologies of management' such as statistics and the emergence of a theory of probability that emerged with data visualisation in the nineteenth century. The specific practice of plotting scientific data against a representation of territory, in turn, finds earlier examples in the Age of Discovery: Edmond Halley's seminal thematic 1686 map of trade winds, for example, introduces the graphic device of directional strokes and arrows to approximate the complex system of winds in the Atlantic around the tropics. Edmond Halley establishes several conventions to position the map-maker at the centre of the world: his use of the Mercator projection, of graticule and of London as the prime meridian. By the nineteenth century, these conventions had become undisputed 'facts'.⁴ The discovery of the globe as a measurable whole, as several commentators have shown, emerged alongside the problem of how to order it.⁵

Since the scope of this chapter is the *visual representation* of geopolitical space, we shall endeavour to limit ourselves to discussion of the processes by which territorial interests are translated into, and reinforced by, visual form. Bruno Latour's (1986, p. 7) concept of the 'immutable mobile' is a particularly robust account of how a map achieves this translation of power. Once a territory is framed, surveyed, coded, represented, authorised and fixed in a medium, be it in print or more seemingly fluid interactive forms such as GIS, it becomes both resistant to alteration ('immutable') and mobile; an instrument for preserving the meaning and truth of a scientific observation as it circulates.

Bruno Latour compares a map drawn in the sand by an indigenous islander on Sakhalin with a copy of the sand map transcribed in the notebook of the explorer Jean-François de La Pérouse, in an expedition funded by Louis XVI. The former is

allowed to disintegrate with the tide, whereas the latter, rendered in portable form, is the single object of the explorer's mission, 'to determine who will own this and that part of the world and along which routes the next ships should sail' (Latour 1986, p. 5). Both the sand map and the notebook map carry the same valuable information, but the latter bears the characteristics of being the first in a 'cascade of inscriptions': it is mobile (unlike the sand map, or the island itself), immutable and flat, it can be reproduced, scaled and recombined at will, merged with geometry and made part of a written text. All of these acts of reproduction and mobilisation form the cascade of subsequent inscriptions. In the hands of the French empire, then, this 'incredibly weak and fragile' piece of paper becomes a means with which to 'dominate all things and all people' (Latour 1986, p. 29).

But if its track record is entangled with imperialist histories, a map or inscription can surely also be deployed to serve the interests of the disempowered and marginalised. The act of plotting and representing marginalised interests, and here we might add non-human interests to the list, was usefully described as 'counter-mapping' by geographer Nancy Peluso (1995). In her paper on the counter-mapping of Indonesian forests undertaken in the 1990s by local activists and villagers in resistance to decades of intensive industrial timber exploitation and the Indonesian government's use of mapping to override customary forest rights, Nancy Peluso (1995, pp. 384–5) characterises counter-mapping as efforts to 'appropriate the state's "*techniques and manner of representation*"' (italics added). The aim is to 'reinvent' customary claims to forest resources, which have been traditionally and sustainably managed by villages.

Counter-mapping and the postmodern condition

The rich history of counter-mapping and critical cartography is not documented in lavish atlases and the giant drawers in map rooms of the world's libraries. This is not simply a reflection of where the power lies but also that counter-mapping always begins with a critique of the map: its first target is the map as an authoritative artefact frozen in time. Mapping, which describes the *process* of selecting and plotting information spatially, draws our attention to the means, method and circumstances under which the final representation was assembled. As such, it opens up for inspection the interests the map serves and suggests a way of looking beyond the finished artefact. This is why counter-mapping is always a practice and a process in flux:⁶ it suggests an activity that is generative, revealing, enabling, performative and participatory.

After a decade of rhetoric on the generative, participatory nature of the architectural diagram,⁷ it is not the goal of this chapter to perpetuate the idea that the exquisite gestural representations of flows of traffic, history, geology, etc. by architects and planners constitute a new 'movement' in design. The aim instead is to explore the limits and potential of mapping as a means of representing interests now that its political history has been exposed. That maps embody a rhetoric of neutrality that fosters an illusion of democracy is, by now, thoroughly explored.⁸

But the concern with 'how we represent the world to ourselves' (Harvey 1990, p. 240) is arguably what has prompted the proliferation of maps and visualisations in the last few decades. The postmodern condition was in effect transformed into a provocation by Frederic Jameson when he suggested in 1991 that the 'incapacity of our minds, at least at present, to map the great global multinational and decentred communicational network in which we find ourselves caught as individual subjects' might be resolved via an 'aesthetics of cognitive mapping' (Jameson 1991, p. 44). While Fredric Jameson's hypothesis has been tested in countless subsequent mapping projects, its emphatic case for an aesthetics of 'cognitive mapping' calls for a closer inspection of the term.

Cognitive mapping emerged in the 1950s as a field research method for evaluating the 'legibility' of urban space, a concept furthered by urban planner Kevin Lynch (1960). By asking residents of a city to sketch a map and respond to questions about the built environment, Kevin Lynch argued that a shared sense could be derived of urban legibility, i.e. 'the ease with which [a city's] parts can be recognized and organized in a coherent pattern' (Lynch 1960, pp. 2–3). Appealingly low-tech and accessible (particularly in the present age of more high-tech successors), Kevin Lynch's method nevertheless makes several assumptions. Inherent in the phrase 'urban legibility' is the assumption that space can be 'read', suggesting a pre-existing text that presents itself for contemplation. As we shall see, this assumption has drawn criticism, notably from the anthropologist Tim Ingold.⁹ But even at the most literal level, the lexical bias encourages a focus in Kevin Lynch's methods on *fixed or written* and therefore *received* representations.

As a result, cognitive maps when sketched have a tendency to represent the world not as it is experienced, but an image of the world as it has been represented to us in print or on screen. Janet Vertesi's paper on cognitive maps of London revealed a tendency among locals to view the city in terms of the city's influential underground map (Vertesi 2008). Similarly, the sketch map study made by the geographer Thomas Saarinen in the early 1970s to examine how children pictured maps of the world, elicited received mental images of the world: after 3,800 children from various continents were asked to produce freehand sketch maps, Thomas Saarinen found there was a tendency, stronger in certain countries, to distort the maps to favour Europe, enlarging the continent and putting it at the centre (Saarinen 1987). This tendency even overshadowed an impulse to favour proximity and centre the countries the children were drawing from. For example, the orientation of a map composed of children's world views puts the Soviet Union at the top right, USA top left and Europe in the centre, mimicking the classic Mercator projection. A particularly Eurocentric map drawn by Thai children in the 1970s reminds us that a map, as J. B. Harley wrote, replicates not just the territory but the 'territorial imperatives of a particular political system' (1984, p. 54). It would seem that, despite being the only country in South-East Asia not to have been colonised by a European power, Thailand has not been immune from the imperial activities around it. Here were the territorial imperatives of Carl Schmitt's *Grossraum*, in

which a dominant power seeks not annexation but to draw lands into its sphere of influence, vividly visualised in a child's map.¹⁰

To move to the present day, Fredric Jameson's call for cognitive mapping of the global order requires, in fact, a series of images. One challenge is that, like maps of the world, the notion of a single geopolitics has been thoroughly destabilised. The much-cited phrase of Donna Haraway, the 'God-trick of seeing everything from nowhere' is used to characterise the view of classical geopolitics (Haraway 1991, p. 189). Colin Flint's account of contemporary geopolitics as 'situated knowledges' (Flint 2006, p. 16) mirrors the emergence of multiple, conflicting, representations of the world. We might begin with Ulrich Beck's opening to his book *What is Globalization?* in which the nation-states are undermined by the transnational corporations that dominate the global operation of the economy (Beck 2000). Following a report in the *Economist*, we might draw a map depicting the largest transnational corporations instead of the dominant continents in Mercator's projection: General Electric, Royal Dutch Shell, BP, Exxon Mobil and Toyota (*Economist* 2013). But where do we place them? GE and Exxon are American, BP is British, Shell is Dutch and Toyota Japanese, but of the 100 companies with the most foreign assets, the *Economist* tells us, 17 hold over 90 per cent of their assets abroad. If we sought to represent where the transnationals' workforce is dispersed, it would become clear, as Beck notes, that the transnationals are located where labour costs and workplace obligations are the lowest. Over half the GE workforce is outside of the USA. We might draw the lines representing the flow of goods and services for these corporations, again connecting the places where infrastructure is favourable and labour is cheap. And finally, add some dollar signs, colour coded again, to show where these corporations pay taxes, and briefcases to show where their top executives choose to live. Clearly we arrive at something quite different from the Mercator projection.

Ulrich Beck's geopolitical map is in turn supplanted by the dazzling map of mega-regions, captured in satellite imagery of contiguously lighted areas at night, and redrawn by economist Richard Florida. Countering both the traditional nation-state map and the now popularised notion of the flattened world economy in which geographic place is less and less important, Richard Florida argues that geographic clustering and 'pushing together' of economic activity have reasserted the importance of place, in terms of economically and politically powerful mega-regions. Profiting from available labour, skilled talent, economic capacity and infrastructure, mega-regions define a two-tiered world order. Two mega-regions with common economic output are more likely to develop similarities in terms of culture, politics and built environments. But lagging behind are the 'mega cities' like Calcutta or Delhi, which share little in common with the mega-regions, nor can they look to the global economy for solutions or resources (Florida *et al.* 2008, p. 461).

Lack of fit

Ultimately, none of the geopolitical perspectives discussed above suggests a means of resistance to globalism. They depict the flows of power and capital, but ultimately reflect a dominant view of the world back to us, which serves to disempower rather than inspire the political action Jameson hoped for. At a global scale, the mapping of globalism sees only abstractions and generalisations. The same might be said of all the 'big picture' counter-mappings and counter-projections that sought to redress the Eurocentric imbalance of the Mercator projection: from Joaquin Torres-Garcia's *América Invertida* (1944) to ODT's 'What's Up? South!', both of which inverted the Mercator projection by showing the continents 'upside down'. Since their target is the dominant signifier, they end up reinforcing it by protesting it. This is a complex design problem because the very tools that the under-represented need to make maps are shaped by those whose interests were served by the tools.

A parallel can be drawn with post-colonial literature. The inadequacy of language for the post-colonial writer has been raised by several authors, including Salman Rushdie, who reflected on his ambiguity towards using English, the language of the coloniser, in terms of a struggle: 'To conquer English may be to complete the process of making ourselves free' (1992, p. 17). One group of editors of a volume of *The Post-Colonial Studies Reader* neatly describe the 'lack of fit' between language and place for those who inherit the language of the coloniser as a second language (Ashcroft *et al.* 2006, p. 345). The Canadian writer Dennis Lee has described the mismatch between English and the Canadian landscape: 'The language was drenched with our non-belonging and "The colonial writer does not have words of his own", he writes (cited in Ashcroft *et al.* 2006, p. 349). Is not the same true of the counter-mapper, crafting lines and shapes to give form that in turn struggles with its own loaded textures, weights and connotations?

One of old cartography's favourite textbooks, *How to Lie with Maps*, reveals a glib awareness that the mapmaker's tools are intensively coded abstractions and techniques designed to simplify, select, displace, aggregate, abbreviate, make territory look 'natural' and most portentously, draw hard boundaries where there are none (Monmonier 1991). 'Not only is it easy to lie with maps, it's essential', writes Monmonier (1991, p. 2), betraying the blithe embrace of positivism among the post-war cartographic establishment. After their wartime use for propaganda, the cartographic arts were strenuously repositioned as a technoscience, enabled in no small amount by the emergence of computers, databases and ultimately, GIS, which brings its own rhetoric of neutrality and precision. The result is a perpetuation of the black-box status of the map, whose codes are deeply embedded with the structures, values, techniques and hierarchy of practices of their colonial history. As Denis Wood has argued, 'Maps mask the interests that bring them into being' (1992, p. 95).

That the very syntax of the map conceals its imperialistic Western cartographic development can be vividly illustrated by looking at the function and symbolism of the legend. Since the majority of social practices and symbols at work in a

cartographic map are silent conventions presented *without* explanation, the legend becomes a tell-tale index revealing what the mapmakers consider to be worth underlining. This, despite the widely held view that legends are neutral tools, 'naturally indispensable to most maps since they provide the explanations of the various symbols used' (Wood 1992, p. 97). Drawing from the work of J. B. Harley, Denis Wood has famously identified the territorial imperatives at work in a seemingly innocent road map of North Carolina by unravelling the signs. Denis Wood notes that the legend neglects to interpret 18 of the signs used in the map but provides signs for seven different kinds of road surfaces, along with the revealing factoid, 'North Carolina's highway system is the Nation's largest State maintained Network. Hard-surfaced roads lead to virtually every scenic and vacation spot'. As Denis Wood puts it, the message of this map is one of 'automotive sophistication' (1992, pp. 95–107).

Lack of fit becomes apparent when the dominant structures of cartography are put to the service of a counter-mapping project. Conventions around colour, for example, are clearly the product of specific cultural traditions for depicting landscapes: blue for water and green for vegetation make more sense in Northern Europe than in the Western Sahara. Seemingly impartial descriptive attributes such as 'primary forest' can have completely different meaning for a scientist, government official and an indigenous farmer (Rambaldi 2004).

It becomes clear that there is a key conceptual difference between the cognitive sketch map and the everyday practice of experiencing space. In its rush to pragmatism, Kevin Lynch's method of interviewing city dwellers and asking them to sketch their mental 'image of the city' rested on a centuries-old model of thought, one that assumed that the world 'out there' is processed 'in here', in the mind. This model, rooted in Cartesian dualism, is often described as a 'transcendental' account of cognition.¹¹ An embodied account of thought, however, shifts this model to an experiential, situated and, recently, transactional understanding of how we encounter the world.

Tim Ingold tackles the limitations of the cognitive model in his extended case for wayfinding in the environment, which suggests to him not a 'great God-given maze' but 'an immensely variegated terrain of comings and goings, which is continually taking shape around the traveller even as the latter's movements contribute to its formation' (Ingold 2000, p. 223). This position is developed in a case study of tourists' wayfinding practices by Eric Laurier and Barry Brown (2008). Eric Laurier and Barry Brown argue that classic cognitive studies of orientation and alignment with maps rely on 'more or less disengaged cognitive models of navigation' that 'gloss numerous features of what ordinary navigators are doing with maps'. This is illustrated with detailed observations of tourists and car route navigators orientating themselves en route, where we see not mental reasoning and spatial models but: 'map readers looking and reading signs, misunderstanding street names, grappling with more or less cumbersome paper documents and the like' (Laurier and Brown 2008, p. 214).

This key difference between transcendental and embodied accounts of thought also reflects back at us a contrast between Western and non-Western conceptions

of territory, a distinction considered by a number of geographers in recent field work with beleaguered indigenous groups.

Indigenous cartographies

In his account of a participatory mapping project in the Mosquitia region of Honduras, Joel Bryan (2011) notes the incompatibility of boundary lines with local understandings and practices of land use. Miskito villagers secured access to land and resources through networks organised in terms of kinship, residency and ancestry, notes Joel Bryan. These were conceived as overlapping and dynamic zones:

Insofar as legal recognition required the resolution of these overlaps into boundary lines that could be titled and demarcated, they ran at cross purposes with the very forms of customary use and occupancy that they were intended to protect. This was, in many respects, an impossible task.

(Bryan 2011, p. 41)

Joel Bryan adds that it was 'tactically necessary' to deploy the representation techniques of Western cartography since indigenous communities in the region had seen the land they occupied increasingly encroached on by third-party land speculators and agriculturalists. Legal recognition of indigenous land rights had become crucial to stop the encroachment, but at the same time, writes Joel Bryan, producing those boundaries 'carried the risk of disrupting villagers access to land and resources and becoming a source of conflict' (Bryan 2011, p. 42).

The ambivalence at the heart of the project is acutely felt by Joel Bryan, who was tasked with helping researchers from FINZMOS (the Federation of Indigenous and Native People of the Rio Segovia Zone) design and develop methodology for mapping indigenous claims to land. For all its rhetoric of empowerment, participatory mapping has been criticised for its capacity to extend neoliberal modes of governance by translating claims to territory and autonomy 'in terms of the contractual freedoms associated with property ownership' (Bryan 2011, p. 42). Efforts to chart boundaries and simultaneously reproduce the pre-existing forms of collective life that the boundaries precluded are recorded in vivid detail: Joel Bryan and his team of GPS-enabled researchers follow a local guide seemingly able to navigate indeterminate boundaries in the savannah by marking blazes on pine trees with a machete. At boundary markers, FINZMOS representatives signed agreements, written in Miskito, affirming villagers' 'rights to cross' boundary lines in accordance with customary practices of use and occupancy.

In walking the boundaries and validating the maps, Miskito organisations found new ways of creating new forms of relationships between communities, notes Joel Bryan, providing a means of critically assessing the potential of legal recognition and creating an awareness of other configurations of territory. The inscribed boundaries and 'rights to cross' agreements, in other words, both set up potential for protection and conflict. In conclusion, notes Joel Bryan (2011), the mapping

simply opened up the need for more maps, an aspect of state mapping practices that indigenous mapping had sought to challenge. The ambivalence of this conclusion points to the impossibility of returning to a virginal, pre-mapped state. Once mapped, a territory is consigned to be continuously mapped.

In her account of the negotiations between indigenous Karen communities and the Thai Royal Forestry Department in Thailand, Robin Roth identifies two opposing conceptions of space resembling Gilles Deleuze and Félix Guattari's (1987) notions of smooth and striated space. The Thai Royal Forestry Department, which was seeking to establish a national park in the region, had Western-style maps to support its efforts to impose boundaries. The Karen, who had inhabited the area for over 1,000 years, did not see themselves as owners of the land – it was owned by spirits of land, water and forest. Their notion of the delineations between forest and agricultural land were ambiguous as a result of shifting cultivation practices: temporary private land is embedded within a communal framework. For example, a household in need can borrow land from a household within the village or a neighbouring village. After two rotation cycles the land becomes the 'property' of the borrower. At the same time, opportunistic gathering of chillies and vegetables (but not rice) from another's field is practised. Citing Tim Ingold and Henri Lefebvre's conceptions of space as something that is both rooted in social and ecological relations and dynamic, 'in a constant state of becoming', Robin Roth endeavoured to map Karen communities using the concept of 'dwelling space' instead of the abstract space of the Western cartographic map (Roth 2009, p. 211). Again, the project ended in ambivalence. Given the needs of the villagers to negotiate in the terms of the Western cartographic map, an uneasy compromise was achieved by Robin Roth training the Karen people to create 'dynamic' maps of land use.

Nevertheless, Robin Roth's case for mapping 'dwelling space' usefully draws from a Heideggerian account of space that Tim Ingold advocates in *Perception of the Environment* (2000). In place of the map that represents the earth as a 'surface to be occupied rather than a world to be inhabited', Tim Ingold argues for a conception of the world that 'continually comes into being around the inhabitant' (Ingold 2000, p. 143). Livelihood, with its practical, material and technical interactions with the environment cannot be understood as separate from myth, religion and ceremony. A hunter-gatherer pygmy group in Zaire, for example, builds dwellings that are relatively insubstantial and are regularly adapted to reflect the rifts, goings on between community members; a contrast to the often-unaddressed presumption in architecture, characterised as 'first plan and build the houses, then import the people to occupy them' (Ingold 2000, p. 180).

To build a case for the validity of such alternative and counter knowledges, it is useful to refer to Jeremy Crampton's diagram of contemporary mapping as a field of 'knowledge and power relations' being pulled in two different directions (Crampton 2010, p. 5). On one side of a compass-like circle are the experts pushing the securitisation of mapping, focusing on technical issues in isolation from their socio-political context. On the other side is the resistance: mapping as art, as amateur

practice and as a force that has allowed the resurfacing of what Michel Foucault called 'subjugated knowledges'. The resistance is further subdivided between those practitioners who critique mainstream GIS and cartography while supporting the geoweb and those who practise map art, performativity and counter-mapping. An example of the former group is the UK-based OpenStreetMap (OSM), which set out in 2004 to map the world using a crowdsourced, wiki-based system, whereby volunteers with handheld GPS uploaded data and imagery to the OSM server. To date, the platform has registered one million users, 30 per cent of whom have contributed at least one point to the map; the project has effectively forced the UK's Ordnance Survey to relinquish its tight licensing and copyright controls on its maps, making geodata freely available (Gerlach 2010).

While few would fail to be impressed with the power and promise of this wiki-based endeavour, OSM nevertheless reinforces the same visual syntax as its dominant rivals, and one would argue is ill-equipped to deal with the space of the modern city. The dominant form of the cartographic map can abstract slow-moving physical features like hills, trees, parks, buildings, rivers, infrastructure, and administrative and political boundaries like state and county lines and census blocks, but has never been very good at showing fast-moving, local things like vehicles or people, and even worse at showing the connections between those things; including the administrative, political and corporate jurisdictions and legislations that define modern city space. With the advent of GIS, we have a layered means of making cartographic tools more adept at revealing the mutability of space, but its machinery remains one aimed at scaling the local to the global. It tends to serve the forces that seek to profit from standardisation of space. This deficiency would explain why Jeremy Crampton is at pains to separate the resistance forces supporting the geoweb from those practising map art and counter-mapping.

To help theorise the latter, Jeremy Crampton draws together threads that connect Gaston Bachelard's 'poetics of space' with Martin Heidegger's concept of *dwelling* and George Perec's invitation to describe urban space in its banal ordinariness. Also cited is Michel de Certeau's well-known contention that maps, or surveys of routes, end up negating or forgetting our *being in the world*, the 'act itself of passing by' (Crampton 2010, pp. 161–3). The recent work of many practitioners pulling in the map art and counter-mapping direction of Jeremy Crampton's diagram is directly concerned with the visualisation of this ground-level experience. In the spirit of George Perec's *Species of Spaces* (1974), I will now venture a tentative taxonomy of alternative conceptions of represented space: Air Space, Automated Space, and Ruptured Space.

Air Space

At the most fundamental level, the space of the air we inhabit has been utterly transformed in a matter of decades: one simple conclusion from the work of philosopher Peter Sloterdijk is that the biophysical crisis has brought about a realisation that we humans exist in spheres of influence, in atmospheres that are shared.

To define humans is to define the envelopes, the life support systems that make it possible for them to breathe. Peter Sloterdijk's call for a new Rights of Man, 'reformulated in topological terms' points to the shift required for us to re-visualise contemporary space:

all men are not only born free and equal but they're all condemned to look after the space in which they live and ensure the breathability and livability of their environment. This definition concerns so-called private space as much as it does public space. Henceforth, the relationships between citizens are those of mutual poisoning.

(Sloterdijk 2005, p. 230)

This calls for a new metrics, to measure the extent of poisoning caused by our actions, which can be tied to the emergence in the 1980s of the concept of 'environmental injustice' designating the social impacts of environmental degradation. Efforts to correlate and visualise economic deprivation and environmental hazards are a significant counter-mapping endeavour, inevitably challenged, as Denis Wood has pointed out, by the extreme costs of compiling databases on the environment, which leads research groups to rely on often-problematic data sources provided by government and institutions (Thompson and Caquard 2011). In a recent survey of contemporary mapping practices, Sébastien Caquard concludes, depressingly, that the hyper-real perspective that Google has been producing through its pervasive mapping applications has come to seem brighter than the deteriorated environment to which it refers. Paraphrasing the novelist Michel Houellebecq, Sébastien Caquard offers the 'disturbing' provocation, 'Google Maps are more interesting than the territory' (Caquard 2013, p. 141).

That the hyper-real perspective of a hegemonic mapping platform neglects to depict the deterioration, or poisoning, of air space is almost identical to the critique levelled by the BBC writers analysing a celebratory 1686 map of London produced under Charles I: both neglected to depict actual living conditions (BBC4 2010). But a significant distinction can be made between the slum and plague-ridden city of the early Enlightenment and today's megalopolis, one alluded to earlier in Jameson's characterisation of the 'great global multinational and decentred communicational network'. At stake is our inability to visualise the colonisation of space by this network of interests. Curiously, one of the commercial organisations most associated with the democratisation of mapping tools is also implicated in this colonisation: Google.

Automated space

Google is entangled in the redefinition of space in several ways. On the surface level it has become so prevalent a mapping platform that several critics have noted a homogenising effect in popular cartography: colour schemes have become less saturated, roads have been widened, fonts made uniform, to the effect that it has

disseminated, perhaps unwittingly, a decidedly homogeneous version of the world devoid of geographical, political and cultural diversity, despite the variety of user groups adding information to its applications (Wallace 2009).

But on another level, Google's acquisition of a mapping platform in the early 2000s from the CIA-funded software company Keyhole was a strategic addition to its armoury. To add locative technology, to which we can now add the smart phone, to the world's most powerful search engine enacts a disciplinary space quite unprecedented, one far beyond the panopticon first theorised by Michel Foucault.¹²

To tease out the threads of this entanglement requires a more dimensional and historical account of space, developed by geographers Nigel Thrift and Shaun French (2002). In the past 50 years or so, argue Nigel Thrift and Shaun French, the 'technical substrate' of Euro-American societies has been completely redefined as software has come to intervene in everyday life and at the same time assume an unchallenged, 'taken-for-granted' position in the background. Drawing from the 'machine space' identified by Ron Horvath in 1974, which described a desolate and threatening territory devoted primarily to the use of machines, Nigel Thrift and Shaun French extend the definition to describe space that is automatically produced:

Wherever we go, then, in modern urbanized spaces, we are directed by software: driving in the car, stopping at the red light, crossing the road, getting into an elevator, using the washing machine or the dishwasher or the microwave, making a phone call, writing a letter, playing a CD or a computer game, the list goes on and on.

(Thrift and French 2002, p. 323)

The effectivity of this mechanically written space, they argue, stems from three different but intersecting geographies: a geography of software production, a geography of power and a geography of play. All three are situated by Nigel Thrift and Shaun French within critical discourse: software production is concentrated in the US, and characterised by hierarchies of places and people; its geography of power is interpreted in Foucauldian terms to describe how software is an expression of 'rules of conduct' which 'operate at a distance' so that 'too often the code seems to have little to do with the situations in which it is applied'; and its geography of play is defined, optimistically it seems, in terms of its indeterminacy and lack of closure, which as properties that resist being captured by dominant orders, provide a means of creating 'new kinds of order' (Thrift and French 2002, p. 328).

A decade after Nigel Thrift and Shaun French's prescient provocation, automatically produced space is running rampant, and notably so in terms of wayfinding. Space is increasingly inscribed by software to the extent that where we go, why we go and what we do when we go is dictated through and by the smart phones, social media apps and satellite navigation systems we carry around with us. The Apple and Google maps on our smart phones also provide a cartographic view of

the world that increasingly resembles a video game, one small horizonless screen at a time, in which obstacles are a nuisance and overall orientation is sacrificed for the expediency of getting to a single destination in the minimum amount of time.

Ruptured space

Space is increasingly ruptured, by its automatic production, development, colonisation and, quite often, by disaster. The use of locative technologies to serve communities in re-connecting ruptured space seems to illustrate Nigel Thrift and Shaun French's case for 'new kinds of order' emerging from the exploitation of software's indeterminate nature. A case in point is the use of OSM as the basis for Ushahidi, an open source platform started in Kenya as a way of tracking post-election violence in 2007. Essentially a way to geo-locate reports sent to a website, the platform, together with its visualisation tool Crowdmap, translates, classifies and geo-references (using Google maps/OSM) reports sent by email, SMS, social media, traditional media and voice messages (for the illiterate) (Sheller 2012).

In the wake of the Haitian earthquake of 2010, Ushahidi set up a Haitian crisis mapping operation through which people and organisations posted their needs, and volunteers translated and picked up geolocated requests, and reportedly helped save many lives. The cautionary addendum to this much-celebrated project is that very few Haitians had smart phones and broadband access after the disaster. As Mimi Sheller notes, this meant that the vantage points and centres of calculation for the relief effort were outside the country (Sheller 2012). Nevertheless, the mapping of post-disaster space usefully identifies a temporary space that rarely makes it onto a map, but has increasing relevance as we enter the worsening stages of biophysical crisis.

To return to Jeremy Crampton's diagram, the uneasy tension between securitisation and resistance suggests intriguing problems for the art of mapping resistant practices. Mapping post-disaster space brings up complex issues around data access and ownership. A mapping of least surveilled routes provides material for the next wave of cameras. A mapping that seeks to galvanise networks of hackers, grass roots activists and hacktivists also risks providing valuable information for criminal investigators and prosecutors. A security map of network vulnerabilities by the same token potentially provides a valuable tool for cyber-criminals.

The sense of an impasse remains, however, only if we remain at the level of the map, the visualised outcome of acts of resistance. If instead we consider the acts themselves as part of specific, situated social movements, then the effectiveness or ineffectiveness of a map becomes a secondary concern. This first requires a rather different interpretation of Jeremy Crampton's diagram using Gilles Deleuze and Félix Guattari's concept of deterritorialisation. This broad-ranging concept, describing the freeing of a possibility from its former state (Deleuze 1986), is often used to describe the transnational movement of cultures no longer anchored to place: the migration of people, the displacement of refugees, border-crossings and so on. Following anthropologist Arturo Escobar, we might attribute to the

securitisation side the forces seek to *globalise* through systematisation of mapping, and to the resistance side the forces seek to *localise*. Both sides deploy technology to network their activities, the key distinction being that the strategies of securitisation practiced by the technoscientific establishment produce a delocalising effect due to their politics of scale (to map the globe requires the imposition of an abstract system upon it). But at the same time, the forces that seek to globalise are not, as a Marxist reading of Jeremy Crampton's diagram might suggest, a single, unified bloc moving en masse. They too are engaged in processes of deterritorialisation and reterritorialisation. Arturo Escobar proposes that we learn a feminist 'radical critique of power' that fractures this capitalocentric model of a unified bloc and replaces it with a set of scattered practices across the globe: 'pluralising the identity of capitalism – capitalisms – demands ... the discursive liberation of places (and the economy) from a total determination by capital, or modernity for that matter' (Escobar 2001, p. 158).

This move, characterised as giving capitalism an 'identity crisis' (Gibson-Graham 1996, pp. 260–1) grants potency and autonomy to alternative models of development, or rather, post-development.¹³ It echoes the writings of many anthropologists on globalisation¹⁴ and establishes a framework for Arturo Escobar's discussion of ecological and ethnic movements such as the alternative strategies for sustainable uses of bio-diverse resources practised by activists in the Colombian Pacific rainforest. Confronted with the rapid expansion of palm plantations and industrial shrimp cultivation in the south of this region, activists have initiated research of traditional production systems and redefined the entire Pacific rainforest region in terms of 'life corridors' that link people with the natural environment. For example, there are life corridors linked to mangrove ecosystems, foothills, traditional gold mining or women's shell collecting in the mangrove areas. The point is not to reify or preserve indigenous practices as 'untouched' but to challenge the conceptual model that always characterises the local as succumbing to the global (Jacobs 1996, p. 15).

We might also complicate Jeremy Crampton's diagram with Gilles Deleuze and Félix Guattari's less polarised model of resistance and control, in which 'Resistances are no longer marginal but active in the centre of a society that opens up in networks' (Hardt and Negri 2000, pp. 24–5). In a disciplinary society, control was exercised in the form of public executions and punishments; today control is internalised in the social body, as Michael Hardt and Antonio Negri argued. In short, it would seem that mapping against globalism first requires identifying where globalism has colonised us, our habits, or the structuring structures that shape how we navigate the world.

A prime reflection of this internalised battle is our ambivalent relationship with technology, which seems to cleave space itself, rupturing us from our immediate environment and suturing us to remote spaces. In his last book, Félix Guattari used exactly these terms, rupture and suture, for acts of deterritorialisation. A particularly resonant phrase suggests that counter-mapping is a resistant and fertile impulse in the bid to make sense of the conflicting interests that confront us in our daily

lives. 'Artistic cartographies have ... never stopped being a vital element in the crystallisation of individual and collective subjectivities' (Guattari 2006, p. 79).

Conclusion

The thrust of this chapter has been to explore how visualisation and mapping *against* globalism has taken shape in the past and how it might take shape in the future. The idea that visualisation's language – visual and textual – is indeterminate provides reason enough to see reinvention as both possible and inevitable amid the forces of globalism. But a Latourian analysis would remind us that to focus on the visualisation alone is to miss the point that the map is the synthesis or accumulation of interests into immutable form. The reason why an experimental map of indigenous dwelling space would likely not have been successful is because the community needed to mount a convincing counterargument, as opposed to formal innovation.

In other words, a map or visualisation must always be understood as the mobilisation of interests, without which it is destined for failure: it is successful inasmuch as it can become immutable and mobile, by gathering support and preserving its claim to truth as it mobilises. This is why formal graphical innovation must always be the product of a groundswell of change to change anything; otherwise it is doomed to remain gestural and faddish. We are left to consider how the myths of human progress that are written into the language of cartography and visualisation might yet be countered with new myths. To paraphrase Claude Lévi-Strauss, myth is countered not by argument but by other myths.¹⁵ Arturo Escobar's suggestion is that the capitalocentric myth of an 'impossibly large monster that cannot be changed' is a hindrance to the establishment of new myths, myths of alternative models, of meshworks of localised practices (Escobar 2001, pp. 161, 169).

The challenge is simply put, as Audre Lorde (1984) would have it, that 'The Master's Tools Will Never Dismantle the Master's House'.¹⁶ That the very syntax of visualisation and mapping is inscribed with the interests of the dominant forces that mobilised them, is a reminder that space must be re-imagined to be re-mapped.

Notes

- 1 The challenge of representation presented here draws on Bruno Latour and Peter Weibel's project *Making Things Public*. See Latour (2005).
- 2 Jeremy Crampton (2010) opens with an account of this neglect.
- 3 Johanna Drucker posits an alternative approach to visualisation which acknowledges the situated nature of knowledge. To Johanna Drucker, the representation of human thought is characterised as 'a continual attempt to open up space for subjectivity, individual expression, and specificity as challenges to the cultural authority of alignment, totalisation and systematic approaches to knowledge' (Drucker 2009, p. 129).
- 4 Halley's thematic map, titled caustically 'An Historical Account of the Trade Winds, and Monsoons, observable in the Seas between and near the Tropicks [sic]; with an attempt to assign the Physical [sic] cause of the said Winds', is discussed in detail in Thrower (1969).

- 5 See, for example, Elden (2010, p. 21); Latour (2004, p. 461).
- 6 Practice here is meant in the sense that Stan Allen (2009) positions it as discovery.
- 7 See, for example, Garcia (2010).
- 8 With his insightful focus on the 'silences' in maps that reveal their territorial imperatives, J. B. Harley has left a critical legacy that invites us to unravel the neutrality of maps through deconstruction of the close reading of signs, graticule, decoration, legends, and so on. Following Michel Foucault's discursive analysis, J. B. Harley has shown how maps came to prominence with the rise of the nation-state, and how their principal patrons were nation-states who saw in them a means of plotting and controlling knowledge of estates, waterways, and political boundaries. Rather than see maps as means of navigation, we can thus investigate the development of maps and visual codes as the institutionalisation of power/knowledge (Harley 1984).
- 9 See Ingold (2000).
- 10 For a discussion of Carl Schmitt's influence on contemporary international relations, see Elden (2010).
- 11 See Alva Noë's discussion of transcendental accounts of cognition in Noë (2012, pp. 1–11). Alva Noë writes, 'the world does not show up as presented on a viewing screen; it shows up as the situation in which we find ourselves ... We are always in the midst of making adjustments to the world around us' (2012, pp. 3–4).
- 12 See Burkeman (2012). Michel Foucault's account of Jeremy Bentham's panopticon appears in *Discipline and Punish* (1975).
- 13 Post-development theory challenges the assumption that a 'developed' world can impose a standard of progress on the rest of the world, identifying the origins of this assumption as President Truman's 1949 speech. See Rahemna and Bawtree (1997).
- 14 See, for example, Clifford (1989, 2012).
- 15 For a discussion of Claude Lévi-Strauss and myth, see Lévi-Strauss (2013).
- 16 See Lorde (1984).

References

- Agamben, G. 1998, *Homo Sacer: Sovereign Power and Bare Life*, trans. D. Heller-Roazen, Stanford University Press, Stanford, CA.
- Allen, S. 2009, *Practice: Architecture, Technique and Representation*, 2nd edn, Routledge, London.
- Ashcroft, B., Griffiths, G. and Tiffin, H. (eds) 2006, *The Post Colonial Studies Reader*, 2nd edn, Routledge, London.
- Austen, K. 2013, 'Where in the World?', *New Scientist*, 19 January, vol. 217, no. 2900.
- Bartholl, A. 2013, 15 Seconds of Fame, video screencast, <http://datenform.de/15-secs-of-fame.html> (accessed 1 October 2013).
- BBC4 2010, 'City maps: Order out of chaos', *The Beauty of Maps*, television broadcast, 20 April, www.bbc.co.uk/programmes/p007hqrv (accessed 1 March 2013).
- Beck, U. 2000, *What is Globalization?*, trans. P. Camiller, Polity Press, Cambridge.
- Bryan, J. 2011, 'Walking the line: Participatory mapping, indigenous rights, and neoliberalism', *Geoforum*, vol. 42, no. 1, pp. 40–50.
- Burkeman, O. 2012, 'How Google and Apple's digital mapping is mapping us', *The Guardian*, 28 August.
- Cacquard, S. 2013, 'Cartography 1: Mapping narrative cartography', *Progress in Human Geography*, pp. 135–44.
- Card, S., Moran, T. P. and Newell, A. 1983, *The Psychology of Human-Computer Interaction*, Erlbaum Associates, New Jersey.
- Clifford, J. 1989, 'Notes on Travel and Theory', *Inscriptions*, vol. 5, pp. 177–88.
- Clifford, J. 2012, 'Feeling Historical', *Cultural Anthropology*, vol. 27, no. 3, pp. 417–26.

- Crampton, J. 2010, *Mapping: A Critical Introduction to Cartography and GIS*, Wiley-Blackwell, Chichester.
- Deleuze, G. 1986, *Cinema 1: The Movement Image*, trans. H. Tomlinson and B. Habberjam, University of Minnesota Press, MN.
- Deleuze, G. and Guattari, F. 1987, *A Thousand Plateaus: Capitalism and Schizophrenia*, trans. B. Massumi, University of Minnesota Press, MN.
- Drucker, J. 2009, *Spedlab: Digital Aesthetics and Projects in Speculative Computing*, University of Chicago Press, Chicago, IL.
- Economist* 2012, 'Biggest transnational companies', 10 July, www.economist.com/blogs/graphicdetail/2012/07/focus-1 (accessed 1 October 2013).
- Elden, S. 2010, 'Reading Schmitt Geopolitically: Nomos, Territory and Grossraum', *Radical Philosophy*, vol. 161 (May/June).
- Escobar, A. 2001, 'Culture sits in places: Reflections on globalism and subaltern strategies of localization', *Political Geography*, vol. 20, no. 2, pp. 139–74.
- Flint, C. 2006, *Introduction to Geopolitics*, Routledge, London.
- Florida, R., Gulden, T. and Mellander, C. 2008, 'The Rise of the Mega-Region', *Cambridge Journal of Regions, Economy and Society*, vol. 1, pp. 459–76.
- Garcia, M. (ed.) 2010, *Diagrams of Architecture: AD Reader*, John Wiley & Sons, Chichester.
- Gerlach, J. 2010, 'Vernacular mapping, and the ethics of what comes next', *Cartographica* vol. 45, no. 3, pp. 165–8.
- Gibson-Graham, J. K. 1996, *The End of Capitalism (as we knew it)*, Basil Blackwell, Oxford.
- Gordon, A. 2008, *An Atlas of Radical Cartography*, Journal of Aesthetics and Protest Press, New York.
- Guattari, F. 2006, 'Chaosmosis: An ethico-aesthetic paradigm', in C. Bishop (ed.) *Participation*, Whitechapel-MIT Press, London, original work published 1992.
- Haraway, D. 1991, *Simians, Cyborgs, and Women: The Reinvention of Nature*, Routledge, New York.
- Hardt, M. and Negri, A. 2000, *Empire*, Harvard University Press, MA.
- Harley, J. B. 1984, 'Maps, knowledge and power', in P. Laxon (ed.) 2001, *The New Nature of Maps: Essays in the History of Cartography*, Johns Hopkins University Press, Baltimore, MD, pp. 52–81.
- Harvey, D. 1990, *The Condition of Postmodernity: An Enquiry into the Origins of Cultural Change*, Blackwell, Oxford.
- Ingold, T. 2000, *Perception of the Environment: Essays on Liveliness, Dwelling and Skill*, Routledge, New York.
- Institute for Applied Autonomy, c2002. *i-See*, www.appliedautonomy.com/isee.html (accessed 1 October 2013).
- Jacobs, J. 1996, *Edge of Empire: Postcolonialism and the City*, Routledge, London.
- Jameson, F. 1991, *The Cultural Logic of Late Capitalism*, Duke University Press, Durham, NC.
- Kotkin, J. and Cox, W. 2013, 'The World's Fastest-Growing Megacities', *Forbes*, April, www.forbes.com/sites/joelkotkin/2013/04/08/the-worlds-fastest-growing-megacities (accessed 1 October 2013).
- Kwan, M. 2002, 'Feminist visualization: Re-envisioning GIS as a method in feminist geographic research', *Annals of the Association of American Geographers*, vol. 92, no. 4, pp. 645–61.
- Latour, B. 1986, 'Visualisation and cognition: Drawing things together', in H. Kulkick (ed.) *Knowledge and Society: Studies in the Sociology of Culture Past and Present*, vol. 6, pp. 1–40, www.bruno-latour.fr/sites/default/files/21-DRAWING-THINGS-TOGETHER-GB.pdf (accessed 1 October 2013).
- Latour, B. 2004, 'Whose cosmos, which cosmopolitics?', *Common Knowledge*, vol. 10, no. 3, pp. 450–62.
- Latour, B. 2005, 'From Realpolitik to Dingpolitik, or how to make things public', in B. Latour and P. Weibel (eds) *Making Things Public: Atmospheres of Democracy*, MIT Press, Cambridge, MA.
- Laurier, E. and Brown, B. 2008, 'Rotating maps and readers: praxiological aspects of alignment and orientation', *Transactions of the Institute of British Geographers*, New Series, vol. 22, pp. 201–16.
- Lee, D. 1974, 'Cadence, country, silence: writing in colonial space', *Boundary 2*, vol. 3, no. 1, in B. Ashcroft, G. Griffiths and H. Tiffin (eds) 2006, *The Post Colonial Studies Reader*, 2nd edn, Routledge, London.
- Lévi-Strauss, C. 2013, *In Our Time*, podcast, BBC Radio 4, 23 May, www.bbc.co.uk/programmes/b01sjl3p (accessed 1 October 2013).
- Lorde, A. 1984, 'The master's tools will never dismantle the master's house', in *Sister Outsider: Essays and Speeches*, 2007, The Crossing Press, CA, pp. 110–13.
- Lynch, K. 1960, *The Image of the City*, MIT Press, Cambridge, MA.
- Monmonier, M. 1991, *How to Lie With Maps*, University of Chicago Press, Chicago, IL.
- Noë, A. 2012, *Varieties of Presence*, Harvard University Press, Cambridge, MA.
- ODT Inc. n.d., *What's Up? South*, www.odt.org/pictureembed.htm (accessed 1 October 2013).
- Peluso, N. 1995, 'Whose woods are these? Counter-mapping forest territories in Kalimantan, Indonesia', *Antipode*, vol. 27, no. 4, pp. 383–406.
- Perce, G. 1997, *Species of Spaces and Other Pieces*, trans. J. Sturrock, Penguin, London, original work published 1974.
- Rahnema, M. and Bawtree, V. 1997, *The Post-Development Reader*, Zed Books, London.
- Rambaldi, G. 2004, 'Who Owns the Map Legend?', paper presented at the 7th International Conference on GIS for Developing Countries (GISDECO 2004), 10–12 May 2004, Universiti Teknologi Malaysia, Johor, Malaysia.
- Roth, R. 2009, 'The challenges of mapping complex indigenous spatiality: From abstract space to dwelling space', *Cultural Geographies*, vol. 16, pp. 207–27.
- Rushdie, S. 1992, *Imaginary Homelands: Essays and Criticism, 1981–91*, Granta, London.
- Saareinen, T. 1987, 'Centering maps of the world: Discussion paper', <http://eric.ed.gov/?id=ED293738> (accessed 3 May 2013).
- Sassen, S. 1998, *Globalization and its Discontents*, The New Press, New York.
- Sheller, M. 2012, 'The island effect: Post-disaster mobility systems and humanitarian logistics in Haiti', *Cultural Geographies*, vol. 20, no. 2, pp. 185–204.
- Sletto, B. 2009, 'Indigenous cartographies', *Cultural Geographies*, vol. 16, no. 147.
- Sloterdijk, P. 2005, 'Foreword to the theory of spheres', in M. O'Hanlan and J. Royoux, (eds) *Cosmograms*, Lukas and Sternberg, London, p. 230, original work published 2004.
- Soja, E. 1997, 'Six Discourses on the postmetropolis', in S. Westwood (ed.) *Imagining Cities*, Routledge, London.
- Thompson, U. and Caquard, S. 2011, 'Compiling a geographic database to study environmental injustice in Montreal: Process, results, and lessons', in S. Caquard, L. Vaughan and W. Cartwright (eds) *Mapping Environmental Issues in the City: Arts and Cartography Cross Perspectives, Lecture Notes in Geoinformation and Cartography*, Springer-Verlag, Berlin.
- Thrift, N. and French, S. 2002, 'The Automatic Production of Space', in *Transactions of the Institute of British Geographers*, New Series, vol. 27, no. 3, Wiley on behalf of The Royal Geographical Society (with the Institute of British Geographers), London, pp. 309–35.

- Thrower, N. J. 1969, 'Edmond Halley as a Thematic Geo-cartographer', *Annals of the Association of American Geographers*, vol. 59, no. 4, pp. 652–76.
- Ushahidi n.d., <http://blog.ushahidi.com> (accessed 2 October 2013).
- Vertesi, J. 2008, 'Mind the Gap: The London Underground Map and Users' Representations of Urban Space', *Social Studies of Science*, vol. 38, no. 1, pp. 7–33.
- Wallace, T. 2009, 'Has Google Homogenized our Landscape?' in *Association of American Geographers Conference*, Las Vegas, 22–7 March.
- Ware, C. 2000, *Information Visualization: Perception for Design*, Morgan Kaufmann, San Francisco, CA.
- Wolf, M. n.d., 'Street View Fuck You', <http://photomichaelwolf.com/#fuck-you/4> (accessed 2 October 2013).
- Wood, D. with Fels, J. 1992, *The Power of Maps*, Routledge, London.

8

A NOTE FROM BRAZIL

Looking at the production of design knowledge in Brazil

Maria Cecilia Loschiavo dos Santos

Working with the homeless has been a process of exchange and of learning; a process that has marked my research interests and has given design and development new meaning in the context of São Paulo. Driven by the wish to understand a prevalent phenomenon of the twentieth century, the research, in the mid-1990s, involved the relation of design to aspects of the informal habitat of the homeless, looking especially at the character of life on the streets and the material aspects of the culture of the homeless. Informal habitat as created by the homeless was explored and investigated in relation to its impact on the urban environment of global cities, such as São Paulo, Los Angeles and Tokyo. Without a doubt, homeless culture in each of these three cities has its own specific causes, political, social and cultural components. But in each of these places the material culture of the homeless reveals their creativity, ingenuity and the spontaneity of their design.

Accordingly, it needs to be stated that the material environment of the homeless culture is constructed from the trash of our technological and industrialised culture. These people create a world for themselves mostly out of plastic and cardboard; cities on the margins of, and also within, the spaces of our daily life. Facing the experience of diving vertiginously into the shadows, it is here that they mine for the materials, which allow the construction of a fragile habitat. Moved by the need for shelter, homeless people have transformed the concept of the city. As such they are both present and absent, seen and invisible, included and excluded. In every respect they simultaneously exist inside and outside the physical, social and political world and place themselves, willingly or unwillingly in an intermediate space. Every single homeless person has a history, a story, which is erased by that very classification of 'homeless', as well as neglected by policy makers.

The study of the survival repertoires and ecologies of the homeless in São Paulo, Los Angeles and Tokyo took years to complete. It has become intertwined with other research about a phenomenon strongly connected to design: the development