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Citation: Swords, Jon and Jeffries, Mike (2015) Tracing postrepresentational visions of the city: representing the unrepresentable Skateworlds of Tyneside. *Environment and Planning A*, 47 (6). pp. 1313-1331. ISSN 0308-518X

Published by: SAGE

URL: <http://dx.doi.org/10.1177/0308518X15594906>
<<http://dx.doi.org/10.1177/0308518X15594906>>

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Tracing Post-Representational Visions of the City – Representing the Unrepresentable Skateworlds of Tyneside

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Pre-proof accepted version for *Environment and Planning A* – not for distribution

Abstract

In any visualization of the city more is left unseen than made visible. Contemporary visualisations of the city are increasingly influenced by quantification, and thus anything which cannot be quantified is hidden. In contrast we explore the use of ‘lo-fi’, doodled, participatory maps made by skateboarders in Tyneside, England, as a means to represent their cityscape. Drawing on work by Borden (2001) and recent developments in cartography, we argue skateboarders understand the city from a post-representational perspective. Such a framing presents a series of challenges to map their worlds which we explore through a processual account of our map making practice. In this process we chart how skateboarders’ mappings became part of a more significant interplay of performance, identity, visualisation and exhibition. The paper makes contributions to the emerging field of post-representational cartography and argues its processual focus provides useful tools to understand how visions of the city are produced.

Keywords: Skateboarding – Post-representational Cartography – Participatory Mapping – Visualisation

1. Introduction

As the contributions in this special issue illustrate, there are a variety of ways to visualise cities. Increasingly common amongst them is the influence of data. The rise of so-called big data, smart cities, and the internet of things has created a trend to understand cities through quantified means. As Graham and De Sabbata (this issue) show, there are many problems with this process and the normative assumptions they generate about what a city is, and how and for whom it functions. The assumption of data evangelists and their corporate partners that everything significant can be datafied (Mayer-Schönberger and Cukier, 2013), and that data will provide the solutions to contemporary and future urban problems leads to a perspective which sees “all complex social situations either as neatly defined problems with definite, computable solutions or as transparent and self-evident processes that can be easily optimized – if only the right algorithms are in place!” (Morozov, 2013, page 5). Mattern argues (2013) this approach makes planning myopic to anything other than efficiency with technocratic regimes the answer to creating greater productivity. The neoliberal ideology at the centre of this perspective is clear to see. Technology corporations are keen to capitalize and reproduce it (Kitchin, 2014), and are working with public authorities and universities around the world to do so. This is concerning because solutionism is a conservative project: “[by] utilizing the numbers as they are given big data is stuck with what is rather than what should be” (Barnes, 2013, page 300). The city is monitored, analysed and visualised as a site of transactional flows between governments, corporations, workers and consumers. But what of others who use the city for activity not primarily driven by economics? How do we understand their use of the city? And how do we represent it in a credible and appropriate way?

To those familiar with the evolution of GIS, this critique has echoes of debates about the potential uses of GIS for technocratic versus critical purposes (Barnes and Sheppard, 2009). A great deal of progress has been made in the field with the emergence of qualitative GIS, as well as feminist, participatory, queer and other critical uses of the tools it provides. Much of this work explores the epistemological collisions inherent in the use of a datalogical format to represent hybrid, contested

and plural phenomena (Brown and Knopp, 2008; Leszczynski, 2009). We contribute further to such debates and explore these challenges by detailing a project to produce a map of skateboarders' activities in Tyneside, North East England, for an architectural festival (Figure 1). Skateboarders understand the city differently to most people through their ability see play spaces where others see mundane architecture (Vivoni, 2009), and their subversion of exchange value for use value of the built environment (Borden, 2001). Drawing on Borden's (2001) work on skateboarding and emerging work on alternative ways to understand cartography, we argue skateboarders perform a post-representational understanding of the city. We detail the challenges faced in gathering their perspectives through participatory mappings workshops, participant observation and interviews. We also provide an account of the productive tensions we faced in drawing together their insights to construct a map of their city, and call for the use of more hybrid design techniques to retain the texture of qualitative insights from participants. Like other contributions in this special issue we use images to enhance the paper and illustrate the skateworlds of Tyneside.

The next section outlines our theoretical framework drawn from recent developments in post-representational cartography. This work rethinks the ontological security of maps, and argues for a processual understanding of cartography as practice (Kitchin and Dodge, 2007; Kitchin, Gleeson and Dodge, 2013). We consider what this means for participatory mapping methods before outlining how we traced the skateworlds of Tyneside. Following Kitchin et al's (2013) call for social scientists to chart how mappings emerge section 4 provides a reflective account of our attempts to represent the unrepresentable and the productive tensions in creating a map. The final section argues we should be careful to not focus too much on processes of map creation and use, and acknowledge the importance of maps as artifacts. The paper finishes with some concluding thoughts about the development of post-representational cartography.

FIGURE 1 (across two pages) – Tyneside's Skateworlds (see also <http://flic.kr/p/pQWAo4/>)

2. Rethinking cartography

In recent years cartography has undergone fundamental change as scholars question the ontological security of maps and cartographic epistemology is rethought. The emergence of a so-called post-representational or processual cartography radically alters how we understand the way maps are made and used (Caquard, 2014). In this section we discuss some of the changes which led to the development of a post-representational cartography, and examine the impact this has for participatory mapping methodologies. For reasons of structure the development of thought within this area appears a smooth progression, but of course theory and concepts evolve in much messier ways.

Ontological questions are not new in cartography. Harley's groundbreaking work (1988; 2002) highlighted the subjective nature of map making and challenged the view that maps were objective representations of landscapes. He drew attention to the subjective choices made by cartographers and the powerful regimes maps reproduce. He argued maps reveal politics, and that by deconstructing them the intentions and power relations of their creators can be revealed. Harley understood the role of maps as instruments of the state acting as tools for surveillance, riddled with politics and ideology, designed to project hegemonic power (Harley and Laxton, 2002).

Although influential in the development of critical understandings of cartography, Harley's work has been criticised for not challenging the foundational idea that maps reveal truths. As Wood (1992: 52) puts it “[f]or Harley [maps] would always remain, however partial, however selective, a map of the real world, just one being used to dubious ends.” Wood argues Harley knew maps are social constructions, but so wedded to the idea of maps as representational was he, that “in the end he was unable to accept it” (ibid: 53). Crampton (2003) follows this argument and suggests Harley's problem was not

working through Foucault's ideas of problematization fully to think beyond maps. Harley's conception of cartography as a representational practice, Crampton argues, is ontically tied to the philosophies of the map makers he sought to critique. In other words, Harley could not move outside a framework which saw maps as holding a truth which could be uncovered by identifying ideologies behind mapmaking. As an alternative, Crampton suggests an ontological examination of maps and mapping is required to consider the conditions of possibilities through which ontic knowledges are formed. He argues we must consider the historically and geographically contingent conditions shaping map creation and their use, to understand maps as "product[s] operating within a certain horizon of possibilities" (ibid: 51).

Building on Wood's (1992) critique of Harley's work, Wood and Fels (2008) take a similar approach, arguing maps are not just representations of landscapes, but they also produce them through inscription. For them, maps make two kinds of propositions. First, they make claims about what things are and where they are: 'this is there' (what they term 'postings'). Such an existence claim makes the subject of a map spatial and creates a spatial ontology (p.7). Second, a higher order proposition is made by maps because by saying 'this thing is there' it is connected into other regimes by saying it is 'of' something else by way of spatial association, which in turn produces and reinforces its existence.

Pickles (2004, page 145) echoes this view: "[m]aps no longer are seen to simply represent territory, but are understood as producing it; in important ways 'maps precede territory', they inscribe boundaries and construct objects that in turn become our realities". Pickles calls for a post-representational cartography which understands maps as "text[s] embedded in constantly expanding chain[s] of signification...constantly open to interpretation and critique" (174). He argues "[t]his is a shift from 'readerly texts' (whose purpose is to create readers for already written texts) to 'writerly texts' (whose purpose is to see texts as producing an open series of readings, each of which requires that the reader also be in part author of meaning)". The work of a map, therefore, is as dependant on the user as it is on the original inscriber.

2.1 Post-representational cartography

Most recently Kitchin and Dodge (2007) with Gleeson (Kitchin et al., 2013) have extended these ideas further. Kitchin et al. commend Pickles, Wood and Fels¹, and Crampton for seeking to think beyond maps, and agree maps should be considered "diverse, rhetorical, relational, multivocal and having effects in the world" (Kitchin and Dodge, 2007: 334). They argue, however, previous attempts to think beyond maps are impaired because the map is seen as ontologically secure, that is, in these reconceptions a map is "a coherent, stable product – a map" (ibid: original emphasis). Kitchin and Dodge argue a more fruitful approach would be to not think of maps ontologically, but ontogenetically. Maps should be seen as nothing more than ink on a page or pixels on a screen until they become a map through practices and knowledges that remake and reinscribe them as *mappings*. Mappings are practices and "maps are constantly in a state of becoming" (Kitchin and Dodge, 2007: 335) as they are enacted to do work in the world and solve relational problems - e.g. where is x? How do I get to y? Where will I find z? (Kitchin et al., 2013). Kitchin and Dodge (2007) outline five ways in which an ontogenetic perspective is more productive: they suggest it better reflects how life unfolds; it shifts cartographic practices from a professional discipline to general spatial practices and is thus democratizing; it acknowledges mappings have diverse effects in the world which go beyond analyses of power and politics; it promotes engagement between practical and theoretical perspectives of maps; and it makes room for reconsideration of the epistemological foundations of cartographic research.

¹ Kitchin (2008) is more critical of Woods and Fels' work.

These ideas are taken up by Kitchin et al. (2013) who suggest an ontogenetic conceptualisation of cartography necessarily leads to a radical shift in cartographic epistemology. They argue for “a processual perspective concerned with how mappings and cartographic design, technique and ideology emerge time and again through a plethora of practices framed within a complex discursive and material context, and the diverse, unfolding work of mappings in the world” (ibid, page 481). In practice this opens up manifold methodological approaches and related challenges (see Kitchin et al, 2013), but central within them is the need for reflective, qualitative methods which are “sensitive to capturing and distilling the unfolding and contextual nature of mapping” in the design and use of maps (page 480; see also Perkins, 2004). Thus questions of what maps represent, and how they do it are answered by examining the conditions through which they are addressed, rather than from a priori assumptions about the nature of cartography. Kitchin et al. illustrate this through an examination of a project to map under-occupied housing estates in Ireland. They trace how their research became embedded in a range of economic, political and social discourses about Ireland and post-recession development in which multiple and diverse mappings of ‘ghost estates’ unfolded. Similarly, Del Casino and Hanna (2006) demonstrate the separation of maps and spatial practices is a false dichotomy by exploring the use of tourist maps. They explain the use of maps involves more than simply reading what a cartographer has designed. The intertextual, embodied and interactive use of maps is always already “production *and* consumption, authoring *and* reading, objectification *and* subjectification, representation *and* practice” (ibid, page 36, original emphasis). They see maps themselves as mobile subjects, steeped in diverse knowledges and practices through which ‘map spaces’ emerge. These are spaces “not bound by the margins of the paper on which it is printed, but inscribed with meaning through its intertextual linkages with other texts and space” (Del Casino and Hanna, 2003: xxvi). Rossetto (2012) adopts this concept as she narrates an autoethnographic account of trips to Berlin. Rossetto began consuming mapped representations of Berlin passively, but when she realised this, rather than resisting the map and the tourist and marketing regimes infused therein, she was seduced into dwelling in the map space for a more enriched embodied and virtual experience with the city. These examples illustrate how maps become in multiple contingent ways after their design and are out in the world.

In contrast with these accounts of map use, other authors have traced the mapping design process before they are unfolded by others. Brown and Knopp (2008) provide a deeply honest processual account of their work to solve the relational problem of finding and mapping sites of significance to gay and lesbian communities in Seattle, USA. They detail the challenges faced when mobilising a series of potentially conflicting epistemologies, including queer theory and GIS. The ‘collisions’ between epistemologies, and the negotiations to construct the map, created a series of productive tensions for Brown and Knopp which included: debate about whether to take a deductive or inductive approach; discussions on how to define significance, and for whom sites were significant; and issues relating the coding, quantification and reliability of data gleaned from “memory, negotiation, trust, and serendipity” (Brown and Knopp, 2008, page 49). Together, to use Wood and Fels’ (2008) terminology, this made existence claims hard to make, even before acknowledging queer spaces are characterised by hybridity. Further challenges arose about how to ‘represent the unrepresentable’, particularly how to show “connectivity, fluidity, multiplicity, and multiple scales when making a simple two-dimensional map” (Brown and Knopp, 2008, page 50). The authors acknowledged any solution is imperfect, but sought to overcome their challenges by using annotations and illustrations to move beyond simplistic postings and aid the shift to create a ‘writerly text’. Brown and Knopp demonstrate the importance of tracing how mappings unfold as contested and collaborative, a product of the diverse methodological, analytical and productive practices which presented themselves in the research process. We attempt to do the same by adopting the idea of productive tensions below as we openly discuss challenges we faced in our own mapping project.

2.2 *A processual approach to participatory mapping*

Before we move on to a processual account of making our map, let us consider what post-representational approaches to cartography mean for participatory mapping. Work which highlights the power of maps, whether from the representational or inscription school of thought, has been influential in the field of counter and participatory mapping. Scholars and activists have argued if maps are instruments of power, infused with the politics of territorial claims designed to project state and corporate interests, they can also be used to undermine these regimes. Counter mapping seeks to do this by using the technologies and discourses of cartography for resistance. This works by representing counter claims in the same style as those you are challenging and/or to add legitimacy to overlooked perspectives (Peluso, 1995). Such projects usually adopt some form of participatory approach to include voices of excluded, undermined or disenfranchised groups in the data collection and/or map production and design stages.

When working with groups unfamiliar with formal cartographic technologies or GIS, participatory mapping usually takes the form of hand drawn maps. This method is cheap and easily portable which means it can be used in a huge range of contexts. Hand drawn maps are particularly useful when working with children and young people as the methods are child-centric “while also empowering children to reflect on their lives in different ways” (Hörschelmann and Schäfer, 2005, page 225). Such methodologies supposedly give participants “relatively free range” (ibid) to “construct accounts of their lives in their own terms” (Holloway and Valentine, 2000, page 8; Young and Barrett, 2001). However, what is produced are almost always recognisable as conventional map-like artifacts and one must question the freedom in such processes. This expectation is something we fell foul of in our fieldwork and a point we return to below.

Post-representational understandings of cartography shift the focus away from maps as products for counter projects to the process of participatory mapping and what is revealed during it as an empowering process for resistance (Sletto, 2014). For Sletto, the process of participatory mapmaking is a performance and “mapping workshops become theaters for the performances of identities, the reading and interpretation of histories, and the production of material and imaginary landscapes that participants consider ‘theirs’” (Sletto, 2009: 443). By focusing this reconceptualization of mapmaking as creative instances for identity and memory (re)construction “performance becomes central, in the sense that the memory work...is not simply a retelling of the past but an iterative and unstable co-production of identity and landscape; that is, performances are both contextual and situated in-place” (2014: 362). In this way participatory mapping becomes *participatory mappings*. From a methodological perspective focus shifts from solely the product of such sessions to the process of production, and thus participant observation becomes as important as analysis of the maps. There must also be careful consideration of the sites in which participatory mappings are undertaken given performances of identity are influenced by the relationship participants have with a place. When seeking to understand a group or individual’s spatial imaginary and their connection with places it follows such processes should take place in the very places we seek to understand. In Young and Barrett’s (2001) work with street children in Kampala flexibility of location to meet participants was key for authenticity and to limit impact on their employment opportunities. Although a subtle shift, post-representational approaches allow closer analysis of the emergence of identities as individuals and groups intersect with sites and each other through relational and contextual practices.

3. Tracing skateworlds

In this section we apply developments in post-representational cartography and participatory mappings as we explain our adopted methodology to work with skateboarders. Here we highlight the problems of mapping worlds not easily represented. In Borden’s (2001) seminal work on skateboarders use of the city he demonstrates how skaters creatively re-work urban space through

their alternative use of architecture. Skaters' transform city spaces into playzones (Vivoni, 2009) through 'skaters' eye', the ability to assess the built environment for its skateability over conventional uses (Borden, 2001). When a location is repeatedly skated and valued by the skate community, it becomes a 'spot' and is embedded into a city's skateworld (Woolley and Johns, 2001; Jenson, Swords and Jeffries, 2012). The initial aim of our project was to map these spots and produce something for an architectural festival in 2010. The form of the map was left open, but our initial ideas of what it might look like were influenced by our position as geographers and previous participatory mapping projects. This quickly changed as we came to better understand the skater's city as one of micro-architectural features - treasured and legendary spots - dispersed across a landscape of 'inbetween spaces' rejected or yet to be redeveloped by commercial interests. Borden recognises that the skaters' eye creates mental visions of the city which are "neither map nor directory, for skateboarding is 'hard to put onto paper' "(p223). Participants often describe their sport as essential and core to their very lives, the lived experience, what Clegg and Butryn (2012) characterise as an existential phenomenology, ultimately performed without reflection "the experience of play...the mental challenge...the direct engagement" (Shklovski and de Sousa e Silva, 2013). Thus skaters' visions of the city are composed by opportunities, moments and the skaters' physical and emotional responses, where experiences in and with the city are constantly remade (Borden, 2001). As Borden (2001: 223) puts it, "[s]kateboarders' representational maps are thus always *situated* through a continual reliving of the city" (original emphasis). Thus we can understand skateboarders' visions of the city as post-representational, constructed afresh with each engagement with it. In Borden's words skaters cannot easily write or map skateworlds for skateworlds are "performative utterance[s] wherein the speakers form anew themselves and the city" (page 227)².

Mapping these worlds is therefore a difficult process, and we could not hope to fully capture the detail and fluidity of cities made and remade, but we adopted a range of methodologies to help us trace³ elements of the skateworlds of Tyneside. Urban sports have been extensively researched but almost wholly using text as the primary medium, gathered from interviews, ethnography and field notes. Participatory mappings were our principle method, but we teamed this with participant observation, interviews and analysis of photography, blogs and videos produced by local skaters. We felt a visual-led methodology appropriate here for five interconnected reasons. First, participatory mapping has a proven track record of engaging young people and children which puts them at the centre of the research process (Beazley, 1998; Holloway and Valentine, 2000; Young and Barrett, 2001). Second, the playful nature of using felt-tip pens and paper was congruent with the playful nature of skateboarding (Poplin, 2012), and the opportunity to draw, edit and redraw enabled flexibility to trace hybrid spaces. Third, we were keen to understand the skaters' eye and although translations of this were inevitable in the participants' depictions and our use of them, we were keen to minimize the links in the chain of transformation and inscription in the initial stage of data collection (see Latour, 2011). Fourth, we were aware of a visual culture amongst some of the older skaters who produced high quality skate photography and video, and thus knew many were skilled in capturing their worlds visually. Finally, following Sletto's (2009, page 445) reconceptualization of participatory mapping as art or theatre, the process of mapping enabled the skaters to engage with a "simultaneous negotiation of identities and production of spatialities" as they drew and discussed their work. This latter process was crucial to observe and became the source of many insights into skaters' worlds.

² This point is interesting with regard to the video and photography culture which has always surrounded skateboarding, and one raised by a referee. It is difficult to fully address here, but often skate photography focuses on the micro scale of individual obstacles or series of obstacles with the wider context (city) obscured. Thus they are in many ways placeless and lacking explicit geographies. Upon further reflection there are echoes of the style of skateboard photography seen in popular magazines in the doodles. This is a point we hope to address in a future project.

³ We use the term trace deliberately here to acknowledge the very nature of our approach.

Figure 2 – doodling in practice

Initial mappings workshops were done over a six month period in 2009 and 2010 (although we have continued the process since) and produced c.120 ‘maps’. Fieldwork took place at popular skate spots and in Newcastle’s most popular skate shop, Native. In Native participation was over 90%, although there were sometimes more skaters in than we could talk to individually and a few maps were made by several individuals so precise counts are not exact. The cooperation of Native’s owner, Jackie, a lynch pin of the north east skate scene was vital, providing a venue and legitimacy and allowing us to use the shop’s blogs to advertise what we were doing. When skaters were out actively skating at spots it was harder to persuade them to take time out to draw, except at the Wasteland spot in Newcastle which was often used to hang out and socialize (figure 2). At the Wasteland 50-60% of those asked drew maps. At a large corporate sponsored skate event a Five Bridges in Gateshead we could not persuade anyone to draw a map, this was due to a combination of wanting to watch the event and the very public venue. Most mappings were drawn in 5-10 minutes but in a few cases much more complex graphics were created, the longest taking just over 45 minutes.

Post-representational cartography recognizes how places and mappings intertwine, appreciating “how sites in which [mappings] are embedded matters to their form” (Kitchin et al, 2013, page 494). It was important therefore workshops were undertaken in places skateboarders had appropriated. Skaters felt comfortable in their spaces and were more easily able to do memory work in the places memories were formed, and negotiate their identities in them. In addition to the mappings and discussions around their creation, 100 hours of participant observation were undertaken, twelve semi-structured interviews conducted and a range of blogs containing photography, video and text were analysed (see Jensen et al., 2012). Together a rich source of information was gathered we could use to produce our mappa mundi of the Tyneside skate scene, but we faced a series of obstacles which we discuss in the next section.

4. Representing the Unrepresentable and Productive Tensions

Reflecting upon the process of creating the summary map, we were struck by the similarity between the challenges we faced and those discussed by Brown and Knopp (2008). We use this section to discuss these issues and how we dealt with them. As much of the work at the start of this paper demonstrates cartographers have long struggled with how to represent the world in two dimensional maps. Adopting post-representational approaches makes this issue simultaneously more difficult as scholars are more honest about the challenges of representing the hybrid, diverse and contested landscapes, and easier as we understand mappings will be used in myriad ways as they are remade to do work in the world which we are helpless to control (Kitchin et al, 2013). Brown and Knopp (2008) usefully discuss the negotiations they went through to produce their mapping of gay and lesbian spaces in Seattle and we adopt their framework to account for our struggles, particularly the idea of representing the unrepresentable:

“We were reminded throughout the project of how difficult it can be to represent connectivity, fluidity, multiplicity, and multiple scales when making a simple two-dimensional map” (ibid: page 50).

Practically they struggled with how to: represent locations, some of which no longer existed and some of which had multiple uses and significance over time; represent “places behind (within?) the dotted locations” (page 50); and avoid creating hierarchies of significance for locations which were hybrid and fluid. Brown and Knopp’s answers were to use simple dots to locate places, assign dummy but proximate addresses for missing locations, and compromise on sites with multiple uses by picking one use per decade. To provide more detail of what happened at particular sites and to elaborate on their

significance, annotations and photographs were used. They acknowledge the answers were inevitably imperfect, but discussions and experiments to achieve a balance was a learning process for them and the volunteers who came to understand the contested and evolutionary nature of queer spaces. This set of problems created tensions and frustrations but were ultimately useful in drawing the map and by opening “the process of map production and consumption to multiple forms of representation, multiple ways of knowing, and multiple interpretations...it is most certainly not a singular rendering of Seattle’s queer historical geography” (ibid, page 55). The following sections detail the main problems we faced in trying to design the summary map.

4.1 Finding Spatial Clues

Our first challenge related to what skaters drew. Experiences as, and working with teenagers meant we were prepared for blank faces and apathy in the fieldwork process. As prompts we prepared example maps tracing our own engagements with Tyneside (Mike as fan of 1960s architecture and Jon as cyclist). Although these maps included a few stylistic twists of our own, they were nonetheless recognizable as conventional hand drawn maps. Once we began our fieldwork it was immediately clear our prompts were unnecessary and the skaters eagerly took up pens and paper to perform their skateworlds. Even considering Borden’s warnings of skateworlds being unmappable what they produced surprised us. The majority of their work weren’t maps in any conventional sense. The skaters drew doodles, cartoons and illustrations which differed greatly from even the products of mental mapping exercises we had undertaken in similar projects and seen reproduced in the literature (see figures 3-6). The skaters’ work can grouped into four main styles:

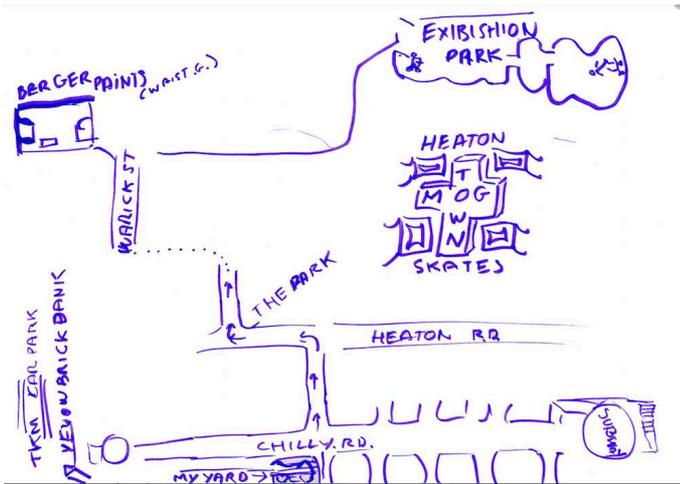
Non sequential (N=51) Skate spots, shops, and other venues drawn without any clear order, links or route. Many were detailed diagrams of just one or two obstacles and structures. The drawings focus more on shape and proportion of structures and space.

Sequential (N=43) Drawings with an explicit sequence, route or storyline almost always defined by arrows leading from spot to spot, and occasionally by non-literal paths and lines. The sequence usually outlined a typical day out, sometimes bookended by bus, train or car journeys and homes.

Graphic (N=24) Maps dominated by cartoons and doodles of people, memories, adventures, tricks, injuries and other material that was not primarily skateable structures. Many of these maps contain extensive cartoon elements, often highly stylized, including speech bubbles and text commentary.

Traditional maps (N=2) Maps laid out with road and pathways, giving an explicit and correct bird’s eye view conventional route-map.

FIGURES 3-6 ABOUT HERE – Styles of skateboarders’ doodles



Some doodles contain elements of more than one type, notably sequential arrows and some graphic work, but most are of one type. The maps are conspicuously populated, the skater's perceptions of the city's spaces rich with their presence. We had not anticipated that skaters would draw themselves, their friends and, sometimes, their enemies but many did. People were drawn primarily as stick figures, occasionally recognizable by well-known clothing or cartooned anatomy (Figure 7). Many figures would have names or tags added along with speech bubbles, text or jokes. The doodles themselves contain performance and folklore, and are rhetorical and relational artifacts in their own right to be viewed, revisited and argued over. Indeed, they became part of our contribution to the architectural festival, exhibited alongside the summary map.

FIGURE 7 ABOUT HERE – Skateboarders' Self Portraits

Out of this process we were able to locate 16 of the most popular spots on a street map. We felt it important to use a recognizable map of the city to locate the presence of skateboarders in the city because, following Wood and Fels (2008), doing so is an existence claim. Skaters are marginalized in Tyneside and excluded from its commercial heart, but are nonetheless part of the city and make entrepreneurial, social and cultural contributions to it in ways politicians repeated call for (see McCulloch et al, 2006; Weller, 2006; Jenson et al, 2012). It is important, therefore, their presence and contribution is recognised. But to signal the difficulty in finding skaters and spots we located them on a Newcastle and Gateshead map from the OpenStreetMap project. OpenStreetMap is an open source mapping website which generates maps from user generated data. It acknowledges its incompleteness and relies on the community to verify the accuracy of uploaded data, and thus we felt it echoed the partiality of what we were creating. To reflect our inability to accurately locate spots, even after we were told where they were, and to reduce the chances the map would be used to locate skaters, we blurred the map and placed dots near to but not exactly in the same places as the skate spots.

4.2 Temporality

Time is a key dimension to understand how skateboarders use the city. Borden (2001) delineates five forms of time which influence skaterboarders' engagement with spots – linear (spots linked together in a sequence), isolated (spots used once), repeated (spots used repeatedly), cyclical (spots returned to again and again) and differential (when sequences of spot use are repeated or when the sequence is broken up). Linear use of spots was clear in the skaters' mappings (see figure 4), while repeated and cyclical use came through in discussions and in the detail in some mappings. Time is also important for when skaters access particular spots. Monument in the centre of Newcastle's shopping district is busy at all times apart from after dark, and therefore is only skateable once it has few people around it. The steps outside the Law Courts are used by the public 9-5, but are appropriated (with permission) by skaters after 6pm (Jenson et al., 2012). The Wasteland is only usable in the dry, but Five Bridges is covered by overpasses and thus accessible in all but the worse weather. Accessibility to, and use of spots is also influenced by temporal locality – if it takes too long to get to a spot it won't be used regularly unless it offers skaters variety and/or something unique (Borden, 2001; Woolley and Johns, 2001).

These time-space geographies come through very clearly in the fieldwork process and representing them took two forms. First, we mimicked the Tyneside Metro map's colours and layout because it was a mode of transport used by skaters, and reflected the way they saw the spots as a series of stops on a longer sequence. This essentialisation could not represent the multiple sequences skaters drew and told us about, but it captures the essence of a journey around town. Second, we used content analysis to count the number of times different locations appeared in the mappings, used this as a proxy for repeated and cyclical use and verified it through discussions with skaters. This information was then translated into a word cloud (Cidell, 2010) layered into the map with more popular spots appearing larger and less popular spots appearing smaller.

4.3 The character of spots

Like Brown and Knopp (2008) we were keen to convey the character of spots behind the locational dots. This typified the unrepresentable nature of skateboarding and was perhaps the greatest challenge, it was certainly the process we spent longest on. We had a plethora of information from the fieldwork but that was part of the problem. The other part was individual skateboarders experienced spots in different ways because, to recall Borden's phrase, skating is a performative utterance. An essentialising step was required which was always going to be imperfect, but we felt the result was successful. Like Brown and Knopp we used annotations and images to denote the character of different spots, but rather than using just our own interpretation we sutured quotes and doodles

together to form hybrid collages of the city's key spots. For example, the Law Courts is valued for its double-eight set of steps and a shallow slope beyond handrails which creates a safe viewing area. Skaters queue up, take it in turns to jump the steps and watch one another from behind the rails. We tried to recreate this scene using elements from different doodles and quotes about access. Leazes 13 is a legendary but under used spot made up of 13 steps. It is a challenge for even experienced skaters and when someone is going to attempt it a crowd forms. In contrast to the Law Courts, however, few would queue up to try it themselves hence our depiction of only one person jumping the steps. Attempts often lead to hospital visits, hence the location of the accident and emergency department at the bottom of the steps. The unlabeled location on the lower middle right of figure 1 is the Bank of England. This is another legendary spot, but it no longer exists after the building was demolished. It has gone down in history, however, as a spot almost everyone claims to have ridden, and hence we included it. Haymarket was once very popular but today is a meeting point rather than a skate spot as it became the site of conflict during the early 2000s after the council passed a byelaw to ban skating in the immediate vicinity of the war memorial. The use of the skateboarders' own imagery was popular with participants as they felt ownership of the map and could point out their contributions to friends.

In this process we were conscious to limit the number of translations made between how skateboarders understand the city and our depiction of it, and so minimize the distance between the original context and visualisation (Latour, 2011). By creating collages using the 'raw' materials provided by skaters we also sought to maintain their qualitative texture as we formalized them in computer software. In so doing we have attempted to address the quantitative limits of GIS-based mapping Leszczynski (2009) highlights by demonstrating that formalization doesn't necessarily mean objectification results in a loss of qualitative insight. This was enabled in part by working with Adobe Illustrator and Photoshop rather than what we saw as inhibiting GIS architectures. In some ways the summary map is a hybrid infographic/map positioned at the borderlands of cartography (Post, 2007), a "productive moment of hybrid geography: the collision of epistemologies and ontologies in the very act of attempting to hybridize" (Leszczynski, 2009: 362).

5. Map as Artifact

In this section we want to briefly discuss the life of the mappings as they unfold and "do work in the world" (Kitchin et al, 2013 page 481). Within the processual focus of post-representational cartography we need to be careful not to undermine the value of maps (however ontologically secure) as material objects. If maps unfold and do work in the world they must have some form, and this form influences the work that is done. As our project progressed the individual skater's mappings and the mappa mundi had an important role as artifacts beyond their use as literal cartography or as a source of primary data for us to re-visualize. The doodle maps have become treasured objects in their own right: ephemeral both in their informational content as they capture a fleeting activity and time in the skaters' lives, and as objects of beauty even as the felt tip colours fade and the paper scuffs. They have acquired legitimation through exhibition, their presence simultaneously explaining and reinforcing the origins of the themes we emphasized in graphics. We displayed the original doodles as part of our first exhibition, Playspace, in 2010, which we had not planned but the beauty and individuality of the pieces made for a powerful link to participants, and the festival organisers were keen to include them. At the exhibition skaters would point out their maps and elaborate more tales, re-performing their identities, but in different more formal surroundings. Scanned copies of maps were put on the Flickr photo sharing website⁴ and skaters let us know they had seen their map. We even had a phone call from the mother of one skater who had found the information and contacts handout for participants that we had given to him. She wanted to let us know how pleased she was at the opportunity for the skaters to represent their activity and its importance in their lives. Ultimately

⁴ <https://www.flickr.com/groups/playspacenewcastle/pool/>

maps still have an allure. A post-representational understanding of the power of the mappings performance and our ability to capture process this only adds to their impact.

The maps also became part of our performance as researchers. The maps themselves have driven subsequent research, a potential identified by Kitchin et al (2103) who suggest maps can “perform as actants in the world shaping knowledge and actions”. As we acquired doodles we always had some to show and encourage new participants, increasingly sharing our own tales of spots, what we thought of them and their histories. For younger skaters and new arrivals in Newcastle we became guides able to recommend and direct them to spots. The mappa mundi has also been used in the field to engage and involve new participants, especially other sports such as BMX and microscooters who do not have the same version of the city. Participants have been encouraged to draw directly on to copies of the map, dispute its content and add their own lore. The maps were doing work in ways we had not planned to exploit or could have foreseen, in combination with photography, text, video and live events.

6. Conclusions

In this paper we have illustrated how different understandings of the city can be gleaned from participatory mapping with skateboarders. We sought to understand alternative visions of the city and explore methodologies to trace perspectives which are not easily represented. We have done this through an examination of skateboarders’ unique vision of the city and argued they understand it from a post-representational perspective. The difficulties this presents in capturing skateworlds have been explored through a process-oriented understanding of participatory mapping in combination with other qualitative methods which understands mappings workshops as sites for identity performance through memory work. Further challenges to represent ‘unrepresentable’ sets of insights have been discussed in the creation of the summary map of the city’s skatescene. Through the suturing together of ‘raw’ information from mappings workshops with our own insights we have created a mappa mundi that traces the character of Tyneside’s most popular skate spots. We have also shown how the maps and the work created around it has a special quality which we argue have an important role as artifacts.

From a conceptual perspective we have contributed to the nascent field of post-representational cartography in two main ways. First, our processual account of map design adds to the emerging body of work which values and seeks to explore detailed narratives of maps’ becoming from a design and consumption perspective, to allow better understandings of how maps unfold in the world. Second, following Sletto (2009; 2014), we have extended understandings of participatory mapping workshops as theatres for identity performance and argued for the importance of careful consideration of the place of mappings work. Within this process we argue processual accounts of cartographic production and consumption need to be careful not to ignore the significance of maps as products, and their rhetorical value in processes of becoming.

Post-representational cartography and visualisation is a powerful approach and not just a critique of conventional maps. The challenge is to capture the wealth of processual, intertextual and discursive materials that arise from the mappings: the performance is as important as the actual maps. The very existence of the skater’s maps from this study creates a counter to the blindness of datafication and resists the homogenization of the neo-liberal city. Post-representational cartography also provides us with alternative ways of understanding the city. A perspective which differs from the implicit and explicit claims to objectivity and infinite vision (Haraway, 1988) of quantified visualisations promoted by corporate datafiers, a vision that acknowledges the manipulations and translations which go into visualizing the city. The processual focus of post-representation cartography also provides us with a

toolkit to critique visions of the neo-liberal city through careful and detailed work to analyse its becoming.

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