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Mapping the City: participatory mapping with young people

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1. Introduction

Maps are powerful. They are political and they always exclude. Cartographers possess the power to remove mountain ranges, change international borders and erase populations. With the stroke of a pen or click of a mouse, mapmakers can transform how we understand the world. Redrawing maps has caused problems throughout history, whether that's the carving up of Africa by colonial powers in the 19th century, jerrymandering political boundaries or delineating marine protected areas.

The maps we most commonly use today – on smart phones, satnavs or produced by official mapping organisations such as the Ordnance Survey – have very specific uses: showing where shops are, directing us from A to B, or allowing us to navigate using landmarks and physical features. These are resolutely adult maps. They are designed and predominantly used by adults. Moreover, they reflect what the makers believe to be important and therefore show us how those makers want us to see the world. Harley (1989) argued that examining what isn't included on maps is instructive to understand their intended uses and the politics of their creators. As academics doing work with and for young people, it is clear they are missing. Many maps include schools, universities and places aimed at young people selected by adults (playgrounds, skate parks, visitor attractions), but they don't reflect the lives of young people. That's partly because of the reasons outlined above, but also because the places on maps are not usually designed with young people's needs or experiences in mind.

Our research project – Mapping the City – seeks to give the power of map-making to young people so their lives, their worlds and their concerns can be seen and valued. In so doing, we want to convince decision makers to design cities that consider young peoples' perspectives. Over the last ten years we have worked with over 2000 children and young people through schools, youth organisations, public workshops

and exhibitions. Participants have produced more than 1400 maps revealing infinite worlds. The rest of this article explains how we go about gathering maps and some of the insights we have gained undertaking this work. We begin with a brief history of how maps have been understood to highlight their power and how they have been used for political purposes. Next, we outline our methodology, introducing three methods we have used to allow participants to bring their worlds to life. Section 4 illustrates a series of themes which regularly emerge from the maps and stories participants tell about them. We finish with some conclusions and further information.

2. Brief History of Understanding Maps

"What a useful thing a pocket-map is!" I remarked.
"That's another thing we've learned from your Nation," said Mein Herr, "map-making. But we've carried it much further than you. What do you consider the largest map that would be really useful?"
"About six inches to the mile."
"Only six inches!" exclaimed Mein Herr. "We very soon got to six yards to the mile. Then we tried a hundred yards to the mile. And then came the grandest idea of all! We actually made a map of the country, on the scale of a mile to the mile!"
"Have you used it much?" I enquired.
"It has never been spread out, yet," said Mein Herr: "the farmers objected: they said it would cover the whole country, and shut out the sunlight!"

(Sylvie and Bruno Concluded by Lewis Carroll, 1893, page 169)

This quote is often used to highlight the partial nature of maps. For you cannot include everything on a map unless, as Carroll illustrates, you make it at a 1:1 scale. Even then you are restricted to tangible elements of the landscape. Drawing on the work of Michel Foucault, Harley urged geographers to appreciate the political nature of absences in maps by "read[ing] between the lines of the map…and through its tropes to discover the silences and contradictions that challenge the apparent honesty of the image" (Harley, 1989: 3). Harley's work in the late-1980s and early-2000s was significant because it provided a theoretical foundation upon which we could re-examine maps and understand how they are used politically. In the last

30 years much as been written about the politics and power of maps which we will briefly outline in this section.

Monmonier's book, *How to Lie with Maps* (1996), offers a practical guide to spot how maps tell lies. He illustrated how the basic elements of maps – scale, projections and symbols – are necessary shortcuts and distortions that allow maps to offer functional value. Monmonier also outlined the common mistakes that mapmakers reproduce in maps, inadvertently misleading users, and the more nefarious ways in which exaggeration and disinformation can shape the readers' vision of the world.

More recently, Pickles (2004) has argued that maps do more than translate territory into readable information. Rather, he argues maps should be "understood as producing [territory]; in important ways 'maps precede territory', they inscribe boundaries and construct objects that in turn become our realities" (2004, page 145). From this perspective, maps don't reflect the world, but our understanding of the world is influenced by maps. For example, we may look at maps of a city before we visit it and we'll begin to form an idea of that place, even before experiencing it first-hand. Landmarks included on maps will be more noticeable once we're there because we know to expect them, whereas places not already in our minds may be overlooked.

The rise of geographical information system (GIS) technologies in the 1990s resulted in substantive changes in the way spatial data are produced, used and shared. Such changes have led to large amounts of work on how maps are produced and understood using different technologies. Perhaps the most useful comes from critical and feminist GIS which highlights that powerful digital technologies reproduce the lies and politics highlighted by Harley and Monmonier, and in so doing increase the marginalisation of particular groups. Sarah Elwood (2008), for example, has been instrumental in illustrating the ways in which the underrepresentation of information concerning marginalised groups is linked to the exclusion of their needs from policy and decision making processes. For instance, national census data records have undercounts in areas with large numbers of homeless people. Similarly, prior to 2000, US census data used only single racial categories and thus failed to measure any multi-racial individuals. GIS can therefore serve to disempower these underrepresented social groups and places.

In response to such critiques of GIS, there have been efforts to re-envision the capacity of GIS to empower, as opposed to disempower, underrepresented groups. Mei-Po Kwan (2002) has suggested that criticisms typically assume GIS to be a quantitative methodology. Kwan argues that GIS has the capacity to be used as a powerful tool in qualitative analysis. She demonstrates the efficacy of using GIS as a means of understanding and interpreting people's lived experiences through the incorporation of qualitative data, including photos, videos and narratives (Kwan and Ding, 2008). For example, as a means of understanding the post-September 11 experiences of Muslim women in the USA, Kwan (2008) constructed GIS-based visual narratives by integrating data from sketch maps, activity diaries and interviews.

Using work such as this, a movement known as counter cartography has sought to use maps to give power to marginalised groups and provide political support for their causes. Counter cartography typically involves the people producing maps of what they value in their communities. These maps are then often used to make and justify claims for the future development of these assets (Taylor and Hall, 2013). Counter cartography has been used in a broad variety of contexts, from illustrating the desire of African-American teenagers for new bike lanes in their neighbourhood (Taylor and Hall, 2013), to a means of opposing a proposed a mining development in Bristol Bay, Alaska (Hébert and Brock, 2017). The continued proliferation of counter cartography is in part inspired by its numerous success stories. For example, the maps produced by the Mayangna community of Awas Tingni, eastern Nicaragua, were crucial in their success in suing the Nicaraguan government for rights to their traditional land (Anaya and Grossman, 2002).

One critique of counter cartography is that it typically involves the adoption of Western cartographic visualisations, technologies and approaches. Over the last two decades, there has been a movement among cartographers to re-think maps from a post-representational perspective. That is, from a perspective that does not favour representational ways of thinking whereby maps are assumed to be mirrors of the world (Kitchin, 2010). A central tenet of post-representational cartography is that maps are never finished, but that they are always in the process of becoming (Kitchin and Dodge, 2007). Consequently, there is a shift in focus from the cartographic product to the mapmaking process itself (i.e. a processual focus).

3. Mapping with Young People

Giving the power to map, to create worlds and to represent their lives on their own terms to young people is central to our approach. We do this in a series of ways and in this section we outline three mapping exercise we give participants. Participants roughly range from Year 2 primary to undergraduate university students and other people under 25.

3.1 Redact Maps

As an ice-breaker, and to encourage participants to move away from revering official maps, the first task we do usually involves redacting a map of a place recognisable to participants. It might be centred on their school, the area in which they live, or the centre of the nearest city. The task, undertaken individually or in pairs, is to use a dark colour Sharpie to remove places deemed unimportant and using a lighter or metallic Sharpie, to highlight places of significance. Using Sharpies is particularly important as the brand recognition and differentiation from felt tips usually available in schools, makes them literal motivational tools for the participants.

To encourage enthusiastic scribbling, and to give permission to alter the maps, we'll often begin by taking one of the official maps and ripping it, sticking a pencil through it and creasing it during an introduction. This will sometimes elicit gasps from school pupils and geography teachers alike, and it works to get their attention.

The process of redaction sometimes requires us or teachers to help participants identify local landmarks to orient themselves, but it always results in large swathes of the local area being removed from the maps. Often schools will be the first to be redacted, but they reappear in second attempts after teachers suggest to pupils they would not see their friends as often without the schools. In one map produced by a year eight boy in Newcastle, the neighbouring city of Gateshead was erased under a blanket covering of red ink (Figure 1). When asked why such drastic action had been taken, he explained that when he was younger he went fishing in Gateshead with his dad and a drunk disturbed them. Ever since the boy's view of the city had been affected.

Figure 1: Redacted map of Gateshead

These stories are usually just as revealing as the maps themselves. Sletto (2009) has argued that the process of making maps with other people creates 'theatres of memory', places 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, page 443). Many of the insights in Section 4 come from the stories told while creating the maps, rather than analysis of the maps themselves. In this sense, then, the workshops are post-representational as we gain insights from the process of mapmaking as much as we do from the maps themselves.

3.2 Blank Maps

Once participants have begun to grasp the power of cartography we challenge them show us their world, starting with a blank piece of paper. We deliberately don't ask for, or instruct participants to, *map* their worlds as we want people to represent their worlds on their own terms as much as possible. The blank page can be daunting for some and it frequently leads to contemplative pen-top chewing as participants decide what to draw and where to start. People and places drawn first are revealing

and can indicate a degree of importance. Echoing the Europe-centric projections of many world maps, what is at the top and in the middle also reveals significance.

All the maps drawn from scratch are different, but there are five [?] main styles… (figures to illustrate this)

Figure 2: Literal maps which reflect traditional cartographic techniques (the strong arms of the curriculum can be seen in these, especially those which feature north arrows and scales!)

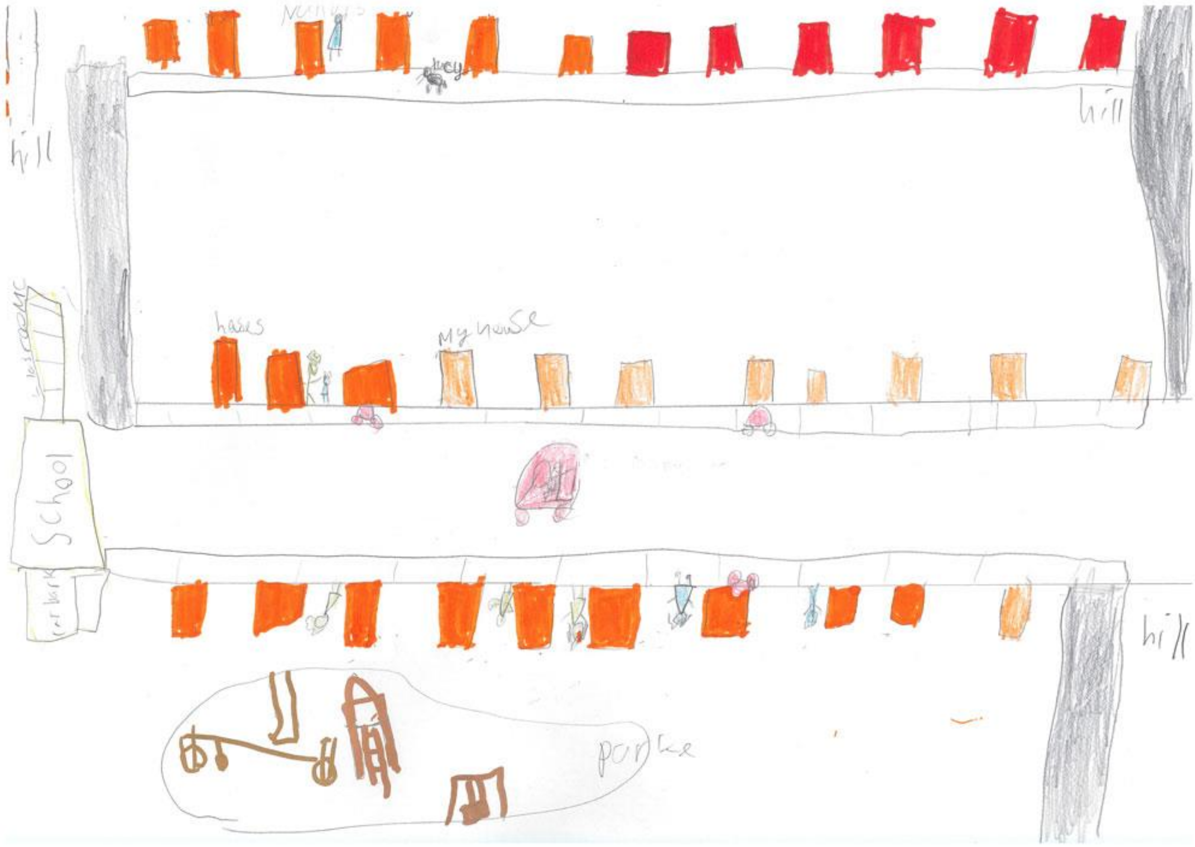

Figure 3: Route maps which take the reader on a journey. Key landmarks, real and fictional, are revealed

Figure 4: Fantasy maps frequently reveal places and characters from young people's hobbies

Figure 5: People focused maps show us the people important in participants' lives

3.3 Crowd Maps

Mappings created collectively are embodied experiences, both in a sense of negotiating, contesting and arriving at consensus about what is to be depicted, but also in the physical act(s) of production. We frequently witness a melee of hands reaching through gaps between bodies; young people lying on big sheets of paper on the floor for body-mappings or clambering over tables to reach other parts of the page; the exertion of redacting an entire city with a fistful of markers; and bartering with different groups for a 'better' colour.

Collectively produced mappings in, and of, schools reveal the micro-politics of space: the seemingly arbitrary rules (generally adhered to) versus the temporal appropriation of spaces. Sometimes this can be with a teacher's tacit complicity, such as highlighting the classroom of the favourite subject used at lunchtimes. Sometimes the spaces are connected to the young people's identities and roles. For example, self-identification with art rooms, or representations of 'others', like the 'hard kids' in the dining room. And sometimes they are elicit: the smokers' corner, the graffiti 'tags', and the (almost certainly apocryphal) happenings that everyone knows about, but no one has witnessed.

Body-mappings, in which the outline of a prone member of the group is traced is a popular collective mapping exercise. The outline of a student becomes the 'territory' for the subsequent mapping exercise, and marks and connections become relational more than geographical. Some associations are almost ubiquitous. Family, friends, pets and home typically gather on chests and around hearts. Favourite food is drawn on stomachs. School and money are usually associated with the head. More interestingly, digital devices and the virtual worlds of games and the internet are more often shown as haptic, extending from hands and fingers, rather than cerebral or interacting optically with the body. Things which seem more distant, for example holidays, aspirations/expectations of going to university, or moving away from home and region, generally reach out along limbs, especially the legs. However, the distance is psychological rather than physical. Family members living in different countries, or even on different continents, can be 'closer' than an immanent first visit to London for a pop music concert, or more abstract, adult-signifiers, such as jobs, car or a partner. The space 'outside' of the body's outline is rarely drawn on, *here be dragons*, or mental health and geopolitical worries.

Collective maps are particularly popular when we hold exhibitions or public workshops. We have asked visitors to bury secrets and treasure under post-it notes on large wall maps. There are always more people who want to read other's secrets than share their own. They will often spend a considerable amount of time 'digging' in search of a rumoured 'good one'! We've even printed a floor map of the North of England which measured five metres by five metres for an event at the Great North Museum: Hancock in Newcastle upon Tyne (Lewis Carroll's Mein Herr would not be impressed). Visitors were invited to walk and crawl over the maps (given this was done in a museum it sometimes required coaxing) and write, draw or scribble on it, and to add some of the 15,000 stickers we bought for the event. The result was a huge map which revealed pirates in Whitby, Yoda's house in the Yorkshire Dales, future dream holiday destinations, owl droppings in Leeds and protective measures surrounding Wilmslow.

4. Milkshakes and demons: treading carefully into the youngster's worlds.

The techniques outlined above, amongst various others, reveal so much about the participants worlds that adults may glimpse, but never in full, nor wholly understand. In this section we discuss a series of common themes which emerged from the workshops and maps.

Young people's cartography often touches profound, sometimes challenging, insights into their lives, not least during the map making when the process and story-telling are unleashed. For example at one school as a 14 year old boy joined in a body map on the floor he started at the fingers, tracing his route to school up the arm, then off to a holiday in Mexico featuring a toucan, finally emerging from the shoulder and into a mess of school rules of which he often fell foul. The mapping was simultaneously mundane, exotic and poignant as he talked us through his world. His understanding was both very precise, all the colours of the toucan, but wholly partial, joining the spatial, with no regard for scale, to the emotive. Approaches such as the body maps traced out on paper on the floor are a great way to break down the children's initial concern that maps have to be of a certain style, (spatially realistic) and instead maps can be used to create an identity, to tell a story and share world's. Not that the conventions of maps should be entirely cast aside. Many classes who have been specifically studying maps will be very aware that a

map needs a key; the trick is to encourage the children to make up a key that suits them, that they are in charge.

The contingent, partial quality of the maps is striking. We had expected this but not quite how moving, nor potentially intrusive this may be. Taken over the age ranges the youngsters maps trace their growing up. Many primary school children's maps neatly plot out their home, the rooms, family and pets and extend this to the streets apparently only populated by their friend's houses. Favourite play grounds and parks feature heavily, the swings and climbing frames drawn in detail. The rest of the world does not exist. Older children start to explore further afield but often only very particular places such as the Eldon Square Shopping Mall in central Newcastle, the Metro Centre or Hoppings fun-fare which arrives in June. Particular shops and food outlets feature heavily, along with swimming pools, dance classes and sport.

The extent of the youngster's travels reflects not just age but also social capital. For some the opportunities to venture beyond their immediate streets and estates are limited. The complexities of family life increasingly crystallise; a route to school that pops into several houses along the way so that both mum and dad, now living apart, can be visited, or a cemetery regularly visited because of a family member buried there and positioned, apparently, right next to Facebook. The moving and emotive jostles with the raw fun of favourite swings, video games and pets. There is money to be made as maps snake off into Youtube and Instagram, even primary school children alert to the moneymaking potential of your own videos, ten year olds linking to their own channels. Maps may look to the future as the children draw themselves in smart cars and grand houses.

The seamless melding of the children's physical and digital lives is striking. Many maps venture into video games such as Minecraft or whichever game dominates the market that month. It is notable how often Grand Theft Auto features in the lives of some primary school boys, despite its age rating. In some maps the fantasy world is dominant, with monsters, unicorns and unusual plants featuring. Sometimes the particular places are gaudy fantasies of guns and cars, at other times sword and sorcery, the achingly precise definitions of particular demons and monsters seeming to reflect the youngsters own uncertainties and concerns. Older participants have neatly reworked fantasy too, including one map of Newcastle's city centre tall buildings representing "Where would Batman stand?" to protect the city centre.

The mythology is not just from fictional sources but also their schools. A special delight is how much we learn about school culture and folklore. All schools have their own legends, shifting slightly with the year group. Sometimes the advice can be very practical, for example which lunch queue to avoid because it is always the slowest, or which teachers are very likely to give you detention; we have certainly acted on the former. The tales come spilling out especially when groups work on a joint map, best of all when they can clamber over the desks or sprawl across the floor, the break-down of normal class room etiquette seeming to unleash the chatter, shared jokes, re-warmed old tales. Lingering legends are retold in theatres of memory. We learned of one school with a particularly dangerous milkshake corner; passing by that way could supposedly get you soaked in a kind of proto-political protest, and where the smokers thought they could hide away. We know which head teacher would or would not like a "mad, mad, mad monster" to be taken into school and the school where venturing onto the grass is punishable by a variety excruciating tortures.

The schools we have worked in range from small primary schools in relatively deprived area, to larger, highly ranked private grammar school. There are inevitable differences. For example, the teenagers at the private school had travelled much more extensively, many having family abroad. However, these patterns were relatively trivial compared to the detail all the children reveal about their personal worlds and, regardless of age or class, the same concerns and delights inform all the maps. In particular friendship and fears, hopes and worries for the future. Identity increasingly colours the maps as the children grow. Whilst the precise smart phone app or video game of the moment may have been unfamiliar to us these were surface detail compared with the very recognisable ups and downs of school day life.

5. Conclusions

In this article we've sought to reveal the ways in maps can be powerful ways to engage young people to reveal their worlds. We have been privileged to work with some fantastic young people and teachers who have let us into their classrooms and worlds. We have sought to show these worlds in other contexts, taking them to

cultural venues, on our websites[1] and into the minds of adults who may not fully realise the fascinating, complex and important insights young people can provide about the places in which we live.

The power of maps, however, means we must be careful when mobilising cartographic techniques. Just as 19th century mapmakers were insensitive to historical territories in Africa, it is important we are careful in the ways in which we engage with children and young people. We have become increasingly alert to potential ethical challenges the mapping creates. The youngsters seem remarkably ready to talk about their lives, the maps and the process eliciting conversations that may be harder to spark without the simplicity of a felt tip pen. This has included family bereavement, anxiety and bullying. The role of teachers is vital here, sometimes tipping us off beforehand to be alert to the worries some pupils may have, whilst at the same time delighted to see how engaged youngsters become as they have the chance to take charge of the map.

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