

MEANINGFUL MAPS: WHAT CAN WE LEARN ABOUT 'SENSE OF PLACE' FROM MAPS PRODUCED BY CHILDREN?

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Freehand sketch maps can provide a powerful means of understanding children's spatial skills and geographic knowledge, but they can also be used to provide rich documentation of children's 'sense of place'. This paper provides some preliminary findings from the Meaningful Maps project launched in 2017. The maps produced by children during the pilot phase show some commonalities with other studies, but also suggest that interpreting these images is a complex matter involving a need to understand children's education, social background, and their opportunities to explore their locality.

Introduction: maps and meaning

Understanding the environmental knowledge of children and their emotional engagement with place is no longer regarded as a purely academic interest. Children have generally been marginalised in decisions about their environment, but this is changing as they are given greater recognition as 'social actors in their own right' (Porter *et al.*, 2012, p132). Porter and her co-authors make a strong argument for children as co-creators of geographical knowledge; not as producing *better* knowledge about issues affecting them than that produced by adults, but *different* knowledge that can inform change. Jarvis *et al.*, (2017) also call 'attention to the often-overlooked spatial knowledges of children [which they believe] could be instrumental in dealing with pressing social and environmental issues' (p.24). Maps are one means by which children's engagement with the world might be explored and understood.

This paper explores the concept of 'sense of place' and how maps made by children might help us understand their environmental values and concerns¹. It examines initial findings from the 'Meaningful Maps' (MM) project². Geographers and others have long recognised the significance of affinity with place that develops during childhood (Matthews, 1992), and the aim of the project is to involve children from diverse backgrounds and geographical settings, and to find out, through mapping, what places matter to them. Ultimately, the goal is to create a social portrait of Britain through the eyes of young people. The project is primarily concerned with 'sense of place', not children's formal cartographic skills or accuracy of spatial awareness. Figure 1 provides a good example of a child's 'meaningful map' of the village of Lenham (Kent). What is fascinating is the manner in which the centre of the village is drawn in detail as a formal map, but is also used as a 'frame' for a pictorial view of the nearby North Downs, including a huge memorial cross carved into the chalk scarp overlooking the village.

Mapping and 'sense of place'

'Sense of place' describes the emotional connection between a person and a landscape or locality. 'Place' is more than just a portion of geographic space – it refers to a location that is saturated with meaning by those who dwell in it, or visit it. Walmsley and Lewis (1984; cited in Matthews, 1992 p.201) note the significance of *place-rootedness* to humans, while Tuan (1974) adopted the more generic term *topophilia* to describe positive associations with place. We must be careful, however, to acknowledge that 'sense of place' may also contain ambiguous or negative attributes, such as anxiety or resentment (Wood, 2018). Castree (2003) identified the growth in academic consideration of the concept of 'sense of place' with the emergence of humanistic geography in the 1970s, in part a response to the perceived *dehumanising* nature of quantitative spatial science and as an alternative focus on lived-experience and its expression. The MM project grows out of that tradition.

Cartography has been used in a variety of ways to explore people's perception of space and 'place', from sketch-maps to interaction with formal cartographic products. Kevin Lynch's pioneering work in the 1950s, in which he explored perceptions of cities (their 'imageability'), especially the role of key elements such as 'landmarks', 'paths' and 'edges', is regarded as seminal, and continues to inform debate about how people make sense of places. In 1970, Lynch initiated a project (Lynch, 1977) to understand how low-income adolescents perceived and use their urban environments. Through this project, Lynch (1977) enlisted children's ideas and energies to create more habitable cities (Chawla, 1997) – indicative of a growing view of children as 'social actors' in their own right (Matthews and Limb, 1999).

There followed a number of innovative 'mental mapping' projects in the 1960s, including Ladd's work in Boston, and Orleans' maps of Los Angeles (Gould and White, 1986). Much early work was concerned with

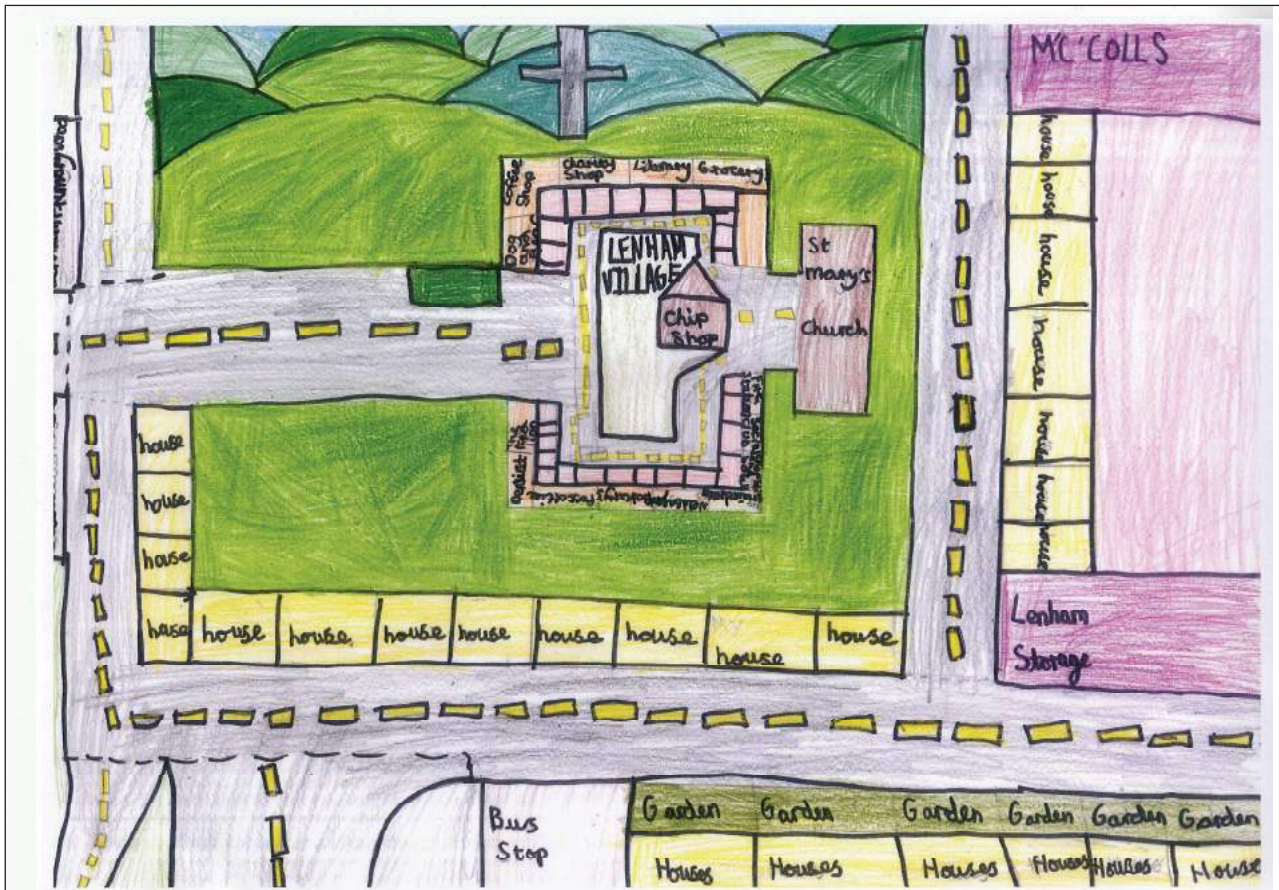


Figure 1. Meaningful map of the village of Lenham, drawn by child aged 10.

producing generalisations about spatial abilities, and many involved children, examining how differences in age or gender linked, for example, to free-range might affect mapped outcomes (for examples see: Blaut and Stea, 1971; Andrews, 1973; Catling, 1979; Matthews, 1984, 1992).

Later workers were critical of the value of these approaches, for example Soja (1996) noted:

Often, some very interesting insights about human spatiality were produced. But equally often the interpretation abruptly ended with naïve categorical idealizations, such as men's mental maps are extensive, detailed, and relatively accurate' while women's were 'domicentric' (centred on the home), more compact, and less accurate. (p.79)

These early methods have also been criticised as restrictive, using protocols that make the children objects of research and generate adult-centred interpretations, providing limited room for spontaneity (Lehman-Frish *et al.*, 2012) and children's own interpretations (Young and Barrett, 2001).

Recent critical thinking in cartography has focused on mapping as 'performative' – 'concerned with animating the world in an infinite number of ways.' (Gerlach, 2018, p.90). Re-thinking mapping as performance broadens the understanding of the value and meaning of maps. Maps, from this perspective, are not raw 'data' for spatial cognition tests, but 'artistic, playful and experimental'

(p.90), they 'work; they labour, they create' (p.94). A performance perspective helps geographers consider how (children's) worlds come into being. 'Mapping' in this sense is continuous, as each individual tries to make sense of emotional ties and dissonances at a variety of scales; from the home and neighbourhood, to the village, town or city and beyond – a series of 'nested identities' (Vujakovic, 2016a; Kent and Vujakovic, 2018).

Cartographic representation of place can help individuals to define themselves and their sense of belonging; although this can create exclusive domains that may exclude others, for example, when 'community maps' appear to exclude some elements of the settlement that do not 'fit' a specific image (see discussion of 'rural idyll' below). Modern living has to an extent disrupted a localised 'sense of place', as not only adults, but children 'commute' to their place of work or education, and as consumer and recreational activities take place at distant specialist locations (shopping centres, cine-complexes), or on-line. People start to live in isolated 'bubbles'.

An initiative which sought to re-capture a 'sense of place' and community by mapping, and has had a strong influence on MM, was Common Ground's 'Parish Maps' project (King, 1991; Crouch and Matless, 1996):

In an age of 'Walkmans', multi-national companies and hypermarkets, the parish has survived as a unit that is both understandable and human in scale. The pro-

cess of making a Parish Map will encourage people to discover what is already known about their place and to demand that it is made available to them in an attractive and approachable manner. (Common Ground, undated; p.3).

While generally a positive activity there was sometimes a tendency to idealise community and place, especially rural locations where many maps conformed to the symbolic conventions of the 'rural idyll'. As statements about 'place' some maps provided a skewed view, celebrating and prioritising the quaint and historic over modernity and the lived experience of locals. A veil is often draped over industrial sites, council housing, and other scenes that do not 'fit' the idyll. A thought-provoking experiment is to use Google Streetview to 'visit' the site of a parish map. If, for instance, the 'parish map' of Marldon in Devon³ is compared with Streetview the differences are quickly evident. The map focuses on the picturesque, with only two 'modern' buildings represented – the primary school and village hall. Streetview provides a very different perspective; a significant area of modern houses and bungalows surround the village core. The only forms of transport shown on the map involve horses compared with the reality of long lines of parked motor vehicles. How do young children read such a map? Can they see beyond the surface and question the disparities inherent in the 'silences'? Or, if asked to make a map of their locality, would they, like so many adults, default to representing the idyllic over the mundane? Are 'silences' on maps evidence of 'blind spots' or more overt prejudices?

Some parish maps have provided more nuanced perspectives, including ambiguous or negative representations. A pertinent example is a map produced by school children at Turner's Hill Church of England Primary School. Wood (2018) describes the map as displaying 'resigned despair' due to the twenty-thousand vehicles that pass daily through the settlement, fifty of which are shown in a frieze around the map. Leslie (2006, cited in Wood, 2018, p.403) noted – 'It is with some feeling that [the kids] show more wheels than buildings'.

Denis Wood's mapping of Boylan Heights in Raleigh (North Carolina), is another example of an innovative cartographic project aimed at understanding sense of place and neighbourhood identities (Wood, 2018). Wood's students mapped a wide range of cultural and economic factors over a number of years, from real-estate values to the location of pumpkin-lanterns at Halloween; the latter provided evidence of 'tradition', but also of social segregation, the pumpkins being found mostly 'on the porches of the big houses at the top of the hill.' (Wood, 2004, p.104). While Wood's maps are thematic and systematic, they are a reminder of the sort of evocative and sometimes ephemeral artefacts that might be mapped as significant to a locality. Mapping ephemeral events can be an important element of place-meaning; McLean (2018) provides a comprehensive discussion of mapping the

invisible and ephemeral (e.g. smells) and their importance as evocations of place. Barnes (2017), in a text on creative teaching in primary schools, discusses how sound maps, smell maps, touch maps and other cartographic devices can be used in educational settings. As such innovations become more commonplace it will be interesting to see how they may be reflected in children's own maps of place. A 'memory map' reproduced in Harmon's (2004, p.131) examination of 'personal geographies' suggests that children are attuned to transient elements in the landscape and happy to map them. The 'memory map' shows the route to the same school (New Canaan, Connecticut) taken by an uncle (1964–71), then by his nieces thirty-years later. Locations or features that no longer exist have been cross-out ('Brian's base-ball diamond'), while new features are circled ('tiny yellow Fiat' [drawing of a car], and 'stinky spot'). Transient elements such as these should not be dismissed as non-cartographic, but be valued for their importance (positive or negative) to the children concerned.

Although it is focused on environmental behaviour research, Hart's (1979) study of childhood experience of place is also informative regarding children's local geography. He asks, 'where do children go when they leave their homes each day, how do they differentiate the environment into places and how they feel about these places?' (p3). By living with, and as, a junior school child for a two-year period he came to understand in great deal the places they valued and how this impacted on them. MM is trying to achieve something similar through a cartographic lens.

While maps and mapping can be liberating, a source of affirmative identification, they can also provide an insight into less positive issues. Recent research using 'sketch-mapping' techniques with children and young adults provides examples. Potter and Scoffham (2006) have shown how children can be encouraged to create colour-coded 'emotional maps' of their primary school. Not all maps were positive; for one autistic child almost the entire map was labelled 'sad', while others identified issues related to bullying and stranger-danger in the playground. Sara Cohen's (2012a; 2012b) work on the music-scape of Liverpool, which included young adults, used sketch-maps as an ethnographic tool. The act of mapping produced a range of positive and negative responses including the following from 'Pyro', a twenty-two year old hip-hop musician and crew member, from Wavertree, Liverpool:

I don't venture far from my crib. I don't even go out much. It's not my map, it's *my bubble*..." (Cohen, 2012a p.143; emphasis added)

Down here, there is not, there is not a lot of light. So when people are down, like, if you fall off track from when you are young, you're pretty much, ain't no help, that you're pretty much done. Do you know what I'm saying? That's probably universal to a lot of slums and

to a lot of places, but it's just, for me, growing up in Liverpool, it's just, it's just fucked. (Cohen, 2012a, p.144)

For 'Pyro' the mapping process prompts thoughts of feeling trapped in his 'bubble'. The word also emerges as important in a sketch-map based study of students' perceptions of place in Israel-Palestine. One respondent noted, 'I live in a kind of a bubble and that's why I had difficulties in sketching the map' (Ben-Zev, 2012, p.244). As Ben-Zev notes 'bubble' (*bu'ah*, in Hebrew) is slang for disconnectedness or isolation. The word *bu'ah* was used by several respondents to describe the fragmented nature of life in Israel-Palestine. Young and Barrett's (2001) study of Kampala street children also used sketch-maps to understand the complex lived experience of these children and their strategic use of space, from their 'depot' (place where they sleep) to 'down-town' – a largely unregulated area containing taxi parks and markets where they seek work and spend leisure time.

Other studies on children's maps have focused on the ambiguities that might emerge in diverse communities. Gillespies' (2010) study explores the impact of 'acculturation' on sense of 'neighbourhood'. She compared the maps of Amish and non-Amish children (sample size not stated) in rural Pennsylvania and found the latter group to have a more inclusive view of neighbourhood, while Amish children focused almost entirely on their home. Lehman-Frish, *et al.*, (2012) used children's 'drawings of neighbourhood' (which ranged from plan maps, through pictorial maps, to pictures (sample size 27) to explore a socially-mixed area of Paris, and the children's experience of the site. While reporting some differences in children's interaction with, and representation of, their area based on class, ethnicity, and gender, they suggest this is more nuanced than earlier studies have proposed. Both of these studies are discussed in more detail below in relation to MM.

Researching children's ideas about their locality through maps

Children are remarkably adept at making maps and appear to develop the spatial awareness required from an early age. The maps that they draw not only provide a fascinating insight into their practical engagement with the world and but also provide an insight into the places that they value or that worry them. There is considerable discussion about the stages which children go through as they develop their map-work skills. What seems certain, however, is that children find maps a valuable way to communicate to others and to express their ideas about the world even if their formal cartographic skills are still developing. There is a growing awareness in primary school geography of the need to listen to the 'pupil's voice' and engage them in learning through their own geographical experiences (Catling, 2003).

There is, however, also a growing understanding that a child's world-view might be limited by issues such as

access to play in open-spaces or restrictions imposed by travel to school in private transport. Research by Mitchell *et al.* (2007), for example, found parental 'chauffeurage' is now common-place, but that over half of the children would actually prefer 'active travel', showing a desire for spatial autonomy. Others support the belief that walking and cycling support an active engagement by children with the environment and enhance emotional attachment to place (Fuller, *et al.*, 2008; Owens, 2008).

The MM project is not specifically concerned with issues such as map accuracy and children's spatial reasoning, but rather the child's place-consciousness, both positive and negative. In fact, teachers involved with the MM project are asked not to encourage children to see their maps as a test of their formal cartographic abilities. The draft instructions to teachers (pilot phase) noted that:

As long as their map is grounded in reality this is quite acceptable. You need to make it clear that there is no 'right' answer or approach. You should also stress that this is not a competition for the neatest or most artistic map, although these traits can certainly enhance a map visually. We are interested in the information the map conveys (and the information it leaves out).

Affective maps which focus on personal responses are central to this project. You could ask the pupils to think about places which they enjoy visiting or where they feel safe and happy as well as places that matter because they are perhaps scary or unpleasant. They might select places where they do activities such as play, swim, skateboard, watch animals and so forth. Or they might focus on places where they met their friends or visit relatives. It is quite likely that pupils will decide to draw maps of their own home and street, their school and places in the locality where their friends and relatives live. Others may select local parks, play areas, their garden or even their own bedroom.

The following discussion is based on the work undertaken to develop and launch the MM project nationally. The further development of guidance notes for teachers and other resources have been informed by several sets of children's maps, 90 maps in total⁴. The main source is 43 maps produced by children (age 6 to 9) at a school in East Anglia for the MM project pilot. Another source drawn on includes 40 maps by children (age 7 to 9) at two schools in East Kent – a project with which one of the authors has been involved⁵. While the prime purpose of this project was to understand children's spatial knowledge, the maps also offered opportunities to explore place meanings. A further nine maps drawn by children (age 9 to 10) at a Primary School, in Lenham (mid-Kent) are included. These were drawn to accompany an article published in *Kent Life* magazine as a celebration of 'young map-makers' during 'International Map Year' (Vujakovic, 2016b), and were one of the key motivators for the development of the MM project.

Meaningful Maps: A child's eye view of their locality

The pilot survey and access to other maps has been an important part of the development of the MM project. The guidance notes for teachers involved in the pilot stressed the importance of producing 'affective maps' (relating to moods, feelings and attitudes to place):

We recognise that places matter to people for different reasons. Personal views and perceptions are a central part of the project. This means you should encourage pupils to record what they feel about places as well as the features which they think are significant. Affective maps which focus on personal responses are central to this project. You could ask the pupils to think about places which they enjoy visiting or where they feel safe and happy as well as places that may have negative connotations, such as fly tipping or vandalism (e.g. graffiti). They might map places where they undertake activities such as play, swim, skateboard, watch animals and so forth. Or they might also include places where they met their friends or visit relatives. It is quite likely that pupils will decide to draw maps that include their own home and street, their school and places in the locality where their friends and relatives live. They may include local parks, play areas, and their garden.

Teachers were not provided with a verbatim set of instructions, but they were asked to use the guidelines to encourage the children to make 'affective maps'.

One issue to emerge is the extent to which children of late primary school age may already be in the process of developing a rigidly formal understanding of the term 'map'. This may hamper their ability to express their values and meanings if they feel that it is incumbent on them to produce a neat and formal cartographic, despite instructions from the teacher that it is not a test of mapping-ability. The contrast can be seen in two maps of the same village (Figures 2 and 3), where the first example is clearly a 'formal map', while the second is a 'pictorial map' and more suggestive of the child's emotional interaction with place. Figure 1 shows elements of both type of map. A tension may exist at this stage and future work may require more overt reference to the 'permissive' nature of the exercise and the ability to express values and meanings associated with 'place' more overtly. Catling (1998) notes that children (in the UK) tend to start using more formal conventions by age 10 or 11 as a product of formal teaching of map skills.

Another issue to emerge from the pilot study was the extent to which children produced 'maps' focused on their home. Two thirds of all the pilot maps were of the home (with over a quarter of bedrooms only – surprisingly perhaps less than a fifth of 6–7 year olds mapped their bedroom, while just over half of 8–9 year olds mapped theirs). This may be a legacy of how the individual teacher placed emphasis on what might be mapped. While this

result could be construed as disappointing given the wish to explore the meanings children invest in the wider environment, there may be particular reasons why this has occurred.

First, the term 'map' may be associated with school exercises involving the creation of large-scale plan views of the classroom. At Key Stages 1 and 2 (UK ages 5–11) mapping generally starts with drawing a plan of the classroom. The desk becomes central to the mapping process, often being the first object mapped, as well as the platform on which mapping takes place, and from which spatial and 'place' meaning are then projected. After the classroom, the school can be mapped, then the neighbourhood', and so on. This approach to map work is fairly standard in primary education (see for example, Bridge, 2010). It is, therefore, perhaps not surprising that a child's 'map' of a 'special place' might be limited to a bedroom or the home. As part of the exercise the children were requested to 'Please write a few sentences about what your maps show and why you decided to show these places. What do you think makes them special?' Explanations given for the specific place 'mapped' included:

'My bedroom is special because it has all my rewards'; 'Bedroom, books, hair dryer and hair gel and it is my comfort zone. I can just relax and read'; 'My map is of my bedroom because it is lovely and warm and in the summer it is cold. When you're scared you can hide because it has a bed that you can pull it out and go in it'; 'My bedroom and my Lego room are special because there are special things in them.'

Alternatively, the explanation could be that these maps are a product of spatial restrictions linked to issues such as 'stranger-danger' and perceived parental risk of a range of environmental hazards (Valentine, 1997; Francis *et al.*, 2017). Children may be reflecting the fact that they are arrested in a secure 'bubble'. It is worth noting that the garden featured strongly in nearly a fifth of the explanations for the space mapped, again suggesting limited range and safety issues:

'My map is about my garden because it is where I play.'; 'My map is my garden. My garden is adventurous. My garden is nice.'; 'garden – I spend lots of time in it.'; 'Back of my house and garden. It is very special and the garden very sunny and I love it. I have four swings and a BBQ.'

Another study of children aged 8 to 11 confirms the importance of 'freedom of movement, in acquiring, processing and structuring environmental knowledge' (Rissotto and Tonucci, 2002, p.65). Children who walked to school alone produced more detailed sketch maps than those accompanied by an adult, and far better than those driven to school. This suggests it is not simply a matter of mode of travel, but how the journey is managed. Rissotto and Tonucci suggest that adults tend to organise the walk

as a matter of time efficiency, rather than an opportunity to explore and observe places. A study by Large (2004) also suggested that the key factor which influenced children's knowledge of local landmarks was not the mode of transport but parental involvement; children who talked with an adult about their journeys scored higher regardless of their mode of transport.

Finally, the explanation could involve other cultural factors. The MM pilot study involved a private primary school, and this will tend to draw children from a wider geographic area than most state schools. These children's meaningful space may therefore be more fragmented; for example, school friends are likely to be dispersed, rather than local, and generally not within walking distance. As Lehman-Frish *et al.*, (2012) note, middle class children live in an environment 'made up of disconnected places' and are ferried from place to place, rather than being allowed, *or able*, to range freely. Carol Ann Gillespies' (2010) study of Amish and non-Amish children is relevant here. Her study of 'neighbourhood maps' involved Amish children that live in a disjointed settlement pattern (i.e. their 'faith community' is spatially scattered). This produced extremely divergent results. The Amish maps are very much defined by their 'home', including exaggerated scale and identification of fences as boundaries, while non-Amish maps rarely include boundaries and are full of paths and wider linkages. Are private school pupils a similarly dispersed community? Perhaps a 'bubble' existence is characteristic of modern life more generally. Of the nine maps in the pilot group that showed 'routes' or a wider geography only one was produced by a female child, which may again equate to issues of free-range.

Lehman-Frish *et al.*, (2012) also discuss variation in scale; from focus on the home to the wider neighbourhood. Their findings bear similarities with the MM pilot data. Of the 27 maps they examine, 15 contain a drawing of the child's house (sometimes that alone), or a perspective as seen from the house (n=3). They provide two key examples of drawings that focus entirely on the home. One is by a girl of North African origin with limited free range, the other is perhaps unique in being drawn by the daughter of an architect; both, in their way, suggesting the importance of understanding specific cultural factors in a child's representation of place.

Dwelling in the world – inhabited landscapes

Lehman-Frish *et al.*, (2012) identify a range of what they have termed 'inhabited landscapes' through their children's drawings of a densely built-up Paris neighbourhood. These provide a useful starting point to explore children's maps more generally. Their study indicated the importance of urban complexity and children's interactions with the environment. As discussed above, richer representations tend to be the result of spatial autonomy, but they may also depend on the richness of the environment too. A 'home to school' route study using sketch-maps by Moran

et al., (2017) confirms that lively and complex town centre neighbourhoods, as opposed to suburbs, tend to be 'more intriguing to interact with and generally enhance residents' [children's] sense of place and neighbourhood satisfaction.' (p.18)

The following section provides some initial comparisons between the Paris maps and those in the MM pilot.

The built environment: 'from the barren to the fertile'.

Many of the Paris maps accentuate the feeling of density of buildings and limited fields of vision. Strict urban structure dominates, with the majority of the maps taken up with buildings ('the barren' as Lehman-Frish *et al.*, (2012) characterise it). Car lined roads are also characteristic of urban 'density'. Interestingly, some of the MM maps also display this format. Several of the Lenham maps focus on the street network and buildings; Figure 2 provides a particularly unadorned example based on a very formal cartographic style (compare with Figure 3). A number of the East Kent maps simply show roads and buildings, and some just groups of individual buildings with no clear indication of any spatial relationships. There are often named shops in both the Lenham and the East Kent maps (e.g. McColl's, the Co-op), and they frequently include a church and school, often as a discrete landmark. The latter are often worked up in some detail (see Figure 3: both the church and primary school are rendered pictorially and accurately in architectural terms). While there is no room to discuss in detail the importance of Lynchian categories such as 'landmarks', 'nodes' and 'edges' here, they are vital to 'sense of place', especially where they hold specific personal or social meaning – e.g. the chip shop that features on many of the children's maps of Lenham; a prominent historic building, formerly the Chequers Inn, it stands in the centre of the village square (see Figures 1 and 3).

Another stark example from the East Kent maps featured a *cul-de-sac* only with a few houses drawn; the dominant features were two brown ovals in the centre of the *cul-de-sac*, indicating pot-holes that interfered with the child's cycling and skating-boarding.

Some of the Paris maps did incorporate elements of nature, the 'fertile' (Lehman-Frish *et al.*, 2012), although the focus was primarily on a formal city parks. One example, drawn by a child from a French overseas territory exaggerated this aspect, making trees 'more plentiful than in reality' (p.26). This contrast is also seen in the MM maps; interestingly, the focus on nature tends to be in the pictorial maps, and less overt in the more formal examples (again, compare Figures 2 and 3), indicating that formal teaching of map-making might begin to suppress imaginative uses of maps. This distinction also emerges in the maps produced by the main MM pilot group. Here there is a strong distinction between those children that have focused on their house and a materialistic perspective with regard to possessions:



Figure 2: Lenham Village as densely built-up area, girl aged 10



Figure 3: Lenham Village, rich in natural elements, girl aged 9

'My map is of my bedroom because I like it – I keep lots of toys in my bedroom'; 'I like my house cos it doesn't rain in the house. You can keep things in it'; 'I have a lot of fun in my bedroom. I have Lego'; 'My bedroom is special because it has all my rewards'.

And those that appear to value a wider engagement with 'nature' and overt mentions of activity, even if often restricted to their garden.

'I made my map because my garden is fun. I like digging potatoes with Daddy'; 'My map is my garden. My garden is adventurous. My garden is nice'; 'My map is about my garden because it is where I play; My garden is big and I play in it everyday'.

One, the 'Map of my Garden', produced by the child who commented 'I like digging potatoes with Daddy', was incredibly detailed; with each vegetable bed labelled with its produce; potatoes, sweetcorn, herbs, etc., down to the detailed drawing of bean canes.

Children include elements of nature including transient, even seasonal features. Trees are invariably shown in green summer foliage, with the autumnal colours in Figure 3 an exception. Some maps included domestic stock (sheep), while birds are the main form of wildlife shown, although one child took the time to draw over thirty 'tadpoles' (frog larvae) in her garden pond. Another drew several spiders in the attic of their house!

'A lively area'

For the children in the Paris study the life of their neighbourhood is often manifest through activity shown within the shopping district, including gratuitous detail (e.g. 'Oliver notably sketches the clients in the tobacconist's, learning on the counter or sitting at a table, as well as the waiter' (p.27)), as well as activity in the park and residential streets. The neighbourhood, the researchers conclude, 'truly is a place of social interactions' (p.27).

In contrast the maps in the MM pilot are generally devoid of people, even within their homes. A couple of the maps show children associated with the school environment, but these seem to be more symbolic of the function of the place than of social interaction. It may be that the more explicit instruction to produce a 'map' in the UK cases, rather than a 'drawing' in the French case may account for this.

'Mobilities: '...to the neighbourhood'

Lehman-Frish *et al.*, (2012) discuss the impact of free-range on mapping. They note that previous studies have suggested that 'working-class' children tend to have greater freedom to roam than 'middle-class' ones, but note that their study suggests a more complex situation, with some children from lower-income families exhibiting limited freedom, while some middle-class children were allowed considerable 'spatial autonomy'. The MM pilot maps and notes do not provide details regarding socio-

economic status, but it seems clear that those who drew maps of the wider environment tended to be those who valued activities such as dog-walking or membership of formal groups:

'Walking the dog with mummy. I love my dog and Mummy; I drew a map from school to my house I like walking with Mummy but not so much Lily'; 'I did Brownies from my house for my map. Everything is there because we go on Pow Wows. (What makes it special) Teachers, sixes, Pow Wows'; 'I drew a map to the swimming pool because I love swimming and I even swim for Baracoders (sic; 'Barracudas') and it is the only route I know. At the moment, I swim once a week'.

These children often produce maps showing the route taken on walks or to significant places, and they include significant environmental details. The 'Map to the swimming pool' (discussed in quotation above) is a detailed route map from school to the pool, with important landmarks such as traffic lights and Police Station shown. The pool itself is shown as a detailed plan with what appear to be the changing cubicles and as well as the pool with lane dividers and their floats, and waves to indicate water. The map provided by the child who attends 'Brownies' (a section of the Girl Scout movement) shows the route from home to the club-house in extreme detail, with the route being differentiated into pedestrian, cycling and motor lanes, indicating experience or at least knowledge of a variety of ways in which children navigate the space. The 'Brownie hall' is, like the swimming pool, clearly a meaningful 'place', with a plan showing a range of key spaces/facilities and an 'atick' (attic), this time devoid of spiders!

'Blind-spots', prejudices and silences

Harwood and Rawlings (2001), in their study of young children's freehand sketch maps of the world, draw attention to another concern which needs to be acknowledged, the issues of potential prejudice or of 'blind-spots'. While their study focused on the international arena, revealing a Eurocentric bias in English pupils' depictions, these issues are just as important at the local level. Brian Harley (1988) had already alerted us to the role of 'epistemological silences' in maps. He was not concerned with silences resulting from absence of information, ignorance or error, but silences imposed as part of dominant social discourses. He discusses the 'empty spaces' that deliberately ignore people or features that do not fit the value system of the map maker, for example, the denial of native place-names on colonial maps of North America. The Common Ground 'Parish Maps Project' provides evidence of such epistemological silences imposed by adults, for example suppressing certain housing types in favour of emphasising the 'positive' (e.g. thatched cottages, gentrified environments). Such 'silences' do not, however, *appear to be* so evident in young children's maps, but this is perhaps one of the most difficult aspects of a map



Figure 4. Map of Lenham drawn with a restrained colour pallet, girl aged 10.

to unravel; do children suppress adult-centric aspects of the world? How easy is it to apprehend this? They seem to display a willingness to include elements ranging from industrial sites to ‘charity shops’ (often regarded by adults as signifying a locality in economic decline) to electricity sub-stations. There appears to be an honest acknowledgement of importance of industrial sites; several of the Lenham maps include ‘Lenham Storage’, a large transport depot close to the village centre than it is in reality. One included an image of a truck, another of large storage containers. As a major local employer, it may hold personal significance for many of the children at the school.

Discussion and conclusions

This paper provides some preliminary thoughts on children’s mapping based on the MM project pilot. The pilot includes 43 maps, a larger initial sample than some published formal studies, as well as the nine Lenham village maps, and 40 maps from a related project. Comparison with other studies of children’s perception of meaningful spaces using sketch-maps – specifically, Gillespie’s (2010) and Lehman-Frisch’s *et al.*, (2012) studies of ‘neighbourhood’ – suggests some commonalities, but also some interesting divergences.

Of particular interest is the extent to which the focus on the home, even when children have been asked to create

a meaningful map, may be linked to their exposure to map making in class (i.e. a focus on plan-making, starting with the desk and the classroom, as the basic unit of mapping) or to cultural issues (increasing sequesterisation, fragmentation of experience, social criteria). It may also be a matter of semantics, linked to children’s understanding of concepts such as ‘neighbourhood’ or ‘locality’.

Other areas which have not been explored in depth in this paper include children’s use of specific symbolologies and colour. To what extent do children fall into stereotype images? Houses, for example, are frequently drawn by primary age children as a square with a triangle on top for the roof. In Britain, while not rare, it is actually unusual for the front of a house to have the main gable end and ridge facing forward; the stereotype ‘house’ is, of course, continually reinforced by many cultural representations, including the ‘home’ icon on computers and other gadgets. If children adopt ‘conventional’ symbolisation at a young age (all water bodies are blue!) does this stymie their production of meaningful maps? Colour is closely linked to emotions, and suggests a rich line of future enquiry – although care must be taken not to impose adult sensitivities on individual maps; is Figure 4, with its select Picassoesque pallet the result of a precocious aesthetic or simply limited available resource?

In conclusion, the pilot phase of the MM project has produced some fascinating maps that form the basis for future development of the initiative and areas for research.

It generates more questions, perhaps, than it currently answers, but given the fact that many previous research projects involve far smaller samples, it is encouraging to think that the main phases of MM will generate a substantial and rich resource for those interested in how children see their world.

Authors

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Notes

- 1 Scoffham, S. & Owens, P. (2018) 'Meaningful Maps' (Presentation) at 'Why Primary Geography?' *The Charney Manor Primary Geography Conference February 23rd – 25th 2018*. Charney Basset Oxfordshire.
- 2 The project is based at Canterbury Christ Church University It is supported by the Geographical Association (GA) and endorsed by the British Cartographic Society (BCS). <http://meaningfulmaps.org/>
- 3 Maldon Parish Map, <http://www.marldonhistory.co.uk/html/map2000.html>
- 4 A further useful source of children's sketch maps (n=174) are available as an appendix to Paskins' (2012) study of 'Children's Cognitive Representations of the Local Environment'.
- 5 The maps from the East Kent Primary Schools are part of an EdD (doctorate in education) research project by Patrick Meehan of Canterbury Christ Church University. The authors are grateful to Patrick for access to the maps that informed development of the MM project. One of the authors was part of the supervisory team for Patrick's research project.

WEBNOTE – WEBSITES OF CARTOGRAPHIC INTEREST

Mapping London

Highlighting the best maps of London. People, places, data, things. Twitter: @MapLondon

<http://mappinglondon.co.uk/>

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|  <p>DATA</p> |  <p>DATA</p> |  <p>HISTORIC</p> |
| <p>STRAVA LABS HEATMAP OF RUNNERS...</p> <p>This stunning map reveals the athletic footprint of London. Strava have taken their huge volume of movement data,</p> | <p>TRANQUIL PAVEMENT</p> <p>Tranquil Pavement is an online map recently launched by the Tranquil City project based in London, in association with the</p> | <p>CHISWICK TIMELINE</p> <p>The Chiswick Timeline, a mural of maps showing the history of the pleasant west London neighbourhood, was successfully</p> |
|  <p>EVENTS</p> |  <p>EVENTS</p> |  <p>EVENTS</p> |
| <p>LUMIERE 2018</p> <p>The Lumiere London, a free show of more than 50 light-based artworks, scattered throughout central London, starts</p> | <p>WINTER LIGHTS</p> <p>If Lumiere London, which finished yesterday, has whet your appetite for seeing artistic displays of light after dark, then</p> | <p>LUMIERE AT KING'S CROSS...</p> <p>King's Cross is one of the six Lumiere London areas, where light-based artworks are on display every evening until</p> |