Place mapping

transect walks in Arctic urban landscapes

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Abstract

This article investigates how experimental forms of urban mapping can reveal the particularity of places in non-standard urban situations with the intention of moving beyond the reductivism of still-dominant modernist modes of mapping and associated forms of planning. In order to do so, it reports on the emergence of a methodology involving transect walks, with the purpose of mapping the peculiarities of cultural landscapes. The study is located in cities and communities in the Arctic that are undergoing rapid transformation and are in urgent need of new conceptual approaches capable of enabling future thinking and strategic action. The article specifically asks how such a methodology works to includes the ephemeral and emergent, but also digital, dimensions of urban landscapes, and results in a complex reflexive method of critically reading and writing, of moving and locating, of seeing and picturing place mapping.

Keywords

landscape architecture; transect walk; Arctic; place; mapping

Background

As the Arctic is under pressure due to climate change and geo-politics, urbanisation is among the key transitions (Arbo, Iversen, Knol, Ringholm, & Sander, 2013; Smith, 2011). Arctic urban settlements are often considered to be marginal and in need of social and economic development, and little attention has been paid to the specifics of their urban landscapes. As a result, proposed changes are likely to be the results of projections of global and/or southern discourses and concerns, such as on economic development and industrialisation. In contrast to varied approaches to urban development elsewhere, Arctic cities and communities are still largely subjected to a master-planning framework. This is, in essence, the provision of placeless utopian models in which abstraction from the territory potentially leads to a lack of identification of the inhabitants with their environment (Hemmersam, 2016; Liscombe, 2006; Marcus, 2011).

The modernist cityscape that was a result of abstract utopian ideals and functional separation has been a concern for urban and landscape designers, which has sparked various methodological experiments aimed towards understanding them as places that hold relevance for the inhabitants. Since the 1950s, Kevin Lynch has identified the 'mental images' of the modern urban landscape (1960; Appleyard, Lynch, & Myer, 1964) and capturing the particularities of place came to be seen as an antidote to the abstract space and placelessness of modernism (Augé, 1995; Relph, 1976; Tuan, 2008) and the associated elimination of difference through mainstream industrial, capitalist production of architecture (Norberg-Schulz, 1980; Frampton, 1983). Various forms of urban mapping endeavoured to move beyond modernist epistemologies and develop new sensitivities in reading urban space (e.g. Debord, 1958; Venturi, Scott Brown, & Izenour, 1972).

The global phenomena of amorphous post-modern urban landscapes including sprawl and peri-urban development under governance style forms of planning based on private initiatives, has been critiqued for its uncoordinated pressure on the eco-system services that cities rely upon, but also for the lack of possibility for individuals to read, understand and identify with it (Qviström, 2012). Thomas Sieverts (2003) argues that legibility and intelligibility are key to overcoming negative connotations and that seeing them as real places and communities work against processes of social exclusion and environmental degradation. Addressing the issue of meaning, there have been calls for modes of understanding urban landscapes that include dynamic and action-based notions of place that are 'articulated moments in networks of social relations and understandings' (Massey, 1994: 154; see also Hvattum, 2010; Dovey, 2010). This includes getting inside the complexities of space and place, i.e. as ways of mapping flows and invisibles (Allen, 2000; Amoroso, 2010) as well as forms of urban mapping that endeavour to work within the trans-locational dimension of any given site (e.g. Bunschoten, Binet, & Hoshino, 2001), which shows that places are not bounded but woven into wider 'power geometries' (Massey, 1994: 149).

Postmodern notions of 'reading' the city through mapping, in which maps were seen as social constructions (Harley, 1988; Wood, 1992), reflect the 'representative turn' in the social sciences. What postmodern forms of mapping share is the view that 'urban and cartographic spaces are entwined' (Brook & Dunn, 2012, p. 11; see also Cosgrove, 2006), and that 'mapping [is] a collective enabling enterprise, a project that both reveals and realizes hidden potential', thus 'creating and building the world as much as measuring and describing it' (Corner, 1999, p. 213). This highlights that mapping not only entails 'reading' but also 'writing' urban space. In recent years, mapping has been influenced by non-representational theory, including 'the material turn' in geography (e.g. Bennett, 2010; Nyseth & Pløger, 2015; Thrift, 2007), focussing on how place is enacted or performed through various practices rather than representations. This perspective indicates the importance of the 'embodied' experience of space such as through walking (e.g. Wylie, 2005), over representation and

text. In urban mapping 'reading' is an often-used metaphor, but in a post-representational mapping context, various other media and literacies are evoked.

Reflecting this perspective, 'reading' urban landscapes through mapping is a matter of design or framing with the use of a tool – a 'reading aid' that also entails writing the city. There is a need to investigate the methodological dimensions of such an approach that is reflexive and involves emergence. Proceeding experimentally enables us to enact, effect, annotate and critique, and interpret mapping with reference to the specificity of place and how knowledge is 'located'. This should also happen in an architectural frame of seeing the unbounded and dynamic dimensions of place as 'site' (Burns & Kahn, 2005).

The transect is a well-known concept in landscape architecture, often referring to sections of bioregions or ecosystems, local topographies or urban landscapes. It has been charged in recent years as a normative urban planning model emerging out of the New Urbanism school (Steuteville & Langdon, 2009). Transect walks cut across urban landscapes in order to capture diversity rather than averages (Zeeuw & Wilbers, 2004), they appear as a suggestion for a socio-cultural educational approach (e.g. Melemis, Tixier, & Brayer, 2010), and as a methodology proposed by Diedrich, Lee and Braae (2013; 2014) in which 'the scientific ordering implied by the transect line becomes the designerly open work of twists and turns' with the purpose to 'continuously reveal site qualities as narratives exposed by the site to ultimately effect potential design for the site' (2014: n.a.) [1]. Diedrich et al. see 'site thinking as on-site thinking' (2013:194) proposing a need for developing methods for identifying and building situated knowledge. In doing so they emphasise the embedded and experiential dimension of the transect walk.

With an ambition to inform practices of place appreciation in other non-standard urban contexts, we have worked to develop a multi-layered and multi-method approach that seeks to offer thicker description and critical analysis of reading and writing the city. We concur with Diedrich et al. (2013; 2014) in seeing a dynamic interplay of elements as being central to developing situated and methodological knowledge: in our inquiry this was between the device of the linear transect walk, the affordances of an iPhone mapping app, the contexts of use and influence of site, walking, on-site thinking and subsequent critical reflections.

Method and application

In our evolving approach that explored physical, experiential, ephemeral, and digital aspects of place, we ask what the local enactment of the transect walk does in terms of shifting the non-representational perspective of 'reading' and 'writing' urban space, to one in which ascription to the place is important – that is: writing space before reading it, thus shaping the understanding of space via the transect walk as a tool.

Our research design and methods are broadly framed within qualitative inquiry (Denzin & Lincoln, 2005) that seeks to reveal situated and emergent details with respect to context and culture. [2] We draw on a mix of design techniques and research methods to provide a multi-layered account of investigating the transect walk at four levels. This we did in an interdisciplinary team of designer-researchers representing overlapping fields (architecture, urbanism, landscape, literature, applied linguistics, ethnography, history, design studies, cultural studies, digital media, and fiction) that enriched our methodological approach. Overall, these levels may be seen as methodologically constituting a collaborative ethnography that also allows for theoretical innovation (Rappaport, 2008).

FIGURE 1 Transect walk, Vardø, 26 January 2014. The digital map layer exported from MAPPA can be displayed and post-processed using Google Earth or other geobrowsers (Map data: Google, Astrium).

First, we investigated the device of the transect walk itself and its contexts of use. With prior familiarity with Arctic urban and landscape settings and research, as well as experience in using related urban mapping tools in teaching and research (e.g. van Schaick & van der Spek, 2008; Morrison & Aspen, 2013), the architect-urbanist researcher on our team arrived at the technique of first studying aerial images and maps of the settings in question. Central to this method was the choice of working across urban structures in order to capture the largest variety and avoid pre-configured hierarchies of space (e.g. Nielsen, 2001).

Second, we worked in a mode of co-creative construction (e.g. Koskinen, Zimmerman, Binder, Redström, & Wensveen, 2011) in taking up a locative media GPS-based iPhone application. This tool was specifically geared towards cultural urban mapping using Points of Interest (PoI), the entry and upload to a location of text, images and thematic hashtags (Morrison & Aspen, 2013). It is geared for use by teams with a shared assignment, and the resulting data can be exported as a digital map layer (KML) (Fig. 1). The app was built in collaboration with a mobile technology developer, an interdisciplinary university research lab and a transdisciplinary research team in our design university (Hemmersam, Aspen, Morrison, Sem, & Havnør, 2015). The app was tested in urban contexts by the design and research team, as well as architecture and design students, before being taken up in Arctic settings.

Third, in each of the five Arctic urban settings transect lines were determined by the research team. Typically, the transect walk occurred as: 1) an informative background study of related research, including maps, urban plans and images; 2) a journey to the location through the wider regional and local landscape; 3) early orientation to the setting from local specialists. Following 4) the walk, 5) a short briefing session was held with the team of researchers, and then 6) discussion took place as to the perceived and identified features of the setting and its histories, and urban and landscape contextual particulars. This continued process provided the team with a contextualised view prior to the actual activity of making a transect walk infused with earlier practices and principles of sensory and situated ethnography.

Fourth, our investigation included methods of observation, data collection, and situated and sensory ethnographic writing and accounts (e.g. Clifford & Marcus, 1986). The transect walks are linear movements that start and end at distinct points in the urban landscape. In practice, the walked trajectory deviates from the straight line; obstacles were encountered during the walk, and the view (and the observer) is drawn by events and objects on both sides of the line, introducing serendipity into the mapping (Hemmersam,

Morrison, & Aspen, 2016). During the walks, the experiential dynamics of walking and the implied tactile relationship to the landscape was shared by the multidisciplinary project team, which facilitated situated appreciation of the often ephemeral particularities of sites beyond individual perception. As a method, the physical, sensory walk (Pink, 2007) was augmented by contextualising, as well as through interpretative annotations relating to issues, questions, and interests that were brought up by mapping participants depending on their individual perspectives. The resulting co-created map/texts were then revisited and reviewed as digital map layers, which opened up for comparing and contrasting across sites and cities, and their particularities of place.

Next, we present a brief and selected view of the application of the methods used in the five Arctic cities from September 2013 to May 2015. The method developed as the specifics of each instance related to local conditions and the makeup of the mapping team. Several of the transect walks also included experts and community members and, in one instance, students of landscape architecture. In addition, on several occasions encounters en route provided insight into local practices and knowledge.

Murmansk, Russia

This, the largest city in the Arctic, is urgently in need of re-imagining itself. It is losing population and its strategic geo-political location is in flux. Here, three mapping sessions took place in 2013 and 2014: first with the group of researchers, the second with a group of local informants, [3] and third with an international team of landscape architecture students. [4] Beyond providing insight into social issues such as drug use and substandard dwellings, and the emerging scene of cultural entrepreneurs, our structured planning of the event to move across urban structures brought out contrasting features, such as the pedestrian openness of the Soviet era urban landscape, which was in contrast to the post-Soviet car-based city. In the latter landscape, devoid of traditional spatial hierarchies, recent societal changes were evident in functions such as shopping centres, a ski slope, and a wooden orthodox monastery. As the transect line directed our movement, methodologically we went from front to back, from public to semi-private (Fig. 2a). This revealed evidence of a material culture of scarcity in the creative reuse of materials, such as old tank treads for rainwater grills, military style steel road panels for fences (Fig. 2b), used pre-fab concrete slabs for informal garages, and even the re-vamping of an entire Soviet era apartment block as an international hotel. As a correction to our expectations of Arctic cities, we found few place-specific adaptations of the standard Soviet urban model, one of such being a climatized stair to an exposed residential district on a hill. One key emergent activity was our diversion to an extensive garage area that was typical of Soviet area cities and comprised characteristic enclosed metal structures, inhabited by older males and filled with workshops. This was in contrast to the peripatetic, perambulatory character of the open discussion around cultural mapping, youth politics and urban change on the walk itself.
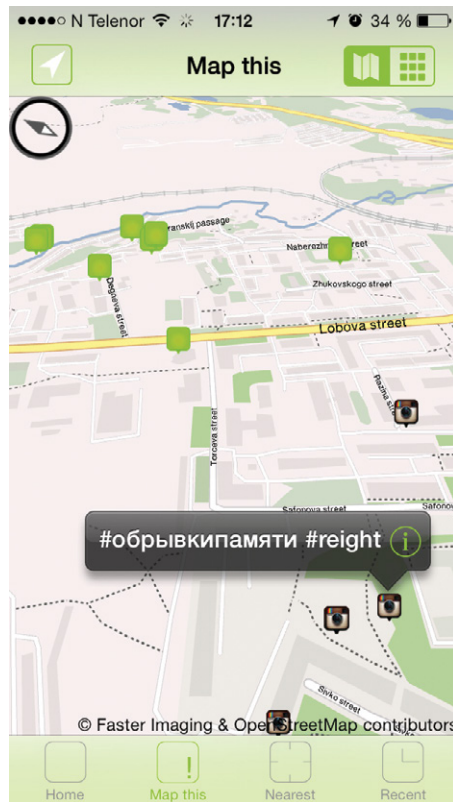
FIGURE 2 a). Screenshots of the MAPPA iPhone app. Points of Interest are annotated using text, image and thematic hashtags Geo-located Instagram images also appear in the app and can be included in the resulting mapping. b). Fence made out of steel road panels.

Vardø, Norway

This easternmost town in Norway, located on a small island off the mainland, has had its population halved since the mid-1970s as industrial fishing has replaced local operations. Currently it is positioning itself with regard to projected petrochemical extraction in the Barents Sea and possible increased shipping activity along the Northeast Passage. Here, two transect sessions were conducted: the first in mid-winter 2014 [5] , and the second – same trajectory, reverse direction – in June of the same year. This structure revealed distinct seasonal landscapes. In the first, wind and snow shapes the movement of local inhabitants, but the reverse condition was also evident in one observation of a snow pile that was used to block a road to prevent traffic from passing the ski and sliding slope for children in the centre of the town. The second seasonal landscape was one in which edible plants were identified by locals with a particular interest in developing a regional cuisine. The acute question of how Arctic communities experience and respond to climate change and global warming is partially answered by the visible presence of new terraces and balconies being added to the older buildings of the town. Methodologically, an interesting matter arose. In our first event, we saw a dispersal of focus from the given activity of taking images and uploading them using smartphones to several participants switching to taking photographs with their high-end cameras, as if prompted by their walking and looking but also by an unexpected intention to document better images for the wider research within the project. While the event leader and the app development leader asked participants to keep to the

task at hand, this was evidence of how the landscape and acts of walking overwhelmed the formality of the transect walk and its focus on locative media production.

Tasiilaq, Greenland

This growing town has around 2000 inhabitants and is isolated from the more populated west coast by the Inland Ice Cap. It is located on an island and for seven months of the year, the frozen sea prohibits ships from entering its harbour. Hunting and fishing still make up a substantial part of the local economy, while tourism is the other significant economic sector. During our walk, we found evidence of the culturally framed economic practices and traces of the use of the landscape in the form of omnipresent hunting and fishing equipment and facilities. A transect walk conducted in August 2014 revealed the island conditions of the town's infrastructure, which starts and ends at the urban periphery. In order to be self-sustained for more than half the year, and because of its administrative role in a large region, the town has to have 'everything' within its borders: social and technical infrastructure and supplies. [6] The logistics involved in supplying the town is evident in the shipping containers and wooden pallets that were used as adaptations to the existing architecture – for instance, as house extensions or as terraces or improvised outdoor benches (Fig. 3a) and in markers of occupational and cultural lifestyles (Fig. 3b). In terms of method, the inclusion of several transect participants not party to the overall project and ignorant of the development and background of the approach, resulted in a distinct professional focus and interpretation of architectural, landscape architectural and urban planning features of the setting, thus revealing the methodical schooling emerging through the iterative enactment and development of the approach.

a   b

FIGURE 3 a). Transect walk, Tasiilaq, 28 August 2014. Ephemeral dimensions of space are captured through the transect walk, such as the improvised bench made of shipping pallets. b). Evidence of hunting culture is omnipresent in the urban landscape, along with expressions of contemporary lifestyles. Thematic hashtags are used across mappings. (Image by authors/Google DigitalGlobe 2016).

Fermont, Canada

This mining town in Québec features a spectacular 1.3 km climate wall (le Mur-Écran) that protects it from the northern winds and houses all major communal urban functions in a climate-protected interior. [7] The transect walk of spring 2014 revealed evidence of the economic and demographic transition the town is undergoing in the form of recent camp-like accommodation structures for the fly-in fly-out workforce of the nearby Mount Wright iron mine, while sheltered on the south side of the wall we find the original permanent housing for the miners and their families. The abundance of recreational Skidoos (snowmobiles), large trucks with oversized tyres and even live lobsters in the local supermarket signalled a particular lifestyle that contrasted with the trailer homes and camp like accommodation of the fly-in fly-out mineworkers.

Method-wise, the surprise over such observations within a restricted geographical and time-span represented by the transect walk triggered a retrospective reflection for the single researcher involved. The shared narrative was missing – it provided little post-walk processing and discussion. However, in a wider context across the mapping in the five cities it contributed to emerging nuanced perspectives on the similarities between arctic communities and their contrasting local articulations.

Longyearbyen, Svalbard

This historic mining settlement on Svalbard is the northernmost urban settlement of significant size in the world and has a population of over 2000. It functions as the administrative hub of the archipelago, and is currently in a transitional phase from coal mining to tourism, research and education as its main industries. This territory was the location of the last of the series of Arctic transect walks conducted in the Future North project in the spring of 2015. Crossing the river that runs through the centre of town revealed that the embankments were constructed to protect the growing city. Descending into the river space made the city disappear from view and the surrounding mountains suddenly appeared as a visual continuity of the sculpted riverbanks. Thus, following the transect line made it clear to us that in this location the landscape was embedded within the city, just as the city was embedded within the landscape (Fig. 4). Methodologically this serendipitous insight, triggered by the structured movement, served to trigger pre-existing theoretical perspectives in the team's landscape researchers, which served to provide additional depth to our conceptualizations of the location. In addition, one issue we faced was that the group spread out over the line quite quickly as people followed specific interests, with some walking back to review areas and issues previously addressed (Fig. 5). In terms of developing a collaborative ethnographic perspective, Erickson and Stull (1998) warn about 'herding' cats: our experience was that this did not ultimately matter as our model of the overall activities of the transect walk allowed for re-iteration and dialogue at the final meeting point of the line and later in a debriefing session. Our digitally located annotations facilitated both dispersal (as each member was absorbed in on-site input) and a shared narrative emerging after the walk. This also pointed to how dialogue occurred within, across and after the walk. The linear path and seemingly sequential process of mapping was extended interpretatively later in the same field work visit to discuss relations and contrasts between past and present. This involved reflecting further on historically varied yet contemporaneously visible built features adapted to the climate and geology, e.g. disused earlier mining transportation infrastructures stand in sharp contrast to contemporary above-ground and apparent urban delivery systems for water, heating and sewage.

FIGURE 4 Transect walk, Longyearbyen May 26, 2016. Excerpt from the collaborative record of the transect walk reflecting on the experience of crossing the river.).

a   b   c

FIGURE 5 Svalbard transect walk. The group of researchers dispersed along the transect line. (Photographs by authors).

Discussion and Findings

In line with Richard Sennett's (1990) call for an urban research based on direct interaction rather than abstracted observation, the transect walk functions as a device to experience and investigate urban spaces as places. However, in the methodological development and application of the transect walk we are cognisant that 'all walking studies are necessarily partial' (Shortell & Brown, 2014). In such reflexive awareness, our approach reveals characteristics of qualitative forms of inquiry in the study of cities. We find that the transect walk activity brings out our own preconfigured notions of cities and landscapes (Traganou, 2009), revealing both our individual 'luggage' of experiences and professional perspectives, and our shared

expectations of what will be found based on experiences from previous transects in locations that may appear similar, but are in fact quite different in terms of demography, economy and challenges.

The Longyearbyen mapping along with the Tasiilaq transit walk were concurrent with educational urban and landscape design studios under the instruction of project researchers, in which the place specific approaches were further developed in conjunction with local actors. [8] The process of conceptualization was facilitated through mediation, as exemplified by our blog-like website, but also by booklets aimed at local inhabitants, key actors and policy makers. [9]

Digital technologies have come to be seen as essential in many forms of urban mapping, primarily through functionalist Geographical Information Systems (GIS) approaches, but also as new modes of dynamic representation (Brook & Dunn, 2014; see also Wilford, 2001) regarding the digital map as an expressive architectural production in its own right. We see relevance in a third approach, namely that of exploring and exploiting the agency of the digitally enabled mapping activity. In this, we move beyond casting digital mapping tools as functionalist, rather enacting them through practices that enable emergence to occur through the activity of mapping and associated mediations. In such a view, we set about investigating urban settings as 'legible' and place as something that can be 'discovered' in a post-structuralist sense that attends to situated knowledge. Critically, we concur with Brook and Dunn that 'current thinking on the role of mapping acknowledges it as a confluence of practices that facilitates emergent characteristics to reveal themselves to both the producer and user' (2014:12). Locative mediated mapping is a socio-technical cultural activity that attends to the situated, contextual, and emergent, but needs active reflection and critique about its own affordances and uses in places to underline that place is 'a social product—one less designed and constructed than enacted or performed through specific behaviours and practices' (Shepard, 2011: 22).
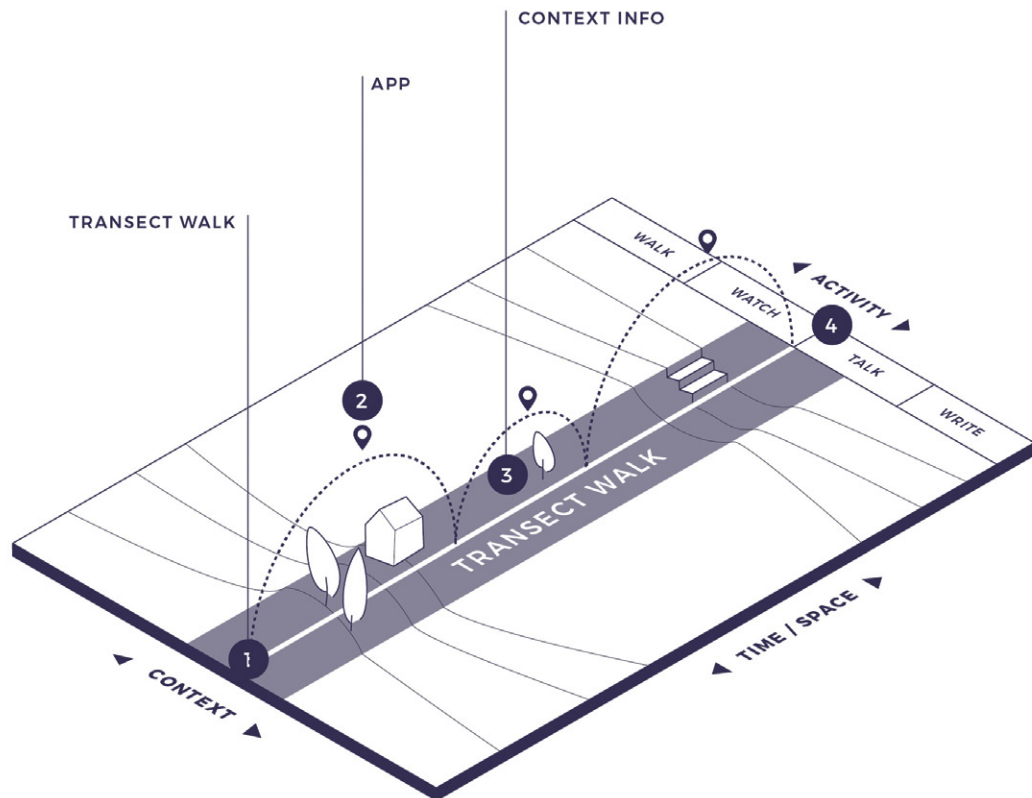

FIGURE 6 Transect walk methodological mapping relations: between situation, context, tools, participants and processes.

In our experience the transect walk works as a reading aid that includes ephemeral and emergent aspects of place as it enables serendipitous discovery, which is not just random encounters and events, but the activation of knowledge and theory in the individual and in a group of researchers. Fine and Deegan (1996) argue that serendipity is about providing opportunity for storytelling and even social reflexivity. They also identify serendipity in the social encounters that surround and enable forms of ethnographic fieldwork, as well as in the fortuitous dimension of being as a researcher at the right place at just the right time to observe events that reveal significant dimensions of a place. [10]

We present our perspective on the transect work in a visual model to summarise the material above (Fig. 8). We call this a Model of the Multi-level of Transect Walk. It is underpinned by the four levels we mentioned above. We do not see these as universally applicable or necessarily sequential in how others may go about using transect walks in urban mapping. Rather, our interest is in shaping a reflexive model that allows for the dynamic qualitative characteristics of situational, liminal and emergent inquiry – including contingencies, serendipity, juxtapositions and differences – to be documented, shared and critiqued. This still takes places along the formal trajectory of the line as participants, alone and together, go about both reading and writing the urban landscape, but also in relation to specific Arctic contexts, of what we term acts of re-reading and re-writing transectally.

This formulation offers a methodological framing for working with transect walks not merely as lines, mobile phone uploads, sensory experience or linear analysis. Re-reading and re-writing transectally is a dynamic activity that can be conducted in one place, along the same line by the same team or by others. Alternatively, it can happen along different lines in the same environment; it may also be applied iteratively, as in our case, across contexts of variation as a means of mapping urban landscapes.

The reflexive inter-relationship between reading and writing indicates that urban landscapes are not simply read off the surface of cities with digital tools (apps) or phenomenologically overwrought as experiential accounts. Instead, we suggest that this iterativeness is a methodological dynamic. It is a potential part of developing a larger, wider, contrasting and diverse set of mappings in which transect walks may be read in relation to their own enactment, critically and reflexively, but also with regard to those of others in the same city or different settings.

Contextual knowledge is gathered through prior information gathering and by consulting experts and stakeholders, community members and individuals. Contextual knowledge is further gathered en route, sensorially and through the team/participants meeting and talking at key features or discussing surprising interruptions or occurrences as well as with persons moving and working in the environment. The transect walk thus also engages more widely with the broader setting of a specific locale and its related, yet diverse, perspectives and relations between lived experience and situated understandings of place and space. Walks may also then be compared and contrasted, whether in the same line, in different lines within a place, or in various settings. Equally, each walk may be understood dynamically as an act of walking that is realised performatively through embodied and experiential knowledge gathering, supplemented by a variety of other information and communication types.

Conclusion

Our work has been conducted as a design and research team that has sought to develop understandings of the place particularities of non-standard or isomorphic urban landscapes. Specifically, we did this by experimentally applying the transect walk as a method (a reading aid) across five very different Arctic cities undergoing change. Locals and other sources informed us, and we developed an emerging practice in which we openly investigated the interrelation and agency of the visual and ephemeral, as well as material and digital virtual site properties, in the appreciation and production of place. We argue that this may be understood methodologically through linked layers or relations of mixed methods (design techniques plus research methods) through acts of re-reading and re-writing transectally. Our research suggests that urban mapping practices that entangle perception and conceptualization have potential to be further developed to acquire sufficient stability to be applied beyond Arctic communities. It was the mapping activity itself – not the mapping data or an expressive map product – that was ultimately important in the course of development. This was enabled by what may broadly be termed the serendipitous and emergent dimension of our approach that triggered connections between physical, visual or ephemeral occurrences, community and stakeholder perspectives, and the individual and collective knowledge and theory apparatus of the researchers – in the form of narratives that made sense – and helped us make sense of place.

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Notes

[1] Transect walks are participatory methods used for multidisciplinary appraisal of local resources in economic and social development contexts (e.g. Participatory Rural Appraisal; World Bank. (2008). Methodology for transect walk. Retrieved from http://pmgsy.nic.in/downloads/WorldBank/ECOP/Annexures/ANNEXURE%2020-2.pdf; Pretty, J. N. (1995). A trainer's guide for participatory learning and action. London: International Institute for Environment and Development).

[2] The research reported upon here is part of the Future North research project (www.futurenorth.no), which looks into the agency of Arctic landscapes and populations in the imagineering and crafting of futures. The project applies a multidisciplinary perspective on Northern territories, and we have experimented with the travel as a research method for documenting and reading landscapes and cities. In our research we have asked how a more sensitive mapping of Arctic urban landscapes can be developed, with a focus on their particularity as places as the 'rich and complicated interplay between people and the environment' (Cresswell 2004:11).

[3] http://www.oculs.no/projects/future-north/news/?post_id=3570

[4] From the Academy of Territorial Studies at AHO and the Arctic University of Norway.

[5] http://www.oculs.no/projects/future-north/news/?post_id=3590

[6] http://www.oculs.no/projects/future-north/news/?post_id=3885

[7] http://www.oculs.no/projects/future-north/news/?post_id=3540

[8] Local planners partook in studio reviews and projects for Svalbard were exhibited in Longyearbyen.

[9] http://www.oculs.no/projects/future-north/news/?post_id=4297

[10] We see our approach as underlining that place, like space, is 'a social product – one less designed and constructed than enacted or performed through specific behaviors and practices' (Shepard 2011: 22). Through our transect walks we have come to see mapping as neither functionalist nor as an isolated design exercise in itself. Rather, working with and towards situated knowledge and ultimately community empowerment, the agency of the activity and the map product is what matters. As Massey (2005) reminds us, material relations are themselves in motion, including the physical as well as the social and the network, yet there is still need to attend to the 'here'. We find that our approach goes some way towards complicating relations between the agency of the urban landscape itself with social and cultural processes.