

INTRODUCTION

Narrative Cartography: From Mapping Stories to the Narrative of Maps and Mapping

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This paper provides an overview of the multiple ways of envisioning the relationships between maps and narratives. This is approached from a map making perspective. Throughout the process of editing this special issue, we have identified two main types of relationships. Firstly, maps have been used to represent the spatio-temporal structures of stories and their relationships with places. Oral, written and audio-visual stories have been mapped extensively. They raise some common cartographic challenges, such as improving the spatial expression of time, emotions, ambiguity, connotation, as well as the mixing of personal and global scales, real and fictional places, dream and reality, joy and pain. Secondly, the potential of maps as narratives and the importance of connecting the map with the complete mapping process through narratives is addressed. Although the potential of maps to tell stories has already been widely acknowledged, we emphasize the increasing recognition of the importance of developing narratives that critically describe the cartographic process and context in which maps unfold - the core idea of post-representational cartography. Telling the story about how maps are created and how they come to life in a broad social context and in the hands of their users has become a new challenge for mapmakers.

Keywords: narrative cartography, literary maps, story maps, mapping process, post-representational cartography

INTRODUCTION

Maps are regularly used to study the geographic nature of stories. In the field of literature, maps are employed by scholars to better understand how a narrative is placed in a geography, how a geography has informed or influenced an author or how the narrative is 'locked' to a particular geography or landscape. Maps have also been designed by passionate readers anxious to follow in the steps of their favourite book characters, and by tourist agencies eager to take advantage of places appearing in blockbuster films and novels. Maps have not only been used to decipher and geolocate stories, but to tell them as well. The narrative power of maps has been exploited extensively by writers and filmmakers. These 'internal maps' (Ryan, 2003) appear in films and novels and are used to ground the story in real places, to help the audience follow the plot and to play metaphorical and aesthetic roles. The narrative power of maps has also been exploited by scholars, journalists, activists, lobbyist and individuals to tell non-fictional stories, as support tools in their research and to assist in developing arguments about places. In other words, the potential of maps to both decipher and tell stories is virtually unlimited. Building on the existing body of knowledge, as well as papers published herein, this special

issue aims to shed light on some of the facets of the rich and complex relationships between maps and narratives, and to provide a foundation about the research endeavours in the quickly growing field of narrative cartography.

An initial activity to promote the exploration of these relationships was organized by the International Cartographic Association's Commission on Arts and Cartography¹. The Commission organized a workshop in Zurich, Switzerland in June 2012. This workshop brought together 30 artists, scholars and students from the diverse fields of cartography, geography, the humanities and the arts, who were interested in further exploring these relationships from multiple perspectives (e.g. theory, performance, technology, design). The outcomes of this workshop materialized in two forms. The first is a collaborative film on cartography and narratives entitled 'MDMD: Multi-Dimensional Mapping Device', developed by ten artists and academics in two locations: Zurich and Montreal, Canada². The second outcome is more academic since it comprises complementary special issues of two academic journals: one published in *NANO – New American Notes Online* (Vaughan and Bissen, 2014); and this special issue of *The Cartographic Journal*. The NANO publication focuses on the artistic points of view on the relationships between cartography and narratives, while this

Cartographic Journal Special Issue provides more of a cartographic point of view on these relationships.

This cartographic point of view is envisioned from two perspectives. The first is where maps are used to represent the spatial structures of stories. Cartographic projects associated with this approach use maps to locate elements from all types of stories (i.e. fictional or factual). In this special issue, this category is illustrated by papers that address the mapping of oral indigenous stories (Wickens Pearce), the cartographic representation of fictional places that appear in novels (Weber-Reuschel, Piatti and Hurni) and the mapping of a tragic event with deep emotional dimensions (Roberts). The second perspective refers to the narrative power of the map. In this special issue the narrative emerges from the mining of geolocated photographs (Straumann, Çöltekin and Andrienko), as well as from the critical analysis of alternative atlases (Cattoor and Perkins). We conclude this general overview by emphasizing the need for the cartographic community to appreciate the power of employing narratives to better document the entire mapping process – from map production to its use in different contexts. This is central to post-representational cartography.

MAPPING STORIES

Mapping oral stories

Oral stories and maps have had a long and intimate relationship over the centuries. Cartographers have historically used stories from travellers and explorers to ‘fill in the blanks on their maps’ and to develop base maps (Caquard, 2013, p. 136). Whilst maps were used to depict space, they also depict place. Adornments on maps, in the form of standard symbolisations and personal annotations, allowed for a personalisation of geographical information depiction, and they provided clues about the place that the cartographer was trying to show. It is important to properly depict this knowledge of the world and where it sat with particular groups of people, in order to provide insight into what their world was really like, what limitations and perceived boundaries existed.

These can be seen to be similar to today’s marked-up maps, developed and delivered using social media and Web 2.0. Individuals and communities are now using the online versions of maps to locate and trace their own stories. These stories can be personal, collective or a bit of both. These embellishments by users (individual or sometimes numerous) can add to the information on the map by the addition of their notations related to their particular personal experiences in the area covered by the map. Tasker (1999, p. 1) has made an interesting comment about this type of map: ‘Thus, maps become far more than expressions of cartography, they become holders of our memories; part of our personal journeys and to some extent, records of our passage through life itself. ... old maps with personal annotations ...’.

Mapping personal stories with online cartographic applications is a popular activity, as illustrated by the extensive number of Google Map mashups retracing the journeys of individuals. These stories are often anecdotic (e.g. vacation trips), but can also reflect more universal and

global issues. The maps of stories of individuals who have experienced tragic life events, such as forced migration and accidents, can serve multiple purposes beyond the simple location of a chain of events. At a personal level, mapping can serve as a therapeutic and healing process (Coulis, 2010), while at a collective level, maps can contribute to leaving cartographic traces, making these experiences more visible and more tangible. The cartography of these stories can take the form of sketch maps of itineraries (e.g. Goby, 2012; del Biaggio, 2013), of artistic representations of more personal and emotional dimensions associated with tragic journeys (Fischer *et al.*, 2013) and of online collaborative maps depicting a personal geography of warfare (Cartwright, 2012).

Collective oral stories have also been extensively translated into map forms, as in the case of Indigenous cartographies. Indigenous oral stories have been mapped since the 1960s (Chapin *et al.*, 2005). As emphasized by a range of authors – and synthesized elsewhere (Caquard, 2014) – one of the main reasons Indigenous communities have been mapping their Indigenous knowledge has been to define their territories through Western spatial formalisation processes and artefacts, in order to reverse colonial power’s geographical outcomes and to reclaim dignity and sovereignty over their lands. Although this process of turning traditional forms of oral expression into Western cartographic visualisations has been strongly criticized because it perpetuates the subordination of Indigenous spatial perspectives to Western technologies and approaches (e.g. Rundstrom, 1995; Louis *et al.*, 2012), there are examples in which the hybridisation between the uniqueness of traditional Indigenous spatial expressions and Western cartographic practices has been successful and undertaken with mutual respect (see recent examples in Taylor and Lauriault, 2014; Young and Gilmore, 2013).

A very compelling example of the potentialities offered by a respectful and meaningful association between Indigenous traditional knowledge and Western cartographic practices is provided by Margaret Wickens Pearce in this special issue. In her paper, Wickens Pearce describes the cartographic process she followed for mapping place names from the Penobscot Nation (Maine, USA) on top of reference maps. Her project, ‘guided by the Indigenous protocols of respect, responsibility and reciprocity,’ was designed to revitalize the traditional spoken language, as well as to emphasize the traditional importance of canoe routes in the landscape and in the culture and to share this knowledge with people outside the Indigenous community. Through the systematic description of the different choices made to translate Penobscot place names into Western cartographic symbols, not only was Wickens Pearce able to unveil the descriptive meanings of the place names associated with traditional canoeing activities, but also to demonstrate the more subtle wayfinding connotations embedded in the sequence of these ancestral stories. What appears throughout this process is that the simple location of the events alone is not sufficient to grasp the meaning associated with place. The sequencing of those events is a major element to make sense of their full spatial meaning. In other words, and in more general terms, in order to be mapped stories have to be envisioned ‘as integrations of space and time; as *spatio-temporal events*’

(Massey, 2005, p. 130), or as ‘spacetime events’ as Denis Wood calls them in his paper in this special issue.

Mapping literary stories

The second type of stories that have been mapped extensively are written stories, more specifically novels. Although there is a rather long tradition in literary studies to map the settings of novels that can be dated back to at least the beginning of the twentieth century (Piatti *et al.*, 2009), it is really towards the end of the twentieth century, and the publication of Franco Moretti’s (1998) *Atlas of the European Novel 1800–1900*, that this domain grew exponentially. Books and academic papers on literary cartography have flourished since then, offering a range of perspectives on these relationships.

In her recent review of the map-literature relationships, Tania Rossetto (2013) builds on the taxonomy of narrative cartography developed by Ryan (2003) to provide an extensive review of the multiple forms of relationships that have been explored under the influence of what she calls ‘the recent revival of literary cartographical studies’ (p. 4). This review includes maps drawn by literary scholars, critics, writers and readers; maps of ‘real-world’ geographical contexts, of the topographic organisation of the ‘textual world,’ of the ‘textual space’; maps designed to help write a novel, analyse a novel, attract tourists and teach literature; as well as the range of analogies that can exist between maps and literature in terms of writing process, spatial description and stimulation of a geographic imaginary. Considering this as a background, in this section, we focus more specifically on the mapping of literary stories.

This growing interest for mapping literary stories has stimulated the interest of cartographers and GIS experts (Staley, 2007). While their expertise has been seen as critical for providing some technical and methodological support to literary scholars (Piatti and Hurni, 2011), it can be argued that cartography benefits from new cartographic challenges raised by literature. In this special issue, Anne-Kathrin Weber-Reuschel, Barbara Piatti and Lorenz Hurni address, from a cartographic perspective, one of these challenges. They ask: How can we map the multiple scales of the different spatial settings often embedded in a story? This is a major issue in narrative cartography since stories often navigate from the very local (e.g. a neighbourhood, a house) to the global (e.g. journeys across countries). In their paper, Weber-Reuschel, Piatti and Hurni propose to use a cartogram approach to visually magnify local areas where the action unfolds, while shrinking the areas between settings. Through this paper – and the *Literary Atlas of Europe*³, the umbrella project of which the research presented in this paper is a part – the authors explore literature as a renewed source of challenges for cartography, while offering literary scholars new sets of cartographic tools and practices to map stories.

Mapping audio-visual stories

A third major type of story to map is audio-visual stories. These stories can range from simple video recordings of testimonies and life stories to complex cinematographic productions. In his attempt to map the emerging field of

cinematic cartography, Les Roberts (2012) has formalized the different ways of envisioning the relationships between films and maps/mapping through five ‘overlapping clusters’ (see also Hallam and Roberts, 2014). These clusters include ‘(1) maps and mapping in films; (2) mapping of film production and consumption; (3) movie mapping and cinematographic tourism; (4) cognitive and emotional mapping; and (5) film as spatial critique’ (Roberts, 2012, p. 70). Roberts illustrates these clusters with different examples highlighting the growing interest in the last few years for cartographic cinema (Conley, 2007) and cinematic cartography (Caquard and Taylor, 2009). Amongst the different issues raised by the mapping of audio-visual stories, the cartography of emotions is a major concern.

The importance of integrating emotional and affective dimensions in maps is now widely recognized (Aitken and Craine, 2006; Cartwright *et al.*, 2008; Iturrioz and Wachowicz, 2010) and has been explored from two major, radically different perspectives. Firstly, from a scientific perspective, there is a growing interest in cognitive cartography to study emotional responses to various cartographic designs as well as the use of social media to collect and represent emotions perceived and expressed in certain places (Hauthal and Burghardt, 2013; Klettner *et al.*, 2013). Secondly, from a more artistic perspective, new approaches have been developed recently to collect and convey emotions associated with places in oral stories, often following a specific social and political agenda. Artist Christian Nold is recognized for his original work on emotional mapping (Nold, 2009), while other artists have developed different mapping strategies to better represent the relationships between places and emotions (e.g. Littman, 2012; Fischer *et al.*, 2013). Although these different attempts emphasize the recognition of the importance of representing emotions in cartography and in mapping stories in general, the cartography of emotions remains a major challenge due to the dehumanizing character of maps, at least in their conventional form. The map is a rationalized representation of place that is rather limited for conveying emotions. Mapping emotions might require the mobilisation of other media that offers a greater opportunity to transmit stronger emotional messages than can be done via traditional cartographic media.

In this special issue, Les Roberts provides a compelling illustration of the power of video for emotional mapping. In his paper, Roberts presents and discusses a video he made that follows the route taken by 2-year-old James Bulger and his two kidnappers during the abduction that preceded his murder in the UK in 1993. Through the contextualisation and the discussion of the video making process, Roberts argues that this ‘cinemapping strategy’ provides an ‘embodied spatial engagement’ that brings into view the places and memories associated with this tragic event. While a map of tragic events could become an emotional eraser, whereby the cartographic process of turning events into graphic signs would result in a somewhat impersonal record of this horrific event, the filming of the path followed by the victim is a more powerful way of conveying some emotional dimensions associated with this tragedy in a way that no map could ever do. Although the paper by Roberts is not necessarily framed that way, it definitely emphasizes the importance of

connecting maps with other media and modes of expression to better capture the profound emotional link that some stories have developed with places.

THE NARRATIVE OF MAPS AND MAPPING

A second perspective on the relationships between maps and narratives is provided through the narrative power of maps. As its title suggests, this section can be divided into two subgroups: (1) the narrative potential of *maps*, which includes the different ways maps have been used to tell and support narratives; and (2) the narrative dimension of *mapping*, which refers to the increasing recognition of the importance of associating maps with the actual mapping process from which they emerge.

The narrative of maps

Within the narrative potential of maps it is possible to identify two major clusters. The first one corresponds to what Ryan (2003) calls 'internal maps': the maps that appear in narratives such as novels and films. These maps can serve different functions in the narrative process and can take a variety of forms. They can help to ground the action in a defined location, to increase the realistic dimension of the story and to ensure that the reader is totally aware of the geographical realities of the area in question. These maps can also serve as a spatial metaphor, as aesthetic elements and as narrative guidelines to help the reader or the audience to follow the journey of a character.

A second cluster refers to the power of maps to stimulate and support narrative processes. This potential has been explored by fictional writers such as James Joyce – who is known for having written *Ulysses* with a map of Dublin in front of him (Budgen, 1934). More recently, Russell Kirkpatrick, a New Zealand writer and cartographer, first produced a topographic map of the 'land' in which his stories were set when developing his 'Fire of Heaven' series: *Across the Face of the World* (Harper-Collins, 2004), *In the Earth Abides the Flame* (2005) and *The Right Hand of God* (2006). Kirkpatrick produced the topographic maps before writing his trilogy, so the stories would be placed correctly in the 'terrain' (Fairfax NZ News, 2008). The potential of maps to stimulate narratives has also been extensively exploited by non-fiction writers who have been using maps for centuries to reveal all ranges of invisible geographic structures and patterns.

The potential of map-based stories increases with the Web 2.0, as illustrated in this special issue by Ralph Straumann, Arzu Çöltekin and Gennady Andrienko, who exploit the mapping of online geotagged photographs to identify dominant trajectories followed by photographers in the city of Zurich (Switzerland). Through the comparative mapping of photographs taken by tourists and 'locals' within the city, they emphasize some dominant ways of navigating the city and of portraying it through photographs. They argue that these trajectories and sequences could be envisioned as different ways of (re)constructing collective narratives about the city. It can even be argued that these trajectories can

provide a first step towards a better understanding of how a city is framed in different media such as tourist guides, newspapers, public map displays, TV shows, films and novels, and how this framing contributes to the structuring of our spatial imaginary and influences our spatial trajectories.

The potential of maps to stimulate narratives can also be envisioned from a completely different perspective. Since the 1980s, critical cartographers have revealed the hidden stories of power and control embedded in historical as well as in contemporary maps. These deconstructionists' endeavours were used as foundations to reconstruct alternative forms of politically charged maps, supporting novel and inventive cartographic expressions to provide alternative ways of thinking about landscapes, territories and planning (Corner, 1999). The paper by Bieke Cattoor and Chris Perkins in this special issue reviews a selection of five alternative atlases that challenge cartographic conventions and propose alternative ways of envisioning places. These atlases have been selected because of their capacity to stimulate our imagination through original cartographic representations of landscapes and cities. Through the presentation and discussion of these non-conventional atlases, the authors emphasize the importance of designing alternative maps and atlases that destabilize audiences 'in order to show possibilities', to 'offer important new ways of imagining our futures' and to challenge some of our assumptions. Still according to Cattoor and Perkins, these five atlases characterize the emergence of 'radical re-cartographies,' which resonates with what Tania Rossetto (2013) calls 'a tendency towards a 'recartographisation' in the field of literary cartography. Rossetto argues that this recartographisation remains 'embedded within the analytical/technical ('cartography of literature') or the critical ('critical literary cartography') approaches, failing to engage the 'post-representational' perspective which recently arose within cartographic theory' (p. 2). This post-representational perspective corresponds to our last cluster, the narrative of mapping.

The narrative of mapping

Post-representational cartography is based on the idea that maps are never finished, but are rather always in the process of becoming (Kitchin and Dodge, 2007). They come to life throughout the mapmaking process as well as through their use in a specific context with a specific purpose. This processual positioning emphasizes the importance of taking into account both the production and the consumption of the map (Del Casino and Hanna, 2006) instead of focusing on the map as a representation. From a post-representational perspective, the map is still considered to be a representation, but the focus is more on the process of mapmaking and map use rather than on the cartographic form. This refocusing on the mapping process has stimulated interest in cartography recently (see for instance Kitchin *et al.*, 2013; Rossetto, 2013; Azócar Fernández and Buchroithner, 2014) and is directly connected with the narrative of mapmaking.

Kitchin *et al.* (2013) illustrate post-representational cartography in action through the presentation and the analysis of a project that maps 'ghost estates' in Ireland,

in which two of the authors were involved. As described in the paper, this cartographic project attracted national media attention and had some political, economical and personal consequences: 'the mappings then took on a new life as the media, State and public remade and reterritorialized the information, putting the mapping to work in diverse ways, generating significant public discourse around 'ghost estates,' their geography, the reasons why they exist, the issues affecting people living on them, their effects on the wider housing market and ensuing fiscal crisis, and what to do about them' (Kitchin *et al.*, 2013, p. 494). By discussing different stories associated with the production and the reception of the successive maps that have emerged from this project, the authors emphasize the idea that in a post-representational perspective, the map is as good as the different narratives it is associated with that describes its context of appearance, and its production process, as well as all the discourses associated with the map, and the political and personal agendas it helped to push forward. In post-representational cartography, the narrative is essential to documenting the mapping genealogy and to tell the story of the map's life.

CONCLUSION

This paper proposed an overview of the multiple ways of envisioning the relationships between maps and narratives from a mapmaking perspective. Throughout the process of editing this special issue, we have identified two main types of relationships. Firstly, maps have been used to represent the spatiotemporal structures of stories and their relationships with referential places. These stories can be oral, written or audio-visual, but the fundamental issues related to mapping them remain very similar: How to represent sequences and spatiotemporal events? How to visualize the multiple scales at which stories unfold? How to convey emotions, which are often associated with places in stories? How to convey the approximate nature of certain places in stories? How to link fantasized narrative places to the Euclidean structure of the reference map? The different papers in this special issue offer practical as well as methodological and conceptual solutions to some of these issues, emphasizing at the same time some of the strategies developed to get around the limits of conventional cartographic approaches to mapping narratives. More work remains to be done to keep improving the spatial expression of time, emotions, ambiguity, connotation, scales, as well as the mixing of real and fictional places, dream and reality, joy and pain.

In the second section of this paper, we have discussed the potential of maps as narratives and the importance of connecting the map with the complete mapping process through narratives. Although the potential of maps to tell stories has already been widely acknowledged, as discussed throughout this paper, we emphasize the increasing recognition of the importance of linking maps with narratives describing critically the cartographic process and context in which maps unfold and come to life. From a post-representational cartography perspective, the map is less important than the process of making it and using it. This shift towards a more processual approach of mapmak-

ing increases the importance of the narratives in comparison to the map. Telling the story of how maps are created and how they come to life in the hands of their users becomes a new challenge for mapmakers.

The aim of simultaneously publishing two special issues addressing the relationships between maps and narratives from two different perspectives was to expand our understanding of these relationships and to inspire new ways of envisioning them. As pointed out by Denis Wood in his linking paper that concludes both of these special issues, even if some of the essays published in the NANO special issue are map free or if the maps are not really the way we think about maps, they were able to nail down some of the main concepts associated with maps. These main concepts are identified by Denis Wood throughout the story of his personal memories and experiences of narrative maps, from the story of *Kathy of the Big Snow*, a children's book in which Wood may have seen a map for the first time, to the stories of the various cartographic projects he initiated over the years that dealt with maps and narratives, places and people, control and resistance. Throughout this process, Denis Wood was not only able to handle the impossible task of stitching together the various stimulating ideas developed in all of these papers, but he turned them into a great academic story about childhood, ideas, concepts, memory and nostalgia.

BIOGRAPHICAL NOTES



Sébastien Caquard is an assistant professor in the Department of Geography Planning and Environment at Concordia University (Montréal, Canada). In his previous research project, he examined the technological, artistic and scientific frontiers of cybercartography, more specifically in the emerging field of cinematic cartography. In his current research, he seeks to

explore further the complex relationships between places and narratives, through the mapping of a range of fictional and real stories, including stories from novels and films as well as from migrants and indigenous people. Sébastien Caquard is also the chair of the Commission on 'Art and Cartography' of the International Cartographic Association (<http://artcarto.wordpress.com/>).

NOTES

¹ See: <http://artcarto.wordpress.com/> for information on the Commission

² A first version of this film was screened during the 26th International Cartographic Conference in Dresden in August 2013.

³ See <http://www.literaturatlas.eu/?lang=en> for information on this project

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