

What is Cinematic Cartography?

Sébastien Caquard and D.R. Fraser Taylor

Maps are ubiquitous in movies. They appear constantly and in a variety of forms: hung on the wall of a classroom, framed in an office, and unfolded by gangsters on a table. In movies maps serve a variety of purposes: They serve as decoration, as a means of location, to aid narration, as metaphors as well as to increase the dramatic tension of a sequence. They can play a prominent role in the unfolding of the action or appear only for a split second behind a closing door. They can serve to address the audience or as a mean of interaction between characters. They can be classic and static, or unique and dynamic. This pervasive presence of diverse cartographic artifacts in films contrasts dramatically with the marginal impact that cinematographic techniques, concepts and artifacts have had on cartography over the course of the last century. There has been substantial use of cartography in cinema but this has had very limited impact on the theory and practice of cartography.

The production of this special issue is the first ever dedicated to cinematic cartography, and is an attempt to help address this imbalance. Some of the interactions between geography and cinema have been studied (Mauduit and Henriet 1989; Lukinbeal 2004), while cartographic readings of films have been developed, especially in the important book on cartographic cinema by Tom Conley (2006), but cinema has never been a focal point in cartography. In this introduction we provide a brief historical review of some of the major phases of the different interactions between cartography and cinema in order to provide a context for the papers in this issue. A key question for this special issue, and for this introduction is of course what is “cinematic cartography”?

Cinema in cartography: a brief historical review

The first academic cartographer who expressed some interest in cinema may well have been the German cartographer Hans Speier. In a paper entitled “Magic geography”, Speier (1941) deconstructs the propaganda maps of the early WWII era, including a series of animated maps that appeared in a Nazi propaganda film entitled *Victory in the West*. Speier argued that in this film the scientific presentation of animated maps served as a compelling way of conveying a propagandist message. While WWII has been rightly identified as a period of important technological advances in cartography, it may also have been the beginning of a cartographic interest in cinema although many cartographers may not be aware of this as the extent of this interest was not great.

The attention to the propagandist potential of cinematic maps was soon followed by the interest in cinema as a means of improving the communication of the cartographic message. Soon after WWII, S.W. Boggs (1947) suggested the use of an “animated motion-picture map” to represent the transportation of China’s goods around the world as well as within China itself. The cinematographic concept and technique of motion stimulated mapmakers who saw animated maps as a new way of conveying the dynamic essence of geographic phenomena. This vision soon resulted in animated maps. Norman Thrower was a pioneer in this respect. In the late 1950s he wrote a paper describing the cinematographic techniques required to design animated maps that could render the time dimension in order to represent geographic phenomena such as “the spread of population, the development of lines of transportation, the removal of forests, changing political boundaries, the expansion of urban areas, and seasonal climatic patters” (Thrower 1959,

10). Techniques and experiences from cinema were starting to percolate slowly into cartographic practices.

The development of animated and dynamic maps continued and the impact of cinema was illustrated by the design of one of the most influential set of dynamic variables in cartography (Dibiase et al 1992; MacEachren 1994). These variables were inspired by the cinematographic typology developed by Christian Metz (1968) to characterize the temporal visual manipulations in films (MacEachren 1995, 237). The technological development of cartography, especially the impact of computer technology, created the basis for a much greater influence of cinema on cartography. Computer technology made dynamic cartography more feasible and replication of cinematic techniques more possible. These technological advances have laid the ground for a broader influence of cinema on some cartographic practices (see Caquard et al. 2008). This is illustrated by a recent comment from Avi Bar-Zeev - one of the co-founders of Keyhole, the company that created the application used to develop Google Earth - who recognized the inspirational dimension of the movie *The Power of Tens* (Charles and Ray Eames 1977) in the development of the Keyhole application (Crampton 2008). In other words, one of the most influential contemporary cartographic applications was inspired by cinema.

The synthesis between cartographic techniques and cinematographic narrative as it appears in *The power of Tens* is an incredibly important element in modern cartographic practices. Historian and anthropologist Christian Jacob was probably one of the first to point out the cinematographic dimension of cartographic expression. Jacob (1992) envisioned the notion of atlas as an accumulation of individual maps, cut and organized based on a particular logic designed to provide the audience a sense of progression, rhythm, and structure. This cinematographic perspective on atlases broadens the relationships between cinema and cartography. Through this connection, Jacob envisions maps as narrative elements and opens the path for a wider understanding of the interaction between maps and films beyond the techniques of animation and movement. Individuals from different disciplines in the humanities will then expand this perspective.

Building on Jacob's idea, Teresa Castro envisions the cinematographic project *Les Archives de la Planète* (Albert Kahn, 1912), as a way of mapping the world through a "systematic collection of images, a form of knowledge, and a means of its transmission" (Castro 2006, 1). Through this perspective, the filmmaker is seen as a cartographer, sketching, recording, materializing and archiving selected elements of the world. The camera becomes a cartographic tool that can tell all kinds of geospatial stories. The narrative, emotional, symbolic and political dimensions of maps in films and films as maps is also explored by other authors such as Giuliana Bruno (2002) in her *Atlas of Emotions*, and Tom Conley (2006) in *Cinematic Cartography*. Conley provides multiple paths to the reader to envision the richness and the diversity of the forms and functions of the map which becomes alternatively a means of social control, a point of departure for journeys and adventure, a link between time and places, and a way of expressing untold memories. These different perspectives on the emotional, political and personal dimensions of mapping in cinema contrast with the scarcity of those dimensions in cartographic practices.

In everyday geography the understanding of places is highly related to their emotional dimensions. Emotions are tied to places through experience and memories, as well as perception and images. Stuart Aitken and James Craine (2006), have emphasized the contrast between the

“increasing recognition of the power of articulate, moving images to intervene in the ongoing transformations of everyday geography” and the “reticence within the geo-visualization community to fully embrace the emotional power of cinema.” Indeed, cinema has served as a source of inspiration for improving communication in dynamic cartography as discussed above, but its potential for inspiring new forms of affective and narrative representations of places has rarely been fully explored in cartographic theory and practice.

The aim of this special issue is to strengthen the bridging between cartographic practices and cinematographic perspectives about the world. The scientific and analytical agendas of geovisualization and cartography, and the recognition of the importance of the emotions and narration in the deep understanding of places and geographic phenomena and of the narrative forms as a unique cartographic vehicle need to be brought together in a complementary manner. This bridge is only possible because of both the technical and the theoretical advances outlined in this brief review of the major phases of the history of the relationships between cartography and cinema. Each of the papers in this issue contributes in different ways to this bridging process, and to the creation of a new synthesis.

Toward a Definition of Cinematic Cartography

In the first paper in this issue, Teresa Castro explores the different dimensions of the concept of “mapping impulse”, and focuses more specifically on what she calls the “Cartographic shapes”: Panoramas, Atlases and Aerial Views. Each of these shapes is derived from cinematographic practices and resonates with cartography. According to Castro, “panoramas” in movies - such as 360 degrees panoramic shots – provide a sense of capturing places and landscapes in a comprehensive way. “Atlases” in films as well as in cartography, are associated with a collection of images organized to present information on specific places at a specific period of time. “Aerial views” through films are seen as “an unquestionable source of emotion” through their unique association to a landscape. Castro illustrates each of these “cartographic shapes” with specific movies. Each of these movies were shot – at least partially - during WWI, emphasizing a strong war connotation to her vision of the “mapping impulse.” Through these examples, the mapping impulse becomes as much a visual as a physical, and emotional reminder of war atrocities. While maps have been extensively used as powerful decision making tools in war situations, the “cartographic shapes” defined by Castro through her study of early cinema can be considered as means of metaphorically conveying memory of wars and of their atrocities.

Memory and war are also at the heart of Tom Conley’s paper, but from a slightly different perspective. Conley uses a specific cinematographic genre - film noir – to map out the trauma of World War II. Conley’s approach to cartography remains mainly metaphorical as the author considers film noirs as a form of mapping out time and places, and reflecting upon the situation of a society. This approach is first contextualized with the mapping of French society between the two World Wars through the eye of French director Jean Renoir. The trauma of the war is then more specifically explored through two American film noir dealing with memory lost during WWII: *The Killers* (Robert Siodmak 1946) and *The Crooked Way* (Robert Florey 1949). Through the analysis of both films, Conley emphasizes “much of the ambivalence and the trauma of war that the cartographies of film noir locate relentlessly.” The author concludes by pointing out the importance of cartography in a broad sense “to take issue with our own sense of location and our rapport with traumatic and traumatizing events.”

Both of these papers engage with the importance of memory in cinematic cartography as well as with different ways developed in cinema to map out war atrocities. Conventional maps have been widely used, according to Brian Harley (1988), to dehumanize landscape and to make it easier for decision makers, including military commanders, to avoid conscience issues related to the impact that any of their decisions might have on the population of the mapped area. Film noir and “cartographic shapes” are reversing this process as they envision cinematic cartography as a way of mapping out the human presence in the landscape in order to make visible human consequences. Cinematic cartography is in a sense about “rehumanizing” the map.

The three papers written by cartographers / geographers tend to focus less on history, war and memory and more on geography, practices and technology. Bill Cartwright introduces the concept of the “Theatre metaphor” to capture the idea that the understanding of places through maps requires a better integration of non-conventional dimensions such as emotion, perception and sense of place. The Theater metaphor is proposed to include these dimensions through a metaphor in which the script is the environment in a broad sense, “the stage is the part of the landscape being depicted and the actors are the elements that act upon or move through the landscape.” The map - just like the movie - can then unfold revealing a world understandable through data and analysis as well as through story and emotions. This map metaphor provides the user with facts, as well as with potential consequences and outcomes of set of events and situations in a narrative way. The theater metaphor proposed by Cartwright could then serve to generate hybrid maps combining analytical and narrative cartography and transforming its prospective dimension into a more fictional one.

Thierry Joliveau explores the relationships between fictional and real places through the concept of set-jetting which corresponds to “the visitation of real-world film locations (...) by tourists and fans.” More specifically he is interested in how fictional places may affect our interaction with real places, and how geospatial technologies contribute to linking these two worlds, through “the development of an intermediary territory, a space between the real world and the fantasy world.” According to Joliveau, we are currently experiencing new forms of connection between imaginary and real spaces, facilitated by recent geospatial technologies. Joliveau argues that the potential of geospatial technologies to link real and fictional, past and present, goes beyond set jetting and cinema as it applies to the arts in general. Through examples from literature and painting, the author provides a state of the art of the present and future of geospatial technologies to map out the relationships between art, places, narratives and reality. From this perspective, cinematic cartography can also serve to map out different geographies of cinema in order to better understand how films affect, and are affected, by their relations to places.

In the final paper in this issue, Sébastien Caquard argues that most of the functions of contemporary cartography synthesized by Virtual Globes such as Google Earth have been conceptualized by “cinemaps” - “maps in motion developed specifically in cinema for narrative purposes” – long before they appear in cartography. This argument is illustrated by a comparative history between the emergence of techniques in cartography such as animation, sound, tilt effect, and perspective changes and their appearances in cinema often decades earlier. For instance, Caquard argues that the cinemap appearing in the movie *M* (Fritz Lang 1931) is “a turning point between classical and contemporary cartography”, while several of the cartographic effects of Virtual Globes emerged in cinema at least since *Casablanca* (Michael Curtiz, 1942). Drawing on this evidence, Caquard analyzes contemporary cinemaps to sketch “cartographic

futures that tend to penetrate more and more systematically interpersonal, confidential, and private spaces.” Cinema can then serve to sketch and anticipate future cartographic activities.

Through these different papers a definition of cinematic cartography can be sketched. Cinematic cartography appears to be as much about mapping memory as it is about envisioning the future of cartography; as much about the map as metaphor as it is about film as metaphor; as much about the integration of cinema in mapping as it is about the place of cartography in filming and editing. Cinematic cartography is a hybrid form of cartography that acknowledges the importance of cartography as an objective and scientifically based discipline, as well as the importance of conveying different forms of emotions and sensations about places through cinematographic language. Cinematic cartography combines the documentary side of cartography with the fictional side of cinema. Just like “all the major fiction films tend toward documentaries, and all the major documentaries tend toward fiction” (Godard 1995, 144) (authors’ translation), cinematic cartography can be defined as a form of cartographic documentary that tends toward geographic fiction, as well as a form of cartographic fiction that tends toward geographic documentary. The potentials of this association are endless and have only started to be explored in this special issue. We hope this collection will stimulate further developments and will contribute to make cinematic cartography a relevant sub discipline that could contribute somehow to a better mapping and understanding of the world.

Acknowledgement

This research on cinematic cartography is part of a project supported by the Social Sciences and Humanities Research Council of Canada (SSHRC). More on this project:

<http://www.atlascine.org>

References

- Aitken S., and Craine J., (2006), Guest Editorial: Affective Geovisualizations, Directions Magazine, Available online at: http://www.directionsmag.com/article.php?article_id=2097&trv=1 (accessed Jan. 2009)
- Boggs, S. W., (1947), ‘Cartohypnosis’, The Scientific Monthly, 64 (6), pp. 469-476.
- Bruno, G., (2002), Atlas of Emotion – Journeys in Art, Architecture and Film, Verso, New York.
- Caquard S., Brauen G., Wright B., and Jasen P., (2008), ‘Designing Sound in Cybercartography; From cinematic structured narratives to unpredictable sound/image interaction’, International Journal of Geographic Information Sciences, 22 (11), pp. 1219-1245.
- Castro, T., (2006), Les Archives de la Planète - A cinematographic atlas, Jump Cut, Available online at: <http://www.ejumpcut.org/archive/jc48.2006/KahnAtlas/index.html> (accessed Jan. 2009).
- Conley, T., (2006), Cartographic cinema, University of Minnesota Press, Minneapolis.
- Crampton J. W., (2008), Keyhole, Google Earth, and 3D Worlds: An Interview with Avi Bar-Zeev, Cartographica 43 (2), pp. 85-93.
- Deleuze G., (1983), Cinéma 1. L’image-mouvement, Éditions de Minuit, Paris.
- DiBiase, D., MacEachren, A. M., Krygier, J. B. and Reeves, C., (1992), ‘Animation and the role of map design in scientific visualization’, Cartography and Geographic Information Systems, 19 (4), pp. 201-214.
- Godard, J.L., (1975), Jean-Luc Godard par Jean-Luc Godard, Ed. de l’Etoile, Paris.

- Harley, J.B., (1988), 'Maps, Knowledge, and Power', In *The Iconography of Landscape. Essays on the Symbolic representation, design and use of past environments*, D.Cosgrove and S. Daniels (eds.), Cambridge University Press, Cambridge, pp. 277–312.
- Jacob, C., (1992), *L'empire des cartes – Approche théorique de la cartographie à travers l'histoire*, Bibliothèque Albin Michel Histoire, Albin Michel, Paris.
- Lukinbeal, C., (2004), 'The map that precedes the territory: An introduction to essays in cinematic geography', *GeoJournal* 59 (4), pp. 247-251.
- MacEachren, A. M., (1994), 'Time as a cartographic variable', In *Visualization in Geographic Information Systems*, D.J. Unwin and H.M. Hearnshaw (Eds.), Wiley, New York, pp. 115-130.
- MacEachren, A. M., (1995), *How maps work - representation, Visualization, and design*, Guilford, New York.
- Mauduit J. and Henriët, G., (1989), *Géographies du western : une nation en marche*, Nathan, Collection Nathan-Université, Paris.
- Speier, H., (1941), 'Magic Geography', *Social Research*, 8 (1/4), pp. 310-330.
- Thrower, N., (1959), 'Animated Cartography', *Professional Geographer*, 11 (6), pp. 9-12.