

# A Spatial Typology of Cinematographic Narratives<sup>1</sup>

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**Abstract.** The goal of this paper is to address the following cartographic issue: how can we map films in order to better understand how films map? To explore this issue we have developed a methodology and a cybercartographic application designed to literally map cinematographic narratives. This application has been used to map the geographic structure of 46 contemporary Canadian films. This mapping endeavor was used to start developing a typology of the main geographic structures emerging from this cinema. This typology is based on three main criteria: the location of the action, the connection between these locations and the multiplicity of places mentioned. Throughout the process of mapping and analyzing these criteria, we were able to identify some recurrent narrative forms, as well as some issues that will need to be addressed in order to better represent and understand the geographic structures of narratives in general terms.

**Keywords:** Narrative cartography, Cinema, Cybercartography, Canada

## 1. Introduction

In his essay on the mapping of Rohmer movies in post-war Paris, Richard Misek (2012) addresses the question “how can films map?” through a spatial approach to the everyday life dimension of the geography of Paris, as developed in 25 feature films. According to Misek (2012, 56), in these films “Rohmer provides a Parisian’s view of Paris rather than the more familiar touristic view that we often see in films set in Paris.” This Parisian view is made of cafés, parks, streets and public transportation, more than of monuments and famous landmarks. Through his analysis, Misek (2012) argues

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that Rohmer's films can be envisioned as a map of Paris, connecting hundreds of places throughout the city. This argument emphasizes the possibility of a body of cinematographic work to map places, as well as to reconfigure the connection between these places. Although Misek concludes that this approach can serve to "map Paris in at least as much detail as do many transport maps" (65), his mapping endeavor remains textual and descriptive, instead of being visual and graphic. Misek demonstrates that films can map without literally mapping films.

The project presented in this paper aims to visually map the geography of films. While Misek was addressing the question "how can films map?" the goal of this paper is to address the following cartographic issue: how can we *map films* in order to better understand *how films map*? To explore this issue we have developed a methodology and a cybercartographic application designed to literally map cinematographic narratives. This application has been used to map the geographic structure of 46 contemporary Canadian films. This mapping endeavor was used to start developing a typology of the main geographic structures emerging from this cinema.

The first section positions the cybercartographic atlas of Canadian cinema in the context of a growing interest for exploring the multiple relationships that exist between maps and fictions. In the following section, we present some main narrative structures that exist in Canadian cinematographic narratives and in films in general. Finally, in the conclusion we raise some of the issues that will need to be addressed in order to deepen the analysis of cinematographic narratives.

## **2. The Cybercartographic Atlas of Canadian Cinema**

The Cybercartographic Atlas of Canadian Cinema is a collaborative project between Université de Montréal, Concordia University (Montréal) and Carleton University (Ottawa), involving members from cartography, geography, film studies and computer sciences. This project, started in 2007, originally had two major goals: (1) to support the development of new ways of designing maps inspired by cinematographic concepts and techniques; and (2) to apply these approaches to map Canadian cinematographic territories (i.e. places of cinematographic production, film consumption and cinematographic narratives) in order to contribute to a broader understanding of Canadian cinema and its contribution to the production of an imaginary geography. To reach these two goals, a series of exploratory maps and geovisualizations have been developed over the years (see [atlas.cine.org](http://atlas.cine.org) for some examples). This paper focuses on the cybercartographic application designed to map cinematographic narrative structures.

Although the importance of cinema as a unique source of geographic information has been recognized and explored since at least the 1980s (Rose 1994, Mauduit and Henriët 1989), very few cartographic applications dedicated to the mapping of cinematographic narratives have been developed. This lack of dedicated cartographic work contrasts with the diversity of examples developed over the years in literary cartography, as well as with the growing presence of generic online maps (e.g. Google Maps) on which placemarkers are added by film aficionados to locate the shooting location of their favorite movie (see for instance <http://www.themoviemap.com>). These simplistic representations fail to capture the more complex spatial dimensions conveyed by films, which are key to studying the relationships between fictional worlds and referential ones. Indeed, as pointed out by several authors, the geometry (i.e. the connections between places) is at least as important as the geography in understanding the structures of the narratives. This lack of meaningful examples can be explained by the complexity of mapping cinematographic narratives.

Mapping cinematographic narratives can be complex both at the ontological level and at the representational level. At the ontological level, it is extremely difficult to clearly define and characterize homogenous spatial units in films in a consistent way, given the level of spatial complexity that cinematographic narratives can reach. For instance, when the action unfolds in one place while two characters are talking about a different place with some inserted shots from different time periods, how do we characterize this/these diachronic and ubiquitous place(s)? At the cartographic level, how can we use existing cartographic elements to represent these complex spatio-temporal expressions made of sounds, moving images and subtle references? This becomes even more complicated when we want to map not only these locations, but also the connections that exist between these locations. Indeed, mapping cinematographic narratives cannot be just about mapping the places of the action; it also needs to take into account the relationships / connections that exist between these places. Not only places are distorted and produced through the cinematographic lens, but the relationships between these places are also redefined by films.

These two issues have been addressed in the Cybercartographic Atlas of Canadian Cinema. The ontological one has been addressed through the development of a reading grid and of a methodology inspired from literary studies to extract places from narratives. With this reading grid, any film can be broken down into geographic bits and pieces that can be rearranged in a geospatial database with some attributes (e.g. the duration of a scene, the level of accuracy of the location, the way the place is materialized in the film). This methodology has been used to extract 2,200 places from 46 contemporary Canadian movies. The mapping of these narrative places and

some of their attributes has revealed some general trends in the way Canadian cinema represents the world in general, and Canada in particular (see Caquard et al. (2012) for more details).

Although the mapping of these results provides an interesting perspective on the way Canadian cinemas frame global, national and local geographies differently, it did not really address the internal spatial structures of narratives, which is the second major issue in mapping cinematographic narratives: How are these places connected together within a movie and what are the spatial structures produced by these connections?

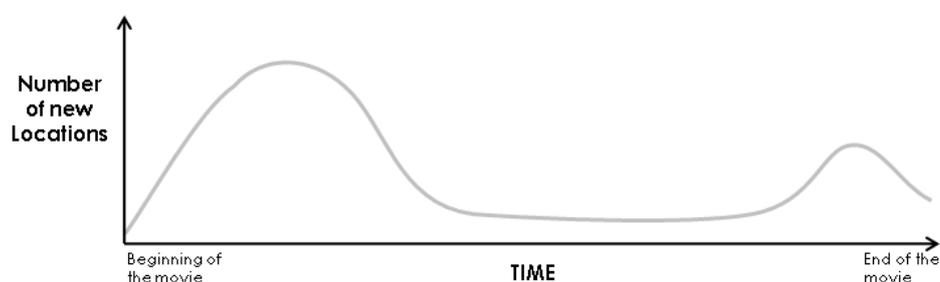
In order to address this second issue, we have developed a specific cybercartographic application. This application has been designed to represent simultaneously three major pillars of any type of narrative: (1) the geography (i.e. the location of the action); (2) the geometry (or connectivity) (i.e. the relationship between the different locations that are part of the story); and (3) the temporal dimension, which is inherent to any form of story.

This application has been described in more detail elsewhere (Caquard and Fiset 2011), but it is important in the context of this paper to briefly introduce its main technological characteristics. This application is based on Nunaliit, an open source software developed at Carleton University in the context of the cybercartographic project to render geospatial stories (<http://nunaliit.org/>) (For more details about Nunaliit, see Brauen et al. 2011). This software has been combined with different tools from open source libraries such as OpenLayers (<http://openlayers.org/>) and JQuery (<http://jquery.com/>), to design the application that fits the specific needs of mapping cinematographic narratives. The data that drives the map is fetched from a spreadsheet saved in Google Docs, which contains all the data related to the geography of cinematographic narratives. The geographic features generated are then laid over a background map provided via OpenStreetMap or Google. This application has been designed to allow any individual to map all sorts of data related to narratives, beyond simply cinematographic narratives. It has also been used to map the narrative of a selection of 46 Contemporary Canadian movies.

### **3. Mapping Spatial Cinematographic Narratives**

There are various ways of looking at the geographic structures of these different movies. One way is to see when they first appear throughout the movie. It is indeed interesting to notice that the general geographic structure of a movie is often put in place during the first third of a movie. In the first 30 minutes of about half of the movies studied, the audience has been brought to all the major places where the action will unfold throughout the

entire movie. A perfect example is *Ararat* (Dir. Atom Egoyan 2002), in which the geographic organization of the narration between Toronto, Mont-Ararat (Armenia) and New-York City is set within the first fifteen minutes of the movie. In movies where new places appear after the first third of the story, it is also interesting to notice that most of the time these places appear toward the end of the movie. This is for instance the case in *L'âge des ténèbres* (dir. Denys Arcand 2007), in which the main character leaves his depressing suburban life to regenerate himself in the countryside. In this case, like in many others in Québécois cinema, the countryside is often used as a place to heal the damages of urban life (see Naud Forthcoming).



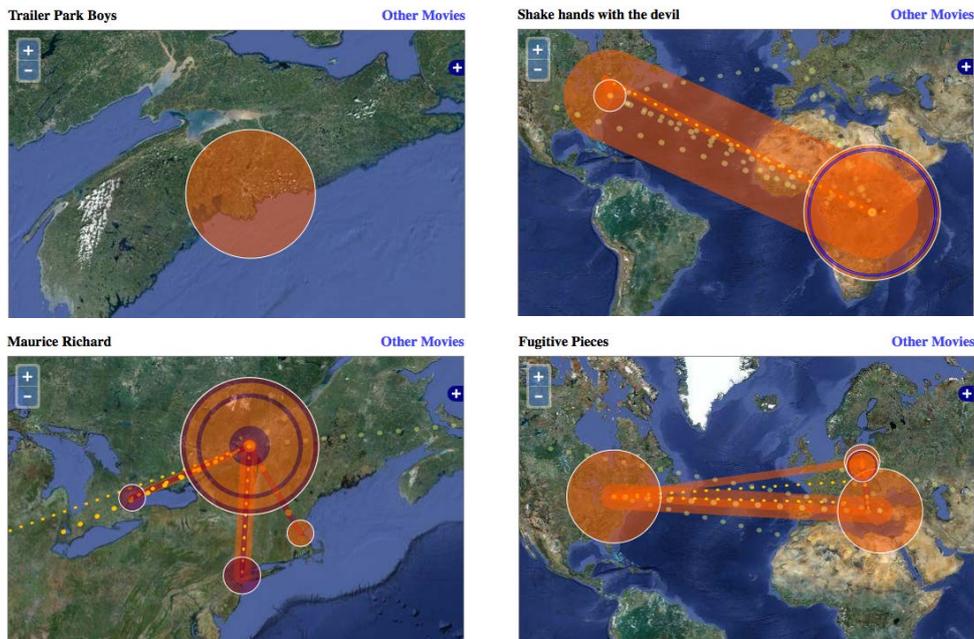
**Figure 1.** *General structure of the apparition of new places throughout movies. New structures appear mainly in the first third of a movie and, to a lesser extent, toward the end of a movie.*

Another way to look at these spatial structures is to study how each film articulates the three main spatial dimensions described earlier: (1) The location of the action, or geographic poles, which ranges from unipolar (i.e. the action unfolds only in one given city/community) to multipolar (i.e. The action keeps on moving between multiple spatial poles or nodes); (2) The connection between these locations, (i.e. the geometry) which is organized based on the intensity of the connections between the places where the action unfolds, and materialized by the thickness of the lines connecting these different poles; and (3) The multiplicity of places mentioned, which ranges from none to dozens of places mentioned by the characters throughout the movie.

Throughout the process of mapping and analyzing the narrative structure of 46 Canadian movies based on these three criteria, we were able to identify some recurrent narrative forms (see Figure 2):

- Unipolar: The stories unfold only in one location/community without much mention of any places at all;

- Bipolar with strong connections between them: the story unfolds back and forth between two locations. In this case the movement between the locations is as important as the places themselves to study the spatial structure;
- Multipolar nodal narrative structure: the story unfolds in several locations but radiates from a central node;
- Multipolar circular shape: the story navigates between 3 or more locations without necessarily coming back to a central place (note the circular shape is less common with the increasing number of poles).



**Figure 2.** Main cinematographic narrative forms that appear in Canadian films: Unipolar (NW); Bipolar with strong connections between the two poles (NE); Multipolar nodal narrative structure (SW); and Multipolar circular shape (SE).

All these different structures can be combined together to provide complex shapes. These shapes become even more complex when combined with the places mentioned throughout the movie. While unipolar movies tend to mention less places, other films with more poles tend to refer to more places, which contributes to ingrain these “invisible places” into the narrative and to bring them to the map auditorily. It is also important to mention

here that even if the granularity of the data collected is not as fine as we would have liked (i.e. Some of the local displacements have been aggregated because their exact location within a city could not be identified precisely), the spatial arrangements described here does not seem to be scale dependent. Some of the most complex spatial structures are set at a local scale while some more basic bipolar structures unfold between continents. In other words the lack of very precise information associated to certain locations is not necessarily an issue in developing a typology of spatial narrative structures that captures most of the basic cinematographic spatial shapes.

#### **4. Conclusion**

This first attempt in sketching a typology of spatial narratives emphasizes some of the issues that will need to be addressed in order to deepen the analysis of these shapes. There are three major domains that will need to be better addressed in order to improve our understanding of the geography and of the meaning of cinematographic narrative spatial structures. First, at the ontological level, we need to refine our definition of narrative cinematographic places. Narrative places have their own units that do not fit with existing geographic and cartographic ontologies. We are currently in the process of redefining what a cinematographic spatial unit could be in the context of mapping these units and their relationships. Second, we need to improve the cartographic representation of narratives. There is a lot of important information that is not represented with the current cybercartographic application, such as the level of confidence associated to the location of a narrative spatial unit. We are currently in the process of revising the application to take into account this type of key information. These two domains in which improvement is needed are key to tackling the third issue, to deepen the analysis of the meaning of these different shapes. We believe that this type of analysis based on a better mapping of spatial narratives could help us and others to better understand the relationships between places and narratives, between spatial narrative structures and narrative contents, and between narratives and our personal and collective spatial imaginations. This research is a modest attempt to start thinking about these questions.

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