

WORKSHOP ON CARTOGRAPHY AND NARRATIVES

Co-organizers:

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This workshop is organized by the Commission on Art and Cartography of the International Cartographic Association (ICA), in collaboration with ETH Zurich, Institute of Cartography and Geoinformation and Concordia University (Montreal). It will take place from June 11th to 13th, 2012 at ETH Zurich, Switzerland.

IKG
Institute of Cartography
and Geoinformation



Context

“Story maps”, “fictional cartography”, “narrative atlas” and “geospatial storytelling” are some of the terms that characterize the growing interest in the relationship between maps and narratives. Building upon the extensive work on literary geography, and on cartographic cinema a range of scholars in the humanities have endorsed mapping as a conceptual framework to improve our understating of narratives. Meanwhile, geographers and cartographers have recognized the importance of mapping personal stories and vernacular knowledge in order to better understand their contribution to the production of places. This workshop aims to bring together artists, scholars and students from cartography, geography, the humanities and the arts interested in exploring further the relationships between maps and narratives. Participants of the workshop will be discussing and debating any type of relationships between maps and narratives including:

- The theoretical underpinning of the relationships between maps, narratives and places;
- The forms and functions of maps in/of fictions (e.g. in novel and films);
- The practices of mapping vernacular knowledge and personal stories;
- The political implications of narrative maps;
- The technological and practical aspects of narrative cartography (e.g. the Geoweb).

The main outcome of this workshop will be the production of a collective movie dedicated to fictional cartography. This movie will be made of the different contributions of the participants of the workshop in collaboration with professional filmmakers and artists. It is hoped that this film will be screened in film festivals, as well as in Cartographic Conferences.

The organizers would like to sincerely thank the Institute of Cartography and Geoinformation (at ETH Zurich) and the International Cartography Association (ICA) for their generous support.

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Program

Monday June 11th

8.30 – 9.00 - Registration

9.00 – 9.15 - Welcome

9.15 – 10.45 - Session I - Introducing the Participants

The performative dimension of mapping

- VAUGHAN, Laurene: *Telling Place: narratives of an unknown city*
- BISSEN, Matthew: *A Personal Geography*
- GILL, Don: *Erratic Space*
- WOOD, Jeremy: *Personal Cartography*
- LITTMAN, Ariane: *Re-thinking/ Re-creating a different Cartography*

Personal and Collective Narratives

- MENNIS, Jeremy & Michael J. MASON: *Cartographic Narratives and the Social and Geographic Experiences of Adolescent Substance Use*
- RUSSO Patrizia, Arzu COLTEKIN, Susan THIEME & Natalia HEDGES: *The migration story of a Kyrgyz family father - a mixed media approach*
- CARTWRIGHT, William: *Narrative of a personal geography of warfare*
- MITCHELL, Peta & Jane STADLER: *The Cultural Atlas of Australia: Mediated Spaces in Theatre, Film, and Literature*

10.45 – 11.15 - Break

11.15 – 12.15 - Session II - Introducing the Participants (cont.)

Mapping Fictions

- TUFFERY, Christophe: *Archaeology of the geographical imaginary of Julien Gracq : the underside of maps of "Le rivage des Syrtes"*
- REUSCHEL, Anne-Kathrin: *Mapping Fictional Routes*
- PIATTI, Barbara: *Dreams, Longings, Memories - Visualising the Dimension of Projected Spaces in Fiction*
- LJUNGBERG, Christina: *Imaginary Spaces – Visualizing Time Travel in Kurt Vonnegut's Slaughterhouse Five*
- JOLIVEAU Thierry, Pierre-Olivier MAZAGOL & Sébastien CAQUARD: *Cinemaps, typologies and functions of maps in movies*
- CAQUARD, Sébastien: *Mapping Narratives with the Geoweb*

12.15 – 14.00 - Lunch break at Cheminsula Restaurant

14.00 – 15.00 - Session III - Introducing the Participants (cont.)

Geospatial Tools for Narratives

- HOCKENBERRY, Matthew: *Made In Modernity: Narrating Cartographies of Production*
- STRAUMANN, Ralph: *Online photo repositories as vehicles of narratives: Stories about Zurich*
- SIMON, Katrina: *World/Map/Eye - I/Map/World*
- SKUPIN, André: *A Pictorial Transect of the United States [in Attribute Space]*
- WATSON, Chris: *Hyper real and narrative maps*

15.00 – 15.30 - Lunch break at Cheminsula Restaurant

15.30 – 16.30 - Session IV - Introducing the Filmmakers, Dramaturgs, Artists

- Anne-Christine KRÄMER, graphic designer
- Claudia SCHMID, filmmaker
- Martin BURR, réalisateur
- Nicole SCHÖPFER, artist/director, performer, author

- Taien NG-CHAN, filmmaker, artist
- Alan TWITCHELL, dramaturg/artist
- Jan BUCHHOLZ, filmmaker
- Michael NOSER, artist

16:30 - Group Forming

Please try to form mixed groups - cartography, literary studies, artists - of 5-6 people, according to your interests. It is of course still possible to switch between groups during the next 1,5 days (if you wish).

17:00 – 17:15 - Wrapping up session/open questions/special needs

Is everything organised/clear for the next day?

Approx 17:30

Leisure time! Have fun in Zurich downtown!

Tuesday June 12th

9.15 –

9.45 - Lecture

- Lorenz HURNI: *The Power of Cartography: Concepts, methods, and models for static, animated and interactive maps*

9.45 – 10.15 - Coffee break

From 10.15 - Morning session - Project development (cont.)

Each participant will work on developing her/his project with the support of a filmmaker / artist

Lunch break at Alumni Lounge, individual/in groups (recommended before 11.45 or after 13.00)

From 13.30 – 16.30 - Afternoon session - Project development (cont.)

Each participant will work on developing her/his project with the support of a filmmaker / artist

16.30 - 19.00 - GPS Drawing Activity: Walking with Satellites

by WOOD, Jeremy. Meeting point: Room HIT F 31.1

19.00 - Tuesday Evening - “Gala” dinner

Wednesday June 13 th

9.00 - 12.30 - Morning session - Project development (cont.)

Each participant will continue to work on developing her/his project with the support of a filmmaker / artist

Lunch break at WOKA restaurant (recommended before 11.30 or after 13.00)

13.45 - 16.30 - Afternoon session - Final presentations

Each participant will present the state of her/his work

16.30 - 17.30 - Conclusion + Next steps

Optional: Farewell drinks at Alumni Lounge (on campus)

END OF THE WORKSHOP

Telling Place: narratives of an unknown city

Laurene VAUGHAN

I have for some years now been exploring the various practices that people use as they design, make and communicate the places of their world. The lived world conceived of as either the everyday, the extraordinary or the imagined are the sites of my inquiry. These various conceptions are the worlds of the individual whether experienced in isolation or community. They are always un-objective, deeply subjective and possibly unaligned from the 'realities' of time or fact as articulated by others.

In this project I will continue my explorations into *perambulatory cartographies*, where the narratives of life are realised through the walking line of the body as it makes its way through space. In this way walking is more than a means of travel or transition from one place to another, walking is a practice of knowing, being and making the many places of life. Grounded in Michel de Certeau's proposition that the narratives or stories of life do not express a practice, and they are not limited to telling about a movement or context, rather these practices *make* it (1984, p. 84).

This is the tension that I wish to explore in this project *Telling Place*. If a practice can only be known through the experience of the practice, then what are the implications for that practice to be known or experienced by others; and what are the implications for the making of cartographic representations (maps) and their use by anyone other than the maker?

The site for this exploration is Zurich; a city is unknown to me. By this I mean that I know *of* the city. I have vague impressions of what it would be like, but these are imaginings of a far away place. Unlike my hometown or the places I have travelled to many times, Zurich is a known yet unfamiliar place for me. June 2012 will mark my first experience of the tangible city and over the course of time that I will be there and by embodying the practices of the observing tourist my knowing of the city will be transformed. With no preparation I will encounter the blank page that is Zurich and will begin to be populated with images, words in a foreign tongue and the smells and impressions of the unfamiliar. It is my aim to use the documenting tools of the tourist (digital image, sketch and notes in a journal) to capture a day's ramblings in the city. An unplanned *derive* in an unknown city will be recorded with the intent to then partner with one of the local film students to re-trace the path and to engage with them to find another narrative of the city. One that is my local collaborator's and it may be their subjective narrative, a false tale or a telling of historical or cultural truths, that will mix with my narrative and the two will begin to mix to create a layer of an ever evolving narrative of that route in the city of Zurich. And the complexities of the creation of lived narratives (Horsdal 2012) that are created in isolation, are made to be told, or co-

created with others in practice will be explored as they are traced and placed within the context of a city.

Telling Place will explore and realise two opposing texts of the city through the intermingling of two people's views as they meander together through a city that is known to one, and new to the other. Underpinning this exploration is a supposition that the differences in their respective familiarity with the city of Zurich, will result in two distinct views of one place. But this is not a conclusive position to take. For although I am using the structure of opposite as a narrative structure how this opposition is realised is yet to be known and can only be known through enactment. As such I am using the following provocations from which my narrative will evolve, they will also be used as reflective device for post ambulation evaluation. These are:

- Two people will by nature notice different things as the amble through the city.
- What they notice will be informed by personal taste and current interests, and by history, or what we can call local connection.
- That the stories of a place differ depending on the individual's connection to that place; in his case local versus tourist.
- That meaning and connection to place may be different and yet no less significant for each party involved.
- That the dialogue that evolves through this process, as recorded in image and text, will result in an interconnected narrative of place.

Place?

Within the literature on the making and experience of place there is continuous discourse that explores the complexities of interpretation and translation that occur as we encounter place. Many of those who design cities and practice urban planning or place branding seek to create a place with a totalised text of a city (de Certeau 1984 p,92). This is the text of the city as seen from above, and contrasts with the localised or grounded text of those that inhabit the streets below. In this project I am actively engaging with the various types of spatialised texts that make a city. One form of this engagement has been to deliberately avoid any official texts in the form of guidebooks or city guides that could frame my experiences of the city. A city map is my only concession to a universal spatial text of the city. In contrast I am actively engaging with the everyday, biased, subversive and mobilised texts of the city that are made in memory and in the making through conversation. Through the acts of walking the spatialised texts of a section of the city will be given form, or 'shape' as de Certeau would argue. 'The act of walking is to the urban system what the speech act is to language or to the statements uttered.... It is a process of appropriation of the topographical system on the part of the pedestrian (just as the speaker appropriates and takes on the language), it is a spatial acting out of place' (1984, p. 97). In this way walking spatialises the acts of storytelling to become place accounts and brings them to place as they are made in place.

Place within the context of this project is interpreted as being a construct of being, and being is manifest through perception (Merleau Ponty 1964). In this way place is temporal

and re-made with every encounter, places belong to our bodies and our bodies belong to places. Tilley argues that; ‘The world does not exist independently of us, nor do we create it. Our interaction with the world brings it into being. As such it is mistaken to draw distinctions between the natural and cultural landscapes and places or the material and the mental. They are interconnected in our Social Being (2004 p.4).

In discussion on the identity of places Relph (1976, p. 44) argues that there is a ‘fusion of meaning, act and context’ in the experience of place, which makes for the subjective nature of place identity and that ‘generalisations about places cannot be formulated’. Any form of systematic or objective description or analysis where general forms of categorisation are used are unable to convey much towards our understanding of the phenomenon of the experience of place. To do this Relph argues that the links between ‘place, person and act’ must be emphasised, it is this interconnected and subject narrative of place, which will enable us to know a place. ‘Identity of place is as much a function of intersubjective intentions and experiences as of the appearances of buildings and scenery, and it refers not only to the distinctiveness of individual places but also the sameness between different places’ (1976, p.44).

Relph’s argument for the importance of the personal and subjective experience of place is foundational to this project Telling Place. It frames place as a phenomena and result of perception, or as Nairn argues ‘there are as many identities of place as there are people’ (in Relph 1976, p. 45). Every person with their unique physicality, psychology, history and approach to being, will experience the world in their particular way, and from this then know and communicate this world on this basis. Any unified narrative of a place needs to integrate these layers of subjectivity. Of course this richness of diversity does not mean that all places are destined to be fragments with no central whole. For there will be similarities in experience, for how we perceive is framed by cultural norms, and can be moulded by the communities we are a part of, and the shared meanings we manifest. It is in this way that Relph argues that ‘it is not just the identity *of* a place that is important, but also the identity that a person or group has *with* that place, in particular whether they are experiencing it as an insider or as an outsider’ (1976, p.45).

Casey by his own bold admission uses the term habitation as a means to locate a body in place; what we may call the located ‘social being’. This habitation may be transitory or an act of settlement, and what it refers to is the placement of the person where they are then in a physical sense. ‘When I inhabit a place – whether by moving through it or staying in it – I *have* it in my actional purview. I also hold it by virtue of being in its ambience: first in my body as it holds onto the place by various sensory and kinaesthetic means, then in my memory as I “hold it in mind”’ (Casey 2001, p. 687). Issues of temporality, familiarity and modes of transport will frame how we know this habitation, but is actioned by being here and now, which will over time lead to there and then. There fore whether we are a local or a tourist, an insider or an outsider we inhabit a place at one time, for some time. Our bodies are our means for perceiving, moving our bodies through space on journeys is our means for making place; and over time all the places we have known make leave their traces on our bodies and our being. We are what he names ‘homogeographicus’ a being in a constant

state of place evolution – as we go out into the world, and then bring the world back into our being through experience.

Integrating narratives

In the *Telling Place* project I am intentionally seeking to explore what happens when two homogeographicus meet with the intent of sharing their individual narratives of place, and then through this exchange create a shared one. I am deliberately exploring the divisions between insider and outsider, local and tourist, as extremes of experience of the place. The proposition is that through the acts of walking, recording and talking, the phenomena that will be a section of Zurich on this day will be experienced and transformed into a new state of placeness for these two people. In a 'de Certeauian' sense two bodies will draw or write the city as they walk and thereby transform space into place. They will also exchange stories both of the place that they are in, and inevitably about other places and contexts in the course of their journey together. It is proposed that through this dialogue an exchange of experiences will be made and it is investable that in this process there be translation; the transformation of another person's experiences or point of view, into our own.

Horsdal argues that interpretation is inevitable when we listen to the life acts of others, 'we inevitably interpret the story within the context of our own experience and narrative repertoire... We identify with the stories we hear, and the projections and identifications are so obvious and happen spontaneously and often without our conscious awareness (2012, p. 86). Through exchange the lines between what is our own, what is another's and what has been transformed through influence can be blurry.

This is part of the embodied transformation that is the ongoing evolution of homogeographicus – experiences recorded into our beings manifest in our bodies through the acts walking, eating and eventual fatigue, and into our minds and emotional beings, through the images, texts and stories that we perceive. This permeability of experience is fascinating, how can we be sure that, what we perceive as being an account of an experience enacted is that, and not experience adapted through the adoption of the experiences of others that are transformed. Stories are powerful entities for creating shared meanings, whether they are one on one exchanges between two people with no longevitous connection, or a family story told and retold around the dinner table from one generation to the next, or the grand stories of literature, film or the media. For although life stories are temporal and contextual (Horsdal p. 88), they also form an important part of social and cultural identity, and cultural spaces, and it is through communication that they are given grander cultural meaning.

Although the focus in this project is on the intimate scale of place-making and the narratives of two individuals as they tell these places into being (for themselves and each other), it is inevitable that the grander narratives of the collective interpretations of place will become part of the exchange. Homogeographicus does not exist as an experiential island; our subjective experience is mixed with context, and to what extent this occurs is one of the

foci of this project. Life stories take time to evolve, and as we listen and inevitably interpret and adopt their stories to our own, we must harness patience and listen to for the long story as much as we may be drawn to the micro fragments that make up the whole. In this case it will be through the situated life acts of walking and talking that the city of Zurich will be brought into a new level of being.

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A Personal Geography

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Introduction

“This is an exploration into personal geographies, situated media and movement. In short a long walk...”

So opens my Twitter feed (@matthewalking), and so opens my exploratory mapping project focused on my personal geography. Walking is a simple act of motion which many take for granted and for most, it has receded into a position of the mundane. On the contrary, walking for me is an embodied, situated position for emotional growth and spatial exploration. This walk has provided deep personal and urban knowledge over the past 15 years. Up until the last two years my walks have been a solitary pursuit developed around mental health, conceptual thinking and furthering my understanding of the city. Recently, when I began to tweet my walks, this life pattern has been transformed into a public creative pursuit. By engaging both physical and digital social spaces I have begun to investigate my place in New York City through a narrative constructed by the mundane act of walking through the city. This act of walking is founded upon the “preliminary definition of walking as a space of enunciation” put forth by Micheal de Certeau. He further states; “walking at the most elementary level is a process of appropriation of the topographical system on the part of the pedestrian...; it is a spatial acting-out of the place...; and it implies relations among differentiated positions...” (de Certeau, 1984) Envisioning walking as a space of enunciation, or a speech act, which acts-out through differential positions of appropriation is key to the idea that walking is a construction of spatial narratives.

Extracting geographic pieces from the narrative

This investigation into spatial narratives focuses on linking the critical narrative position constructed by walking and cartographic representation with the narrative feeds of film and Twitter. This spatial narrative could actually be reframed as one narrative feed. A feed that is explored through the body, time, and place via my steps (32 inches), twitter (140 characters) and film (24 frames/second) to reveal my personal geography. The initial step of this project has been to map the geography I experience in the city. Plotting this movement through the city develops knowledge into my emerging spatial pattern. However, this cartographic representation of my personal geography is not simply a creative representation. It is an effort to push beyond maps as representation and expand on how

we think of the city. In John Pickles words: “It is not enough to think of these mappings as mere variants of the cartographic imagination. They extend our thinking and our practices into domains that might not initially be thought of as cartographic.” (Pickles, 2004)

This extension began with the second step in this project. The extension to understand and transform the city through physical motion and the textual narrative produced through walking. The 140 character textual narrative in my Twitter feed focuses on how individuals understand their environment through situated realities and experiences. This is important in that the tweets reveal a distinct and focused thought at the moment I am situated in the city. The 140 character frame requires immediate distillation of thought and experience into a published text. It is an act of extracting a narrative from the geography of the walk. This articulation of a situated knowledge is conceived of in the context of the theory for the need of a situated knowledge to produce social change. As Donna Haraway’s states, “Struggles over what will count as rational accounts of the world are struggles over how to see.” (Haraway, 1988) I have recently begun mapping the tweets accumulated over the past two years. The map is developed by graphically plotting my geo-referenced descriptive tweets generated as I walked New York City. These thoughts have not been confined to a prescribed theme or specific investigation. They are what emerge along the walk which I am compelled to share. This methodology is inspired by Situationist International theories of engaging our environment during a certain period by dropping “their relations, their work, their leisure activities and all their usual motives for movement and action and let themselves be drawn by the attractions of the terrain and encounters they find their.” (Knabb 1981) The only structure, currently in place, is that each tweet is geographically referenced and fits into the 140 character Twitter limitation. These 140 character pieces, or moments, along my walks then become disembodied and decontextualized. Continuing the link to the Situationist, my tweets once posted to the public twitter feed become textual geographic fragments which can then be re-arranged or re-conceived to produce a new geography. A new place. A place that “[will] one day revolutionize everyday life and release the ordinary citizen into a world of experiment, anarchy, and play.” (Sadler, 1999) The 140 character fragments can help re-conceive the city anew similar to Debord’s Naked City map.

How is a critical narrative extended out of this geography? The map of these tweeted walks has revealed, over a slow accumulation of layers, a spatial pattern of my city. The real time publishing of observational text, through the twitter feed, coupled with a long duration mapping and publication of my spatial pattern is producing an interesting pattern and a distinct nested geography within the larger context of New York City. The mapping of these mundane wanderings through the city indicate that is a distinct pattern emerging even though these walks are unscripted and have no articulated routing goal or intended destination. (Figure 1) The Situationist inspired method serves the project well within a city which I inhabit and have a continual long term engagement. However, personal geographies need not emerge out of an accumulation of layers of movement over two years. A personal geography is being continually produced through every mundane act of walking. The third, and current step, in this project is to develop a narrative structure to provide a compelling way to quickly gain situated knowledge in an environment. A situated

knowledge of self and place developed through a spatial narrative position is the goal of this project. Haraway outlines the importance of this situated knowledge when she states: “positioning is, therefore, the key practice in grounding knowledge organized around the imaginary of vision, and much Western scientific and philosophic discourse is organized in this way. Positioning implies responsibility for our enabling practices.” (Haraway, 1988) I look to move my current mapped exploration into a critical spatial narrative by utilizing film to link the feeds of walking, Twitter, into the next step to produce a responsible enabling practice.

Mapping Narrative Places

Utilizing Zurich as a laboratory and the workshop as a catalyst/incubator my personal geography project will build off critical feedback and debate to develop the use of film to accomplish this third step. My current practice of mapping my personal geographic stories is a challenge in the limitations of Twitter. To this point, I have not framed a narrative structure beyond the spatial organization of the walk or been critical of how or what I write. The only narrative structure linking the twitter feed together is the spatial route I walked to arrive at observations. This places the subjectivity of the body through movement and perception as the origin of any narrative. This privileging of the body reveals “the importance of locality on the character of display and argues that in the long run it is the body that is central to the framing of content and so is crucial to our understanding of augmented public space.” (Allen, 2008) Allen’s discussion of the role of the body and digital media in the production of augmented public space is pertinent to this project. My movement through the city is the central framing device of the content and establishing a spatial narrative. A narrative which is published real time in the digital social space of my Twitter feed.

The role in which film is to play in furthering this third step is exciting. To this point, my personal geography project has not integrated images. In conjunction with my Twitter feed, the utilization of film concepts can help to formulate the desired critical narrative structure. Both Twitter and motion pictures are both inherently feeds. One based on 140 characters in a frame run over the course of my walk and broadcast live at episodic intervals. The other is based on a recording of framed images run at 24 frames per seconds through a projector. This project will conceive of twitter and film as linked feeds structured through one’s movement in the city. How to film a twitter feed? How could the methods and constraints of one inform the other? How could both feeds conjoin within urban movement to formulate a situated knowledge of place? Similar to Pickles views on maps above, I conceive of film not as a method to record an exploration in an urban geography, but a creative way to extend thinking and practice. Ultimately, film is the active narrative feed coupled to a real time Twitter feed and my spatial position. All instigated by embodied movement through the city and engaged in producing a critical personal geographic narrative.

This brings me to an initial sketch for the visual feed to be developed in conjunction with the workshop. I will be bring images and film footage of my most recent walk along the

Hudson River in New York City. The first walk I will take in Zurich on the Sunday prior to the workshop will be along the Limmat River. The two river walks are chosen because of the importance of water to our urban development and health. Also, one river lies in the headlands of a continental industrial river and the other is the mouth of a continental industrial river. Thus, a critical link between these rivers can be explored through my personal geography. As with any of my walks and this project there are only origin points from which to start the narrative. The narrative will only be developed through the practice of the walk...

Conclusion

How we engage the environment influences our understanding of that reality. Consequently, to represent this environment through acts of cartography and narrative is a method to gain a critical account of the world. Urban landscapes are defined by complex relationships, be they physical or mediated, spatial or virtual, radical or multi-cultural. To produce this reality we must be adept at critically situating and understanding oneself in this environment. There is no better way to navigate this reality, and shape our future then to enunciate a narrative through a walk.

The workshop and film project are inherently collaborative environments which my participation will both aid my work and that of others. My current ideas and activities are conceived of as an origin point from which to fully develop activities in support of the Zurich workshop. This workshop is a great venue for exploring the cartographic narrative goals of my ongoing walking project while collaborating with others to gain critical feedback. Participation with others on their projects and research will also be an invaluable source of knowledge and inspiration moving through and beyond the workshop.

Now for that walk...

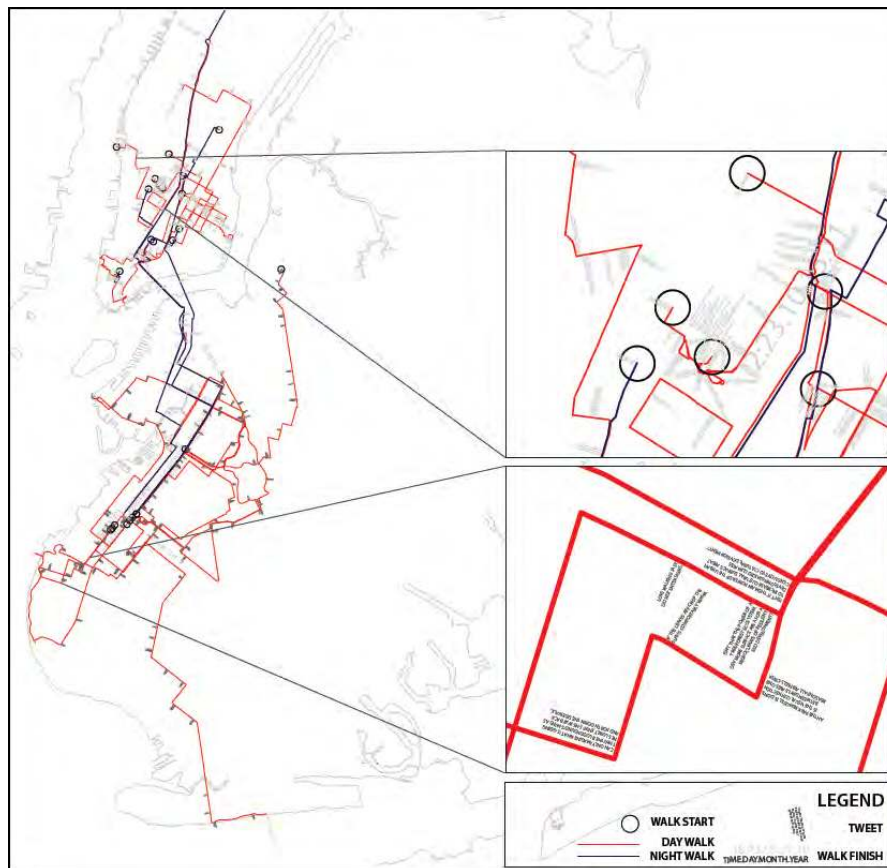


Figure 1

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Notes for an Erratic Narrative

Don GILL

University of Lethbridge, Department of Art

1387/1400	The Canterbury Tales (Geoffrey Chaucer)
1605/1615	Don Quixote (Miguel de Cervantes)
1694	The Narrow Road to the Interior (Bashō)
1769	"I can only meditate when I'm walking. When I stop, my mind ceases to think; my mind only works with my legs." Confessions (Jean-Jacques Rousseau)
1776 to 1778	Reveries of a Solitary Walker (Jean-Jacques Rousseau)
1793	An Evening Walk and Descriptive Sketches (William Wordsworth)
1798	The Alfoxden Journal (Dorothy Wordsworth)
1833	Théorie de la Demarche (Honoré de Balzac)
1815	The Great Map (William Smith)
1846	On Civil Disobedience (Henry David Thoreau)
1850	The Man of the Crowd (Edgar Allen Poe)
1853	Madame Bovary (Gustave Flaubert)
1855/1867	Paris Spleen (Charles Baudelaire)
1862	Forced March to Camp Snelling internment camp (Dakota people and U.S. govt.)
1862	Walking (Henry David Thoreau)
1863	A Painter of Modern Life (Charles Baudelaire)
1864/1866	The Long Walk to Bosque Redondo (Navaho nation and U.S. govt.)
1886	Chronophotographic studies of human locomotion (Etiene-Jules Marey)
1886	Thomas Eakins abandons Chronophotography (Thomas Eakins)
1887	Animal Locomotion (Eadweard Muybridge)
1897-1927	Eugène Atget photographs/documents Paris
1918/1920	Ulysses (James Joyce)
1921	The Grande Saison Dada, an excursion to the Banal places of the city... (Paris Dada Group)
1924	Surrealist Deambulation. (Andre Berton, Louis Aragon, Max Moris, Roger Vitrac)
1926	Le Paysan de Paris (Louis Aragon)
1927	Street Haunting (Virginia Woolf)
1927/1934	Hashhish in Marseille (Walter Benjamin)
1928	Nadja (André Breton)
1929	Man with a Movie Camera (Dziga Vertov)
1931	Molly Craig, Daisy Kadibi, and Gracie Fields walk 1500 miles along the Australian Rabbit-Proof Fence to find their way back to their families.
1932	Berlin Chronicle (Walter Benjamin)
1933	Down and Out in Paris and London (George Orwell)

1938	The Paris of the Second Empire in Baudelaire (Walter Benjamin)
1955	Montgomery Bus Boycott (Rosa Parks and Martin Luther King)
1958	Theory of the Dérive (Guy Debord)
1960/1964	This Way Brouwn (Stanley Brouwn)
1961	The Death and Life of Great American Cities (Jane Jacobs)
1965	March from Selma to Montgomery, Alabama (SCLC, Martin Luther King)
1967	A Tour of the Monuments of Passaic, New Jersey (Robert Smithson)
1967	A Line made by Walking (Richard Long)
1969	Following Piece (Vito Acconci)
1971	Walkabout (Nicolas Roeg)
1977	The Man Who Never Threw Anything Away (Ilya Kabokov)
1978	Of Walking in Ice: Munich - Paris 23 November - 14 December 1974 (Werner Herzog)
1977	On Photography (Susan Sontag)
1979	Suite Venitienne (Sophie Calle)
1981	Martha Rosler, 3 works (Martha Rosler)
1982	The Songlines (Bruce Chatwin)
1984	Paris, Texas (Wim Wenders)
1985	Sculpture in the Expanded Field (Rosalind Krause)
1990	Vertigo (W.G. Sebald)
1995	The Rings of Saturn (W.G. Sebald)
1997	Paradox of Praxis 1 (Francis Alÿs)
2000	Wanderlust (Rebecca Solnit)
2002	Gerry (Gus Van Sant)
2002	Walkscapes: Walking as an Aesthetic Practice (Francesco Careri)
2002	When Faith Moves Mountains (Francis Alÿs)
2005	Sometimes doing Something Poetic can become Political and Sometimes doing Something Political can become Poetic (Francis Alÿs)
2008	Hand Drawn Map Association founded (Chris Harzinski)

- Texts are beginnings rather than endings. Whether it's Jean-Jacques Rousseau's inability to think when his legs aren't moving; Baudelaire embracing the crowds of Paris as a passionate observer, Virginia Woolf's sudden need for a pencil propelling her out into the city in search of the perfect pencil shop; Edgar Allen Poe's protagonist first observing then following the elderly "man of the streets"; W.G Sebald's narrators obsessively walking the streets of Vienna or the east coast of England; Walter Benjamin considering Berlin as a forest to be lost in and using the skills of woodcraft to read the signifiers of the city; Henry David Thoreau ruminating over the art of Walking and those who have a genius for *sauntering*; Werner Herzog walking from Munich to Paris in the belief that an ill friend would stay alive if he came on foot; the forced march of the Navajo to Bosque Redondo after being expelled from their homeland by the U.S. Government; Eugene Atget wandering the streets of Paris photographing 'views' of the city and it's residents; Richard Long conceptualizing that a Walk can be a work of art in itself; Guy Debord developing Psychogeography and the practice of the Dérive as anti-capitalist strategies;...

- To haunt, to stroll, to wander aimlessly; the act of walking can be an escape, a ritual, method of transportation, exercise regime, leisure activity, social activity or political act.
- I engage in walking as an intellectual practice. I am an urban walker whose art practice involves moving through space on visual and conceptual planes simultaneously. Collecting evidence of urban meanderings through photography, video, texts, detritus, maps, conversations, encounters, anecdotes, I gather information to be sorted, analyzed, considered and archived as a record of the act.
- *Erratic Space* is a walking/mapping methodology that treats both urban and rural space as unmapped/unknown terrain that becomes known by wandering and examination. This wandering, in association with photography, video, GPS technology, and other forms of data collection, develops a map of both the physical terrain and the artist's experience of it. *Erratic Space* is a methodology, a performed work and an archive, all of which together make up the complete work.
- *Erratic Space* follows architectural theorist Francesco Careri (*Walkscapes* 2002) and his description of the development of mapping and architecture through the practices of walking and 'wandering'. The methodology of *Erratic Space* treats urban space as unmapped and movement through it is determined by the structure of the place as if encountering geographic terrain. The shape of the walk is determined by urban design but also the contravention and subversion of this design. Official pathways are not always the most efficient walkways. Movement through *Erratic Space* is not necessarily goal oriented in the sense of getting somewhere in particular but has as its goal the actual movement through it, and in a true hunter-gatherer tradition, the gathering of photographs, artefacts, conversations, and social experiences as the space is traversed.
- The methodology of *Erratic Space* involves engagement with a specific space through walking and recording the walking process through GPS drawing, photography, videography, collecting (particularly of newspaper clippings), and other related processes. When performed in a gallery setting the result of this activity is an installation that is created over the term of the exhibition. The installation format is an artist's workstation equipped with computers with monitors, desks and workbenches, chairs, video monitors and DVD players, photo-printers, and cabinets. I return to this gallery workspace after walking and process the material on-site as a performative aspect of the installation. I organize the photographs, video, GPS drawing of the walk and whatever other material I may have acquired through interaction. I also take this time to read local and international newspapers while processing visual material.
- After selecting specific photographs, video, newspaper clippings and the GPS drawing from the day I attach these to the gallery walls as components of the final "map" of the experience. The walking/mapping activity takes place through a defined period of time

during the exhibition, after this time is over the work within the gallery stops and the installation is materially complete. However I continue adding to a blog created for the exhibition and to post daily for the duration of the exhibition period.

- I have produced *Erratic Space* outside of urban spaces or gallery settings in places such as the Australian Outback at Fowlers Gap, New South Wales and Waco, Texas. In these forms of the work my activity is centered in my living space as I engage with the immediate environment from that locus. The production of these periods is disseminated through a blog, artist books, video, and inclusion of the work in the *Erratic Space* archive, from which elements are extracted for future gallery exhibitions.
- <http://dongillwalking.blogspot.com/> is a blog I maintain on an on-going basis that is indicative of the form of *Erratic Space* blogs.
- I use video and photography as instruments to visualize and conceptualize the relationship of moving through physical space on foot to mapping that space through the body's relationship with its immediate surroundings.

Walking with Satellites – An introduction into the act of GPS drawing and mapping conducted

Jeremy Wood



Call for participants

Oh Yea... Oh Yea! Bombarded with too much technical jargon and incomprehensible theory? Have you uncontrollably erupted with new ideas? Got muddled notes? Forgot you were bipedal? Take action and walk it off with some GPS drawing and mapmaking.

Let's make a collaborative map of a place we've all travelled so far to get to and document our experiences along the way. Travel is narrative. We begin by leaving a place, we then give structure through navigational decisions that shape our experiences, and ultimately the act of journey comes to an end. This story will be built from collective drawings with GPS and seeing what can be revealed from the combined results.

Personal cartography with guerrilla map making

Setting off in groups of two there will be one GPS receiver and one camera per group. The aim is to document our meandering tracks over the campus with billions of dollars of war technology and record an expression of our explorations of place with pocket video cameras. One holds the GPS and decides where to go and the other films the activity. Swap duties as and when you like. Act like a geodesic mark maker by choosing collision points and bouncing off physical obstructions. Go to the boundaries and seek the perimeters of traversable space. Find out what's at the permissible edge and steer away

Walking with Satellites – An introduction into the act of GPS drawing and mapping conducted – Jeremy Wood

from the pre-designed flow. Don't go where the paved paths lead you, step off and go perpendicular. Even the short-cut ruts in the grass are well pounded trenches.

GPS drawing is about the movement of the body and the experience of 1:1 scale mapping. It's a process that can create a quality of line that might be straight and smooth through one place and be complex and intricate in another. It can form a density of travel by hatching and crosshatching much like one can do with a pencil.

BRING IF YOU CAN:

- Camera: preferably with video capabilities of any quality
- GPS device: Garmin handheld or Open GPS Tracker for Android

Biography

Jeremy Wood is a map making artist that has been GPS drawing and recording his everyday journeys since 2000. He teaches and conducts workshops in schools, galleries, museums, and Universities. His work has been exhibited internationally and is in the permanent collections of the V&A and the London Transport Museum. A selection of his work can be seen at www.gpsdrawing.com & www.jeremywood.net

See also:

Traverse Me - www.gpsdrawing.com/maps/traverse-me.html

Meridians - www.gpsdrawing.com/gallery/land/meridians.html

Mowing the Lawn - www.gpsdrawing.com/gallery/experiments/lawn/all.html

Re-thinking/ Re-creating a different Cartography

Ariane LITTMAN

For the past 20 years, maps have been the raw material, the content and the inspiration of my artwork as I repeatedly remove the hegemonic power they symbolize. The maps I use are diverse (road maps, aerial maps, closure maps, historical maps) and so are the techniques (objects, installations, performances, mix media, movies). They became a tool and a trigger to better understand and circulate within multiple spatial realities. They helped me grasp the geographical and political reality of Jerusalem as I became aware of a subtle alienation inscribed in the landscape in a quasi natural way.

I started to deconstruct this alienation by walking the map, crossing borders back and forth. During the Second Intifada, as I witnessed new walls and fences being erected often before the signs were inscribed on the maps, I became aware of the intrinsic elusiveness of these signs in light of a more tangible and complex actuality.

One of the first works involving maps was while I searching for the "Grandfather Forest," in 1991. It was forest donated in 1967 by my family in memory of my grandfather and planted by the Jewish National Fund. I discovered that the forest had become a closed military area. This "Forbidden Forest" was to metamorphose itself into "Mobile Forests" in various exhibitions worldwide. In 2000, still intrigued by the forest, I searched through aerial archives and found a large white stain covering the 'Grandfather Forest.' This powerful ready-made erasure was due to military censorship. To my surprise more of such white stains covered the country. I created a photo installation entitled **White Land**, first exhibited at the Artists' House in Jerusalem in 2001 and later exhibited at the Museum of Art in Ein Harod (Israel) and at The JCCs Gershman Y Gallery in Philadelphia (US) in 2002.

Border Land

During the years 2000-2007 I created a body of works under the name *Border Land*.

The intensification of the Second Intifada and the political instability repeatedly confronted me with the meaning of doing art. Concealing roads of Jerusalem's borderline in the work, **Hidden Maps**, was in fact a secret reminder that reality could not totally be exorcized from art. While terror attacks became a daily routine, I started to work on **Road Map #1**, a road map which showed both the industrial zone of Talpiyot where my studio is located and Beit Safafa which minaret I saw from my windows. As I drew the lines of the maps and wrote the names of Arab Israeli/Palestinian villages I never entered, I became more aware of a structural absence right in the centre of the maps. I also noticed that the

roads lines of the Arab villages/towns never intersected with those of the Israeli neighbourhoods, a physical separation I enhanced in the **Road Maps series**. Based on the New Street Atlas of Jerusalem, these series of seven diptychs maps (screen prints on paper) deconstruct Palestinian and Israeli neighborhoods around Jerusalem's borderline, from Gilo near Bethlehem up to Neve Ya'akov on the way to Ramallah, passing through the Old City and Mount Scopus. Main roads are drawn in red, while blue streets define the Israeli neighborhoods and green lines represent Palestinian villages. Blue roads never connect with green roads but they do link up to the red roads. Each diptych always shows a set of colored lines of streets (red and green, or red and blue), naming the respective Israeli or Palestinian neighborhoods and binding both sides together within a same map through an absence/ presence structural resonance.

Artist and Photographer

Simultaneously, trying to push further the boundaries of my own alienation and following the suicide bombing at the cafe of my brother-in-law, in March 2002, which killed and injured many civilians, I moved from the abstract lines of cartographical maps into a more concrete reality. I documented with my camera the new reality of fences and checkpoints being erected at the edge of the city. The construction of the Wall beginning in 2002 had definitely reduced terror attacks within the city of Jerusalem yet it also created tremendous daily difficulties for the Palestinian population and enhanced the mutual alienation between the two people.

In the series, **The Jerusalem Scrolls**, I witness stories resulting from the physical, geographical and political changes. Joining women from 'MachsomWatch,' helped me approaching checkpoints. This radical and subversive movement of Israeli civilian women bearing witness in the form of reports after each observation and seeing themselves as 'civilians challenging the military on its own ground,' became 'observers' at checkpoints back in 2001. These women, voluntaries of all age, were an inspiration during these gloomy days of terror and military retaliation.

My first scroll visual story created in September 2003 showed the Separation Barrier of Adu Dis in East Jerusalem. Three years later in February 2006 I photographed a Women's Peace March, depicting Israelis and Palestinian women demonstrating against the Barrier. The women started their march at the A' ram checkpoint and walked to the Qalandiya's terminal which at the time was still under construction.

Over these years, while crossing the borders, I met numerous Israeli women who each in their own way tried to change the violent reality. This led me to believe that maybe a dialogue between women on both sides of the Barrier could bring down the many walls that surround us.

Subsequent trips into the alienated landscapes of borders also influenced my installation works. In May 2002 I started a creative dialogue with my colleague and friend Hannan Abu Hussein and in 2003 we created two exact replicas of the huge cement road blocks separating Abu Dis from Al Azariya. These blocs were shown at the David Citadel, a

museum located at the Jaffa Gate in the Old City. This **Mobile Wall**, echoing the Abu Dis Wall, functioned both as an obstruction to the flow of visitors and as a semiotic interruption to the museum historical narrative that ended with the re-unification of the city in 1967.

Behind the Wall (2004), an installation exhibited in a bi-national project by Israeli and Arab women artists in Jerusalem was probably the outcome to my photographic incursions into the Border Land. It was a personal metaphor for a landscape which has forever lost its innocence and leaves no place for romantic and picturesque feelings. It relates to a Holy Land that has become a Border Land, a land of geographic, military and cultural borders. For that purpose I created the installation behind temporary walls, relinquishing the main exhibition space. Presenting two of my scrolls and rusted, discarded ready-made construction-site materials filled with olive pits turned black, vestiges of yearly wars over olive harvests. The hopelessness of a stable Homeland was symbolised by sand bags solidified over time but in fact extremely fragile.

In retrospect I believe that maps changed the reality of my own profession as I frequently switched roles from an artist in the studio to a photojournalist covering news events. Maps certainly changed the way I look at art, strengthening my incentive to make an art that relates to the 'here and now', far from a disinterested formalist autonomous discourse. During the years 2003-2007 the field became both my studio and a place of work. My desire to better understand the conflict, took me beyond the borders within the West Bank and Palestinian territories, into a land where no Israeli citizens are allowed in and where the points of friction occurring between Palestinians and Israeli soldiers are solely witnessed by the media. In the summer 2005 I covered the Disengagement from the Gaza Strip as working as a freelance photographer for the press became an inseparable part of my enquiry into grasping reality. In 2006, after the Second Lebanon War, I became a freelance photographer for the Swiss Newspaper *Tages Anzeiger* working together with the Middle East correspondent, Marlene Schnieper.

Embodied Borders

Furthermore maps changed the ways I create art. I discovered alternative ways of mapping reality by extending the boundaries of my own physical body both within conflict zones and within the artwork itself, intertwining both the personal and the national.

Together with my colleague Irit Amar, I performed **Surgical Operation** at *Heara 8, Comments on Hospitals & Schools*, during a contemporary art event in November 2004 at the International Anglican School in Jerusalem. The performance took place on the eve of Chairman Yasser Arafat's departure for Paris when the atmosphere in the country and in the Palestinian territories was specially strained.

In the attic of the school we discovered remnants of abandoned hospital equipment that we used during the seven hours performance. Disguised as a surgeon, I performed a 'surgical operation' on 'Closure Maps' in a vain effort to cure the city from its pathologic chronic violence. It was the first time I used the maps printed by OCHA, a Humanitarian Information Centre, and distributed by the UN office for the Coordination of Humanitarian

Affairs in East Jerusalem. Showing the separation wall under construction, checkpoints, barriers and road networks around Jerusalem, the maps were brought on an old military stretcher to the operating table, cut apart, sewn with green thread or patched with plaster bandages by two nurses amid breaking TV and radio news recorded during the Second Intifada.

Two years later, another map of Jerusalem became the subject of a performance presented at *Hera 10 – Comments on the Israeli Acropolis* in the Sciences Museum. This time, a map of Jerusalem compiled, drawn and printed in 1947 by the Survey of Palestine was screened unto the floor and on my body. On this map the name of the Arab village *Esh Sheikh Badr* still appeared, a neighbourhood renamed *Ramat Haqiryia* on the map revised by the Survey of Israel in 1955. Performing together with Hannan Abu Hussein and Maya Yogel, **Erasure** (2006) became an existential act of exhuming forgotten names, forgotten memories, forgotten pains and frustrations while re-enacting basic feminine gestures.

The notion of erasure was also tackled during the same exhibition in a joint multimedia and interactive project with artist Reuven Zahavi. **Donald Duck's Dream** (2006) dealt with the manipulative regime of images during the Disengagement from the Gaza Strip. Images of the enforced evacuation of more than 8000 Israeli civilians by police and army forces had turned into a huge spectacle. This highly emotional imagery often linked in manipulative ways to previous collective memories, undermined the importance of the historical redeployment to new borders which concluded a period of 38 years of military and civilian Israeli presence in the Gaza Strip. Eventually the territorial disappearance of the Gaza Strip paralleled the general wish of the public to erase from their memory the emotional turmoil of those images. Our multimedia work also exhibited at the Tel Aviv Art Museum proposed a critical and altered circulation of images, texts and sounds in an attempt to infuse artistic autonomy unto extremely saturated images and texts.

Wounded Land

The same closure maps from 2004 were used again for the works entitled *Wounded Land* (2006 -2012), a direct outcome of *Border Land's* artworks.

Back in the studio, I deconstructed the hegemony inscribed on the maps by cutting, bandaging and sewing them in performances which attempted to convey the existential dead lock of the conflict through absurd and Sisyphean acts of 'healing'. These works symbolize a collective wound that leaves its marks in the landscape and on the human body.

The first installation / performance entitled **Wounded Land** was created from cut out fragments of 'Closure Maps'. Using sterile bandages and plaster in a healing process, I further deconstruct the hierarchy of cartographic power of the closure maps by sewing the green letter X, signifying 'Barrier Gates' on the original maps, as a decorative stitch around the borders of the new maps.

The first performance of sewing the maps took place during the art event 'Manofim' at the Yellow Submarine Gallery in September 2009. During the opening night, dressed in a skirt made out of bandages and cut fragments of 'closure maps,' my face painted in white, I pursued in a Sisyphean way, the sewing/ healing process started in my studio.

Between 2010 and 2011, I created several smaller maps and performed in Tel Aviv and at the University of Geneva within the framework of the conference, Mobile Borders (Border Regions in Transition XI). Later that same year, I sewed a map in at the entrance of the Damascus Gate, in front of the Holy Sepulcher and the Western Wall, 'healing' with my green thread, the invisible wound that runs through both the city landscape and the collective psyche.

Even though I am deeply aware of the absurdity behind the process of an ongoing mending by means of the maps I create or erase, yet these new maps devoid of their original hegemonic power, nonetheless, create a different reality which both escapes me and frees me at once.

In the **Shredded Land** series (2010), I shredded and molded more Closure Maps at the Bezalel Academy paper workshop, each time creating a new reality based on rules I devised. In the new maps (65 x 55 cm), I put back, inside the Green Line, all of the settlements. On some maps all what is left is the remaining Green Line, on another only fences and walls. Sometime there are no sign of the West Bank, neither of Israel but instead one sees a slow disintegration of lines and borders.

I am aware that the maps I create are absurd but I believe it stems from a sense of despair. In the studio, everything is possible!

I pursued the healing within the landscape, for instance in **Sea of Death** (2010) my bandaged body suggests both the slow death of the Dead Sea and human finitude. The performance carried out at sunset, took place on the shores of the Northern side of the Dead Sea, not far from Qumran. Known since Biblical times, it is an imposing site where life, death and healing coexisted since Ancient Egypt. Today the Dead Sea is rapidly dying as a result of enhanced industrial extraction of its minerals, a serious drop of its water level and sinkholes. During the performance my colleague Irit Amar, currently practicing water therapy in a hospital in Mexico, wrapped up my body with sterile bandages. Mummified, I was then carried into the Dead Sea by two Palestinian men working on the premises. Left to drift away, in this state of intense vulnerability, I recall thinking of wars and mothers, pain and wounds, death and useless hopes.

A year later I bandaged a dead olive tree adjacent to the Hizma checkpoint, a checkpoint located at an opening of the Barrier on the North-Eastern Israeli defined Jerusalem municipal boundaries. This checkpoint figured on the same Closure Maps I had been using in my work since 2004.

Emblematic of this land and of a long awaited peace, the dead tree carried many levels of symbols and meanings. Uprooted and replanted some years ago, probably to

beautify the walled landscape around the checkpoint, it had not survived in this dreary environment. Dead, yet majestic in all its bareness, the tree was an impassible witness to the flow of Palestinians and Israeli cars driving around it in some mysterious dance devoid of violence. I came several times to see the tree and to talk to the officers in charge of the checkpoint, in view of the performance. I started to bandage the tree at noon until sunset, in the reddish light of dusk it looked magnificent. Dressed in white like a bride, with straps of bandages floating in the wind and connecting to the kites flying above Hizma, it seemed re-connected to Mother Earth. The movie, **The Olive Tree** (2012), made a few months later held a message of hope and was for me a tribute to mothers on both sides of the wall. Ruth Wieder Magan was singing Ladino and Hassidic songs and Salam Abu Amneh Palestinian traditional songs, both cried for Jerusalem, the mother of all cities, now a walled city.

Biography

Ariane Littman was born in Switzerland to a British father and an Egyptian mother. In 1981 she left her pastoral country of birth to study International Relations and History of Muslim Countries at the Hebrew University of Jerusalem. Upon completing her undergraduate studies, she changed direction and completed with honor her B. F. A in 1991 at the Bezalel Academy of Arts and Design followed by an M. F.A. in 1998. To complete her theoretical knowledge she graduated in Art and Aesthetics at the Hebrew University in 2004 and participated in a Jewish-Arab Seminar in Documentary Photography and Journalism at The Musrara School of Photography in Jerusalem. As her art became more involved with the conflict she covered important events such as the Disengagement from the Gaza Strip in 2005 and during the years 2006-2008 worked as a freelance photographer with the Middle-East correspondent of the Swiss newspaper Tages-Anzeiger's. During the years 1991 – 1994, after her B.F.A she became assistant curator in the Department of International Contemporary Art at the Israel Museum. Teaching in various academic colleges since 1998, she is currently a senior lecturer at the department of Inclusive Industrial Design at the Hadassah Academic College in Jerusalem. She had her first solo show at the Bograshov Gallery in Tel Aviv in 1992 and then exhibited in group shows at The Tel Aviv Museum of Art, The Israel Museum, The Art Museum in Ein Harod and the Herzliya Art Museum. Taking part in shows of young Israeli artists she exhibited in North Carolina in 1996, at The Bass Museum in Miami and the Grey Art Gallery & Study Center of New York University, the Yerba Center for the Arts in San Francisco and at the MUKHA in Antwerp in 1997. In 1998 she exhibited at the Cleveland Center for Contemporary Art, that same year her work was purchased by the Jewish Museum of New York following an important group show of Israeli art. Exhibiting in galleries and museums in Israel, Europe and the US, her work was included in various academic reviews and books and in private and public collections. Following her art work on borders and maps of Jerusalem, she was invited as one of the guests of honor to present her work in September 2011 at an international conference (Mobile Borders – XIth BRIT) co-hosted by the Geography Departments of the University of Geneva and Grenoble and she has been lecturing in several universities. In August she will take part at Rutgers University in **The Fertile Crescent: Gender, Art and Society** project where she will show her video works at

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Mason Gross Galleries and in October in the framework of the same project she will hold the Lebowitz Visiting Artist in Residence with a solo show of her maps in the Women Artists Series Galleries at the Douglass Library.

Cartographic Narratives and the Social and Geographic Experiences of Adolescent Substance Use

Jeremy MENNIS⁽¹⁾ & Michael J. MASON⁽²⁾

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Introduction

For the last several years we have been investigating the role of social and geographic context in adolescent substance use in a study called the Philadelphia Adolescent Lifestyle Study (PALS), funded by the U.S. National Institutes of Health (NIH). This research seeks to understand how the places youth frequent through leisure, work, family, and school activities, and the friends, family, and other people with whom they spend time at those locations, influence substance use and abuse. Through a survey method called the Ecological Interview developed by Mason et al. (2004), we have collected a highly novel and rich data set on a sample of 301 primarily African American adolescents drawn from a public health center in a northeastern U.S. city. This data set captures the details of each adolescent's geographic activity space – the routine locations that they frequent throughout their daily life. The data set also captures characteristics of their social network, substance use, family, and other attributes. In addition, the survey captures substantial narrative data about each adolescent's perceptions of the places they frequent (e.g. risky, safe, favorite, and religious) and why they feel that way about these places.

Our analyses of these data have yielded several interesting findings, such as 1) adolescent substance users and non-users differ substantially in their geographic activity space profiles and in their perceptions of places (Mason et al., 2009); 2) the characteristics of an adolescent's social network are strongly associated with substance use, and these social influences differ among various types of places as perceived by the adolescent (Mennis and Mason, 2011); and 3) such geographic and social influences are moderated by age and gender, where older adolescents and girls are more prone to contextual influences than younger adolescents and males (Mennis and Mason, 2012).

Though most of our work on the project thus far has been quantitative in nature, we have begun to explore the rich georeferenced, narrative data we also have available in the data set. These data are, in a sense, stories about the places a youth frequents – what they

do there, with whom they spend time with there, and how they feel about that place. We have shown how social characteristics play an essential role in formulating the emotional content and attachment to certain places (Mason, 2010) and have used the narrative data to interpret and refine our understanding of the results of statistical analyses (Mennis and Mason, 2011). Our aim moving forward is to further develop the qualitative data representation and analysis component of the project. To this end, we are currently embarking on a new project to incorporate ecological momentary assessment (EMA), where technologies such as GPS-embedded mobile phones will support the real-time data capture of not only activity space and social network data, but also spatio-temporally referenced information on adolescents' behaviors, feelings, and social interactions.

Representing the Spatial Lived Experience of Individuals

We believe the idea of narrative cartography, and in general qualitative approaches to representation and analysis, such as movies, imagery, content analysis, and visualization, hold much promise for interpreting and understanding adolescent substance use. Indeed, we argue that such qualitative data and methods are key to investigating the lived experience of individuals, and it is only through a depiction of these lived experiences that the nature of contextual mechanisms of substance use and other social and health behaviors can be fully understood. Central to this idea is the use of mixed methods – the integration of qualitative and quantitative data and methods to elicit both the experiences of each individual as well as systematic patterns that can be observed across a sample of many individuals.

In recent research we have sought to develop theoretical and applied approaches to integrating qualitative and quantitative approaches with geographic information systems (GIS) for the study of health behavior (Mennis et al., in press). The approach focuses on the use of an interactive visualization software extension to a commercial GIS package for visualizing narrative activity space data. The purpose of the visualization platform is to facilitate the visual exploration of integrated qualitative and quantitative data that capture not only conventional, quantitative GIS data attached to locations, but also the spatial and temporal expression of an individual's activity space, as well as their perceptions of those activity space locations. It is, in concept, an approach to the cartographic representation of an individual's personal experience of place.

Though a detailed description of the visualization system is beyond the scope of this paper, Figure 1 shows a screenshot of this visualization environment for purposes of illustration, where the activity space of a single adolescent is shown. Here, the five points represent activity space locations, such as the home and other locations that the subject typically visits for work, leisure, recreation and other daily activities. The point color represents a perception the individual has about that place, for instance red indicates that the place is perceived as risky, while green indicates the place is perceived as safe. The size of the point symbol indicates the amount of time spent at that location, where a larger point size indicates a longer typical stay at that location. Smaller symbols above and to the

left and right of each point indicate the time that subject typically goes to that location, for instance daytime versus nighttime, and weekday versus weekend. The linework represents the shortest path on the street network from the home to each of the activity space locations, with the color of the linework indicating the typical mode of transportation, whether by motorized vehicle (car or bus) or by walking or biking. Other data about the neighborhood within which each location resides is visualized as a bar graph, for example one can compare the racial profile of the different activity space locations, or the educational attainment, poverty rate, or violent crime rate. Narrative data that capture the description of each location by the subject is represented using call out boxes that extend from each point.

Representation Through Narrative Imagery, Video, Audio, and Text

We see movies, as well as other visual and audial forms of qualitative data, as a natural extension to our work in developing new and innovative strategies for integrating qualitative and quantitative data and methods for investigating health behaviors and outcomes. We envision movies as a medium where the cartographic narratives captured by the Ecological Interview could be represented and interpreted, or perhaps even performed. Such representations may be linked to the visualization system described above. For example, Jung and Elwood (2010) have shown how such qualitative data can be georeferenced for cartographic display and included in a visualization package for data exploration. Likewise, geotagged video recordings can be used to depict a spatial narrative (Kraak and He, 2009). Alternatively, the cartographic displays of the visualization system could play a secondary role to, and contribute to, multimedia representations of the lived experience of individuals.

We are now embarking on a data collection project to capture a variety of image, video, and audio data about the activity spaces of the sample of individuals from the PALS project. The ubiquity and ease-of-use of mobile computers and smart phones has greatly facilitated the ability to capture a variety of types of data. We have employed the camera, video, and audio recording devices embedded within Apple's iPhone for data capture. For purposes of privacy protection, data collection is limited to public locations and routes, such as shopping malls, parks, street corners, and subway lines, and does not include the private homes that relate to any individual's activity space locations involved in the study.

For example, Figure 2 shows photographs we captured of two outdoor street corner locations that two adolescents have identified as risky, respectively. As one can see, though both street corners are perceived as risky by different individuals, they differ markedly in character, with the location on the left a commercial corner with indicators of economic disadvantage, such as a check-cashing store. The location on the right, on the other hand, is exclusively residential and far more vegetated. Data collection includes the following types of representations:

1. Photographs
2. Audio recordings
3. Video recordings
4. Imagery and text taken from advertisements about certain places
5. Imagery and text taken from crowdsourced or volunteered information about certain places

These data may be arranged to depict the experiences of an individual subject in the PALS study. For example, consider a male adolescent in the study who has indicated that he often goes to a particular shopping mall in downtown Philadelphia called The Gallery for recreation, that he perceives this mall to be risky because he may encounter other youth there, and that such encounters sometimes provoke violence. Further consider that he typically goes to this mall on weekends, and that he gets to the mall via public transportation. Such experience may be depicted by video capture that visually depicts a trip on a weekend – the walk from that individual’s home neighborhood to the subway stop, the subway ride to the mall, the emergence up the stairs from the subway stop onto the streets of downtown Philadelphia and into the mall, and the wandering around the mall. Obviously, this video depiction is not intended to capture the actual experiences of this particular individual, but such a video recording can represent the general sights and sounds of the experience.

Alternatively, an individual place can be depicted by using multiple forms of representation. For example, consider The Gallery shopping mall described above. This mall is noted by many subjects in the sample as playing a central role in their activity spaces. The representation of the mall can be depicted not only by video that we capture, but also by photographs of specific storefronts and public spaces within the mall, and audio recorded at different locations throughout the mall and at different times of day. In addition, imagery from mall advertisements and narrative text about the mall taken from the PALS data set and from online social media content can provide complementary depictions of the mall. Such a diversity of representations would provide a multiple perspective view on the experience of the mall.

For example, Figure 3 shows two photographs of the exterior and interior of the mall gathered from a Google image search. Narrative data about The Gallery can be found on user review sites, such as Yelp (www.yelp.com). Consider, for example, the two reviews of the mall, below, appearing on the Yelp website:

“This aging, expensive, noisy, odiferous and loaded with ghetto trash excuse for a shopping center is to be avoided at all costs. Between the stale urine odors that permeate the adjacent subway access points with poor lighting and the niosy [sic] aroma of the food court area that is more like feeding time at the ape-house at the Philadelphia Zoo, you're truly taking your personal security at risk visiting this place, It's controlled mayhem that has shocked many a tourist by the sheer sight/smell/sound of the same” (WWW: <http://www.yelp.com/biz/the-gallery-at-market-east-philadelphia>, accessed May 25, 2012).

“Yes, it is overrun with teens, but I've never had a bad experience...maybe it's because I just mind my own business and understand that they're bored teenagers doing what bored teenagers do: hang out at the mall. I've grabbed Chik Fil A and studied French in the food court and never run into any drama. The various Gallery employees I've interacted with have been way nicer and more polite than many of the employees I've dealt with in hipper stores, so I have no real complaints. Also, the fact that Market East is right in the middle of the mall is such a huge perk...” (WWW: <http://www.yelp.com/biz/the-gallery-at-market-east-philadelphia>, accessed May 25, 2012).

Note that the purpose of gathering these data are not to reveal what is the ‘real’ or ‘essential’ character of a place, such as The Gallery, but rather to depict the multiple perspectives and representations that compose the experience of that place.

Ideas for Movie-Based Projects

We see a variety of approaches for the development of movies and the incorporation of video into our research on adolescent substance use. Below are three general ideas:

1. Movies could be used to document the activity spaces of adolescents’ in a rich way that captures the activities, sounds, and sights that occur at these places. These movies could be geo-tagged and incorporated into the visualization system shown above, where an analyst could retrieve movie data about different locations to aid in interpretation and analysis.

2. Movies could be used to illustrate the stories of individual adolescents’ experiences connected with place, social network, and substance use (or non-use). For example, a movie could capture the characteristics of an individual adolescent’s home, their travel to their routine locations, (e.g. a friend’s or relative’s house, a recreation center, or shopping mall), as well as their perceptions, activities, and social interactions at those locations.

3. As we envision using GPS and real-time data capture using mobile phones, in future data collection it may be possible for study subjects to make movies themselves ‘on the fly’ as a form of data capture, to tell the social and geographic stories of their lives with a richness that survey recall data simply cannot match.

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The migration story of a Kyrgyz family father - a mixed media approach

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Multimedia annotated trajectories in a visualization environment

A narrative inevitably comprises a spatial and temporal framework. Each of us associates a memorable event or story in our life with space (place) and time e.g. time of the day and /or season of the year (Ehrkamp 2005). Yet experiences of space and time differ. Specifically in relation to migration, for example Harvey (1990, 1993) argues that power shapes who migrates where, and, in particular, which rung of a migration hierarchy any particular worker has access to. In this project we want to illustrate the relationship between narratives and places by means of a short film about a non-fictitious migrant. Our proposed film will feature mixed media creating a hybrid representation at the intersection of geographic visualization, information visualization and traditional means to tell stories in films: namely, we will use maps, an animated character, video clips from a documentary, interview excerpts, word clouds and screen recordings from an eye tracking session.¹ Our approach combines qualitative and quantitative information in one interactive representation, thus presents an experimental study.

The proposed short film will convey the migration story of a Kyrgyz family's father (hereafter will be referred to as "*The Father*"). Migration is an ever-present phenomenon throughout

¹ A 28-min documentary film featuring migrant stories in this region, titled "The Other Silk Road" (2008), was previously produced by Susan Thieme (one of the co-authors) at the Department of Geography in University of Zurich. The aim for this documentary film was to disseminate findings in a research projects regarding immigration to reach audiences who are not necessarily fellow academics (Thieme 2012a). We use video clips from this documentary.

the human history. In a recent historical period, the collapse of the Soviet Union in 1991 caused a widespread loss of jobs in the former member countries which induced migration and people migrated far from their place of origin in search of work. Some of them settled at their place of arrival, while others returned back to their place of origin after a period of time (Thieme 2012b). In our case study *The Father* leaves his country of origin and his family in search of work. After a period of work abroad, he rejoins his family which, in the meantime, has moved to another city starting a new chapter in their lives.

The migration trajectory created by the moves of *The Father* through space as well as the causes and consequences of these moves and his feelings over the course of life changing events will be presented within a map-based multimedia visualization. A portion of the story has already been integrated in a so-called “Space Time Cube (STC)” representation via multi-media annotations (Russo, 2011). The STC is a three-dimensional visualization environment where the area between the x- and y-axes of the cube (xy plane) stands for the geographical space and can contain a base map which can be moved along the z-axis, while the z-axis indicates the time (Hägerstrand 1967, Kraak, 2003). In the STC implementation, the base map can be either a straightforward representation of the location or a thematic map of the migration statistics (e.g. in the form of a flow map) to display quantitative data. For the individual story, the migration trajectory of *The Father* is visualized by a so-called Space Time Path (STP) in the STC. On an STP, vertical line segments represent “stays” at a place and length of these segments indicate duration. Sloped line segments display movements and slope’s angle shows the speed of the movement of the moving object (in our case the individual). The provision of a map at the bottom of the STC facilitates viewers to perceive the starting, intermediate and end locations of *The Father’s* migration. Multimedia data (interview texts, video clips, photographs) containing information about his experiences and feelings during migration are linked with branches to the STP (Figure 1).

This type of multimedia-enhanced presentation in an STC is called annotated STP (ASTP) (Li et al., 2010). In this study, the aim of the ASTP is to complement the individual’s spatial movements with documentary material. While the path itself (with the aid of the provided map) gives answers to the questions about location (*where* questions), the intention of the annotations (i.e. multimedia elements) is to allow viewers to answer *why* questions as well as bringing the human aspects into the viewer’s attention. Hence, the spatial and thematic features of the story are presented by the components of the Space Time Cube representation i.e. the map and multimedia elements. Together they reconstruct the migration story of the Kyrgyz father and to make the viewer aware about the geographical context of the narrative. Visual narratives like the one presented herein, promise a quick delivery of complex information which is more and more important in this age of “information overload” (Cartwright, 1999; Cartwright and Peterson, 2007). An initial user study (with analytical tasks, semi-structured interviews and eye tracking) that was conducted with six experts indicates that the issues of qualitative nature can be effectively explored using a visualization environment built in a GIS, and the expert attitudes towards the implementation has been positive (Russo, 2011). We believe that this study, therefore,

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also takes a step forward for an experimental process of knowledge transfer between research communities who typically work with either qualitative or quantitative data, but not necessarily with both.

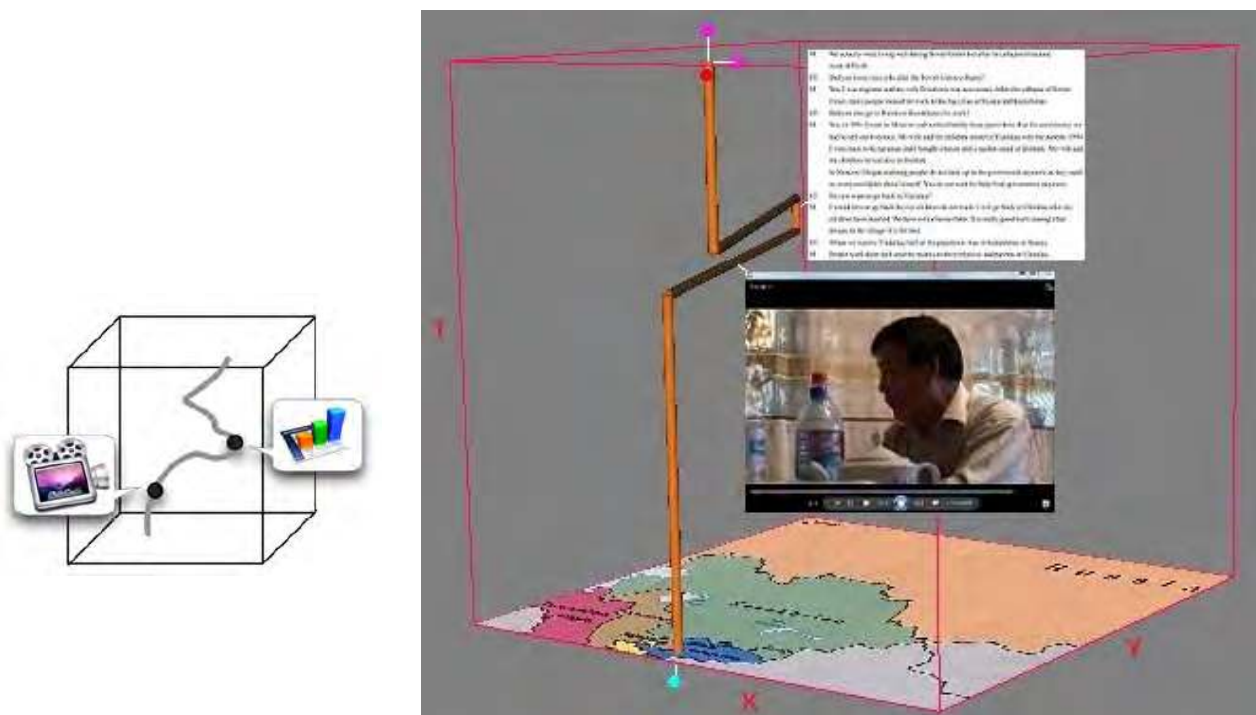


Figure 1. Left: Conceptual illustration of annotating an STP with multimedia representations (Figure from Li, Coltekin, Kraak 2010). Right: STP of *The Father* with two annotations displayed (interview script from the time and location and a video clip of him talking about his experiences)

Short movie concept

While the STC implementation is ready and we have an interactive multimedia implementation with the documentary story integrated, we are at the planning stages for a short movie (See Appendix 1). We imagine opening with an animated cartoon character falling from the top of the screen into a white and empty space (see Appendix 2). The cartoon character is surprised, he does not know where he is. The only object that is there is the above presented Space Time Cube. He is curious, he goes close to this cube. First he dives his head into the cube and looks around. Afterwards he makes a step into at the position of the available path. He is in an unknown space, he looks around and notices the map, the path and the circle (annotation). He touches the circle and suddenly a window containing a message opens near him. At first he is scared and hides behind the path. After a little while he comes out from behind the path. He takes the message from the annotation. What he reads further amplifies his curiosity and captures his attention. He looks up along the path. He decides to climb the path. During the climbing he looks down once to the bottom; the geographical position is recognizable by means of the map, so he takes a note of that by saying it out loud, however he is scared about the height he has gained. So he decides to not look down anymore. When the path is not vertical he walks on it. Arrived at

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the position of the next annotation he is tired. He sits on the path and he touches the circle. Again a window opens and he watches a brief video of *The Father*. He is interested in the story that is narrated. So he continues his adventure through the cube along the path and takes the messages from the annotations. Arrived at the end of the path and at the same time at the top end of the cube he leaves the cube in a satisfied mood and cracks a smile. He hides his hand behind his back and he takes out a board with the word "END" on it. That is also the end of the short movie.

Additional details about the movie concept

It is supposed that emotions (fear, surprise, tiredness, satisfaction) of the cartoon character are discernible by his gestures and mimics. While walking along the path the cartoon character may also change his appearance in terms of aging (e.g. getting grey hair and wrinkles) or changing his clothes (e.g. summer and winter clothes) to attest that the story goes through time (i.e. seasons and years). By getting the map on camera from time to time the viewers should perceive the geographical context of the story. The sound of the movie may contain the noises of the cartoon character (e.g. breathing, speaking) and sounds when for example touching the circles. Windows containing texts may be read loudly by the cartoon character.

A consideration of multiple perspectives

For the described STC implementation, we have recorded eye movements of a small number of people (six experts) as they used the visualization environment. As briefly mentioned earlier, we recorded the eye movements with the intention to study the user experience. However, for the short film, we also envision that these recordings can inspire an additional dimension in telling the experience of a character from 'his own eyes'. The eye movement recordings can be visualized via various plots (e.g. gaze plots, density maps), as well as animation/film (e.g. Figure 2). We consider using eye movement recordings to simulate the animated character's perspective. In the most basic sense, the idea is to display the gaze points of the character to signal the audience that this is where the character is looking and with this cue we know that we are now watching the scene from the character's perspective. We believe that mixing the gaze visualization as a metaphor for switching perspective may strengthen the storytelling aspect.

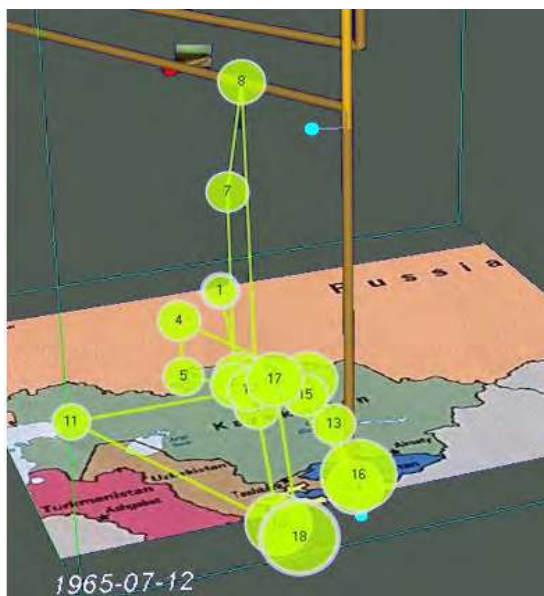


Figure 2. A gaze plot showing the viewer's perspective. The size of the circle indicates the length of the fixations (how long the person looks at the point). The numbers indicate the sequence (in which order someone views the scene). In video format, we can use a screen recording to instantly display the gaze location and duration as the viewer moves their eyes.

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Appendix 1

Storyboard (work in progress)

Below is a first draft of a storyboard for the short film can be seen below (to be further refined).

/*

Notes are in [[double brackets]]

Scene names are underlined

Transitions are in *italics*

*/

INT. WHITESPACE

François is falling in the centre of the screen.

> *Pan down and the horizon appears at the bottom of the screen*

François completes his fall and hits the ground.

François gets up, shaken.

François looks around puzzled

PAN RIGHT TO:

INT. WHITESPACE - CUBE DISTANT

[[Where is the cube in relation to François? Right or Left? Level, behind or in front?]]

François sees the cube and is surprised by it.

François walks towards the cube.

INT. WHITESPACE - CUBE CLOSE

François dives his head into the cube and looks around

CUT TO:

INT. CUBE START

Appendix 2

Animation (work in progress)

An animated character (we call him François) is being developed using the 3D animation software Poser (Figure 3). Sounds are also being developed for François’s expressions and speech.

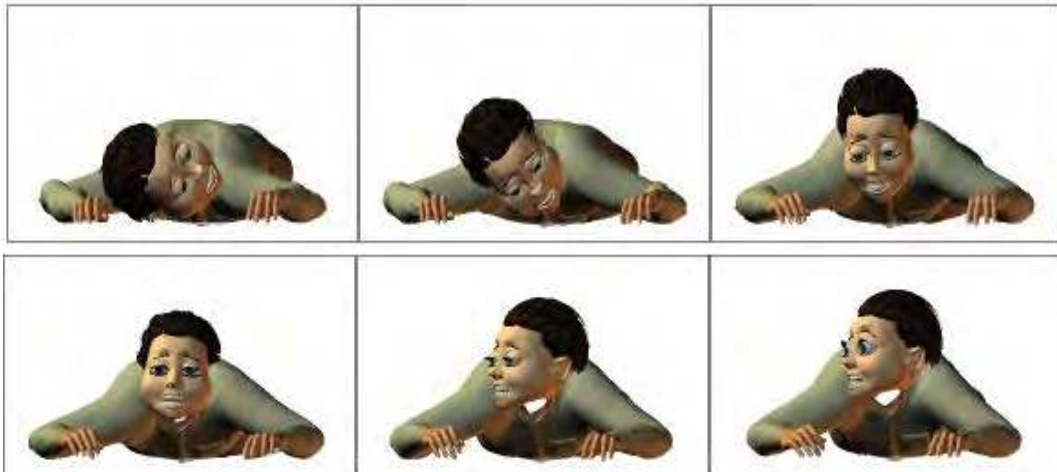


Figure 3. Screenshots displaying a few different movements of the animated character.

Narrative of a personal geography of warfare

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Abstract

Maps represent geography, including geographies of warfare. They range from simple notations of immediate battle plans to elaborate full-colour printed or computer-delivered products. They strive to show the terrain and elements of and on that terrain that has or will perhaps determine the outcome of a military engagement.

The unfortunate consequence of any military engagement is the loss of life. Those individuals whose sacrifice is generally lost in the accounting and reporting generalization of warfare 'disappear' without their contribution to a battle – and the individual's departure from family and loved ones, related training, preparation, transportation, preparation for battle and aftermath. Their stories are not recorded on maps produced to represent a campaign – these maps are impersonal.

The 'geography' of military campaigns can be represented by the assembly of many personal geographies of that campaign – the assembled experiences of military and civilian populations that were directly involved in action or personally effected by the outcome – either directly or indirectly. But how best to 'map' these personal geographies of warfare?

The geography portrayed in most maps of military campaigns does not provide any information about the personal geographies of a campaign or battle. These elements are missing. Personalisation is impossible when immediate geographical information is required to be represented prior to a battle or afterwards, as a record of the actual clash and its aftermath.

Personal geographies can be used to give an insight into the human stories of traveling to battle, the preliminary movements, the battle itself and combatant's reflections on what has happened. Mapping personal geographies can be done by assembling a montage of geographically-related artefacts, notes, annotations and maps that individuals have used to record their thoughts, feelings and reflections.

This paper provides an insight the personal geography of an Australian soldier who lost his life at the Gallipoli campaign in World War I. For Australians, this was a most significant campaign and troops from the relatively new nation of Australia fought and lost their lives far from their Antipodean home. In Australia the 100th anniversary of the campaign has generated much interest and a number of projects have begun to commemorate and better understand the national and personal sacrifices made by Australia and Australian. The initial work related to representing personal geographies of warfare reported in this paper is one of the first steps that the author is making to make a small contribution to Australian endeavours linked to the 2015 anniversary of the Gallipoli campaign.

The paper elaborates on the development of a 'geo-historical album', built from records and artifacts of one individual that volunteered, fought and lost his life in the campaign in the Dardanelles. It describes the concept behind building geo-historical albums, how data and information was collected and procedures used for building albums. It then provides information regarding examples of future albums that can be constructed from personal geo---related artifacts and information used by politicians, soldiers, sailors, nurses and support personnel, who used such information to make their personal assessments, records and reflections about the Gallipoli campaign. Finally, the impact of these personal geographies of warfare is reported.

William Cartwright

William Cartwright is Professor of Cartography in the School of Mathematical and Geospatial Sciences at RMIT University, Australia. He joined the University after spending a number of years in both the government and private sectors of the mapping industry. He is Chair of the Joint Board of Geospatial Information Societies and Immediate Past--President of the International Cartographic Association. He is a Fellow of the Royal Geographical Society, a Fellow of the British Cartographic Society, an Honorary Fellow of the Mapping Sciences Institute Australia and an Honorary Fellow of the Surveying and Spatial Sciences Institute. He holds a Doctor of Philosophy from the University of Melbourne and a Doctor of Education from RMIT University. He has six other university qualifications – in the fields of cartography, applied science, education, media studies, information and communication technology and graphic design. He is the author of over 300 academic papers. His major research interest is the application of integrated media to cartography and the exploration of different metaphorical approaches to the depiction of geographical information.

To begin

In June 2009 I was undertaking research to ascertain the availability of maps and geographically---related information that was produced by France during their involvement in the Gallipoli landings and subsequent battles. This involved visiting the Service Historique de la Defense, Department de l'Armee de Terre Division, Château de Vincennes

in Paris. Archivists Madame Marie-Anne de Villèle and Mademoiselle Ponnou had prepared some documentation for me prior to my arrival and they noted that one particular archive publication, *Inventaire Sommaire des Archives de al Guerre 1914-1918*, Ministère d'état Charge de la Defense Nationale (Nicot, J. et al, 1972), a general reference to the Service Historique de la Defense, Department de l'Armee de Terre Division collection might provide the key to accessing appropriate documentation stored in the archive. The publication provided a comprehensive catalogue to artefacts in the archive up to 1972. This included maps and other geographically---related documents. The section of interest to research into the French involvement in the Gallipoli campaign was “Grandes Unites Françaises d'Orient and Commandement des Armees Allies en Orient - Corps Expeditionnaire d'Orient (C.E.O.) (22 February to 4 October 1915) puis Corps Expeditionnaire des Dardanelles (C.E.D) (4 October 1915 to 6 January 1916).”

Recorded in the *Inventaire Sommaire des Archives de al Guerre 1914-1918* was the contents of all of the archive boxes stored at the Service Historique de la Defense, Department de l'Armee de Terre Division at Château de Vincennes. I was provided with five dust-covered boxes from the archive that held maps and other documents.

One particular box – Box 20N33 – contained official military maps, sketches and reports. But this box also contained one additional document – a commercially-produced *Colour map of Europe and Turkey*, folded and reinforced with linen at the folds (Figure 1). It did not fit with the other documents.

This map had been annotated with 'travel line' from Paris to Marseilles to the Dardanelles by its possible owner, H. Barrot. (This name was noted on the verso (Figure 2).) The map had a pencil line drawn over the shipping lines that were included in the map. It traced his journey from Paris to the Dardenelles. It was a record of Barrot's involvement in the preliminary movement of troops before the landings at Gallipoli. This representation shows part of Barrot's personal geography of the campaign.



Figure 1. Annotated map of Europe and Asia Minor.1.

Source: Service Historique de la Defense, Department de l'Armee de Terre Division, Château de Vincennes, Paris. Image: William Cartwright. 29 June 2009.

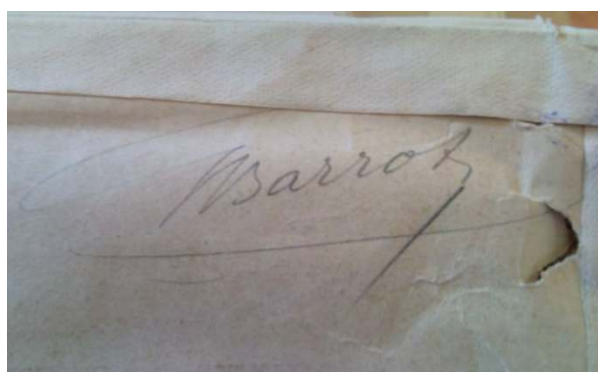


Figure 2. Barrot's signature on verso.

Source: Service Historique de la Defense, Department de l'Armee de Terre Division, Château de Vincennes, Paris. Image: William Cartwright. 29 June 2009.

The annotations showed the overland trip to Marseilles [by train?], then the sea voyage from Marseilles to Bizerte, Tunisia and then between Sicily and Malta following regular shipping lanes and then south of Crete and finally turning to sail north to a point (marked 'E', by hand) to a point just to the east of Lemnos (Figure 3).

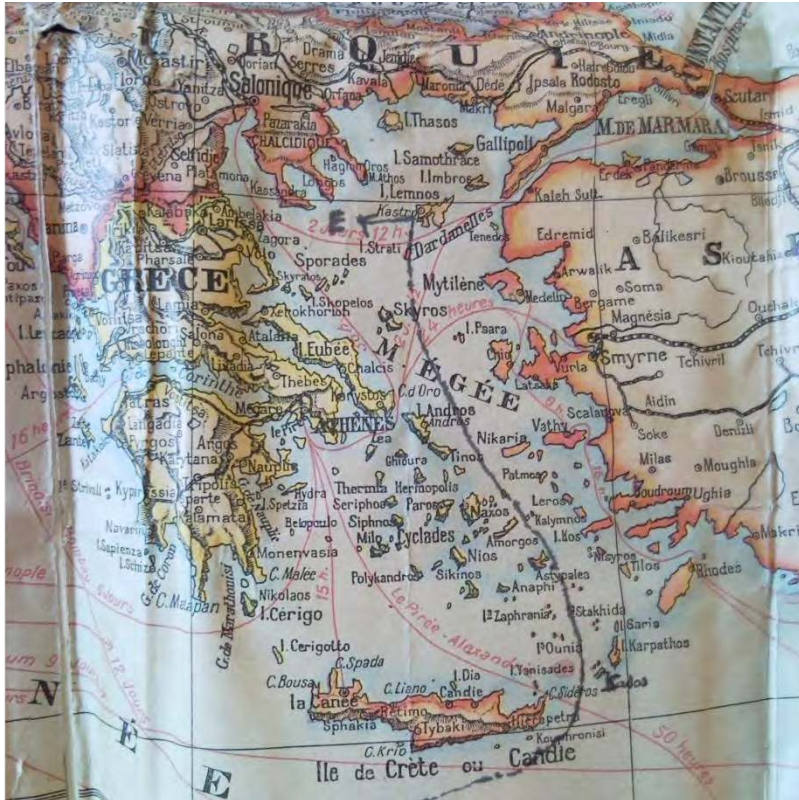


Figure 3. Turning to sail north to a point (marked 'E', by hand), just to the east of Lemnos.
Source: Service Historique de la Defense, Department de l'Armee de Terre Division, Château de Vincennes, Paris. Image: William Cartwright. 29 June 2009.

What appears to be a sketch map (Figure 4) is also on the verso. This map is yet to be deciphered.



Figure 4. Sketch map on verso. Contents to be deciphered.
Source: Service Historique de la Defense, Department de l'Armee de Terre Division, Château de Vincennes, Paris. Image: William Cartwright. 29 June 2009.

A personal geography of Gallipoli – John Henry Cartwright

I have a personal interest in developing a methodology for presenting a personal geography of warfare. My great uncle, the brother of my paternal grandfather was killed in the 'Gallipoli' campaign of World War I. His name is John Henry Cartwright. This campaign, which took the lives of many soldiers of the new nation of Australia, is remembered in Australia as when Australia became a nation in its own right – independent of 'mother England.

Like many Australians of his generation, John Henry Cartwright enlisted in the Australian Imperial Forces (AIF) to serve 'King and Country'. He joined the AIF at 31 years of age and he traded his job as a farm hand in Korumburra, rural Victoria, for one where tools of warfare were exchanged for tools of agriculture.



Figure 5. A call from the Dardanelles. Coo-ee – Won't you come? Enlist now. 1915
National Library of Australia. nla.pic-an7697011-1

Sydney : Defence Department of the Commonwealth, [1915?] 1 of 20 posters : col. ; 101.5 x 76 cm.
or smaller. Part of Collection of World War I posters by various Australian artists [picture].

Melbourne : A.Vaughan, Government photolithographer, [1915?]

<http://nla.gov.au/nla.pic-an7697011-1>

His route to the Gallipoli campaign took him from Korumburra, to the Broadmeadows training camp, to Egypt, Greece and then to the Dardanelles. He arrived in Turkey, on the Gallipoli Peninsula with the 14th Battalion of the AIF and it was here that he met his fate – missing in action 18 August 1915, later reported killed in action.

The Australian War Memorial, in Canberra, has digitized the records of all Australians who served in World War I. It was in these on-line archives that I was able to find out the story of John Henry's 'personal geography of warfare' – one that stretched from a small Australian farming and timber town to his final resting place in Turkey. An investigation of these

resources found original AIF records, reports from the Red Cross that formally established his demise, to the records of the posthumous awarding of military medals to his family. Some of these records are shown in figure 6.



Figure 6. Selected records for John Henry Cartwright, 14th Battalion AIF.
Source: Australian War Memorial.

CARTWRIGHT. On the 8th August, 1915, killed in action in Gallipoli (previously reported missing), Private John Henry Cartwright, 14th Battalion, A.I.F., of Korumburra.
A soldier, yes, and a hero too:
He played a man's part through and through;
His actions speak, though his voice is still;
Forget him, no we never will.
—(Inserted by his loving sister and brother-in-law, H. and G. Harrot, Colac.)



Figure 7. Family notice – *The Argus* (Melbourne), August 8, 1917.
Source: *The Argus*, 1917. Notices Wednesday August 8, 1917. Trove, National Library of Australia.
<http://trove.nla.gov.au/ndp/del/page/396306?zoomLevel=1&searchTerm=John%20Henry%20Cartwright%20Korumburra&sea>
Web page accessed 13 May 2012.



Fig. 8a.
The entrance to the Dardanelles to the Strait of Gallipoli. Source: http://www.firstworldwar.com/photos/graphics/gw_dardanellesentr_01.jpg (free online download)



Fig. 8b. 0939-Map-Of-Gallipoli-Kurija-Dere-Koia-Dere 1915, Scale 1:20,000. Source: MAPCO -Map and Plan Collective Online. <http://archivemaps.com/mapco/kurijadere/kurjadere.htm>. (Free online download)



Fig. 8c. Standfords Geograph. Anzac Cove. Source: Heritage Hist <http://www.heritage-history.com/books/massfield/gallipol> (online download)

In building the personal geography of warfare for John Henry Cartwright, these records, and other records, maps and imagery, like those shown in figures 8 a---c will be used as resources to build a geographic narrative to 'map' this personal geography.

Geographical narrative

This 'personal geography' can be 'mapped' in different ways using interactive integrated media. It can 'map' not just the physical geography of a terrain or landscape, but also more personal, human geographies as well. Constructing personal narratives of geography using interactive integrated media can enhance and personalise geographic information. Some users may wish to be 'told' a story while they view map or graphical depictions on a screen. The narrative can be presented using timelines or by presenting multi---screen artefacts.

This type of product falls into the category of oral storytelling, whereby using experts gives authority from lived experience. Authority is given to the information telling due to the fact that the author is absent and therefore the artistry used in communicating with words gives the story credibility. This has mostly been done using the medium of print. However, digital delivery gains authority and credibility by the ability and skill used to write and author packages and generally mastering the medium. Content is important, but the context is coloured by the authority of the 'teller'.

For geography, stories can just provide statements of facts, where no embellishment is required and the user only wants to know 'the facts'. These facts can be stand---alone, or supported by 'on-line' experts who are able to give expert opinions on the geographical space being explored. It may be a narrative, where a documentary---type video, supported by a comprehensive, and interactive, narrative can 'walk' a user through 'unknown territory'. Users may construct their own story, or be 'talked' through an area, where they construct a story using programme support materials and aural navigation aids. Finally they may decide

that they wish to experience a landscape by investigating a 'personal landscape' by being told a story. The underlying concept behind this project is to build a personal landscape.

Building the geographical narrative

An effective design strategy would allow users easy and structured access to comprehensive map and graphics sets and complementary textual, audio and video support materials. Using multimedia, users can aggregate or disaggregate the screen image and select displays containing both analog and digital outputs --- allowing for a display to be 'assembled' by users which best suits their own particular needs or the need of the map use task at hand. Users can see exactly what they want to see, the system becomes transparent and can be used without the need to consider usage restrictions.

When producing conventional mapping products the terms of scale, symbolisation, classification and generalisation are used to define the amount of information provided and the detail illustrated. It is argued that the same terms can be applied to Geographical Storytelling, whereby the stories are geographically referenced and 'scaled' and their contents classified and generalised (ie more generalised stories developed). Methodologies will be developed and trialled so as to provide 'best practice' guidelines for building such products. For example, when using scale the amount of detail that a story provides is determined by the scale chosen. A very small scale will cover a large area, but only provide general details. At a large scale a much smaller geographical 'footprint' is made, and the story provided will contain much more detailed text. Accordingly, scale determines how much a reader can 'zoom' into a story. Similarly, how information is symbolised dictates the genre of the story. Classification allows for similar stories to be clustered and assembled in a hierarchy. Generalisation is directly related to scale – the smaller the scale the greater the generalisation of the storytelling.

This investigation will use geographically---referenced interactive integrated media artefacts to tell this particular story --- a personal geographies – about one individual who participated in the Gallipoli campaign. It will address the methods needed to intertwine real geographies with personal geographies. Also, it will build and test a 'proof---of –concept' product that will be used to link geo---referenced significant landscapes, places and art that can be used to 'ground truth' the collection of personal geographies – building a narrative that is linked to space and place. This product will be built with a contemporary integrated media

'montage'---building tool that can be employed to navigate through the narrative 'place' and to link between the personal and physical geographical spaces, providing insight into an individual's part in a campaign, where the wholesale weight of warfare and the war 'machine' can hide individual sacrifices.

Prototype

The prototype is being developed using the *Timeline* package from VeriteCo.

Narrative of a personal geography of warfare – William Cartwright

The first attempt to build the *Timeline* was done using the spreadsheet template provided by the software provider. Whilst easy to use, the methods was far from satisfactory. The spreadsheet proforma, to which the developer replaces sample information with actual project information, is shown, below, in figure 9.

Start Date	End Date	Headline	Text	Media	Media Credit	Media Caption	Title Slide
1884		Born - Newtown, Sydney	John Henry Cartwright was born in Newtown, Sydney.	http://www.sydneysa-a-histories/133-newtown-1892-22-a-social-sketch?showall=1	Beard, J., 1893. "NEWTOWN 1892-1922: A SOCIAL SKETCH". http://www.sydneysa-a-histories/133-newtown-1892-22-a-social-sketch?showall=1	Newtown Post Office 1892	start
1912	01.10.1914	Korumburra, Victoria.	Joined AIF. Signed "Attestation Paper of Persons Enlisted for Service Abroad". Took oath to King and Country.	http://www.flickr.com/photos/1952641mp0082/	David Syme and Co. Illustrated Australian news. May 1, 1893. Item held by State Library of Victoria	Views around Korumburra	Korumburra
01.10.1914	01.10.1914	Korumburra, Victoria.		http://www.slv.vic.gov.au/pic-asa/1952641mp0082/	Zach Weasverite co	Township of Korumburra, Parish of Korumburra, Counties of Buir Buir and Mornington / photographed at the Department of Lands and Survey Melbourne by J. Noone 24.11.87 ; R.C. Macey, draughtsman	
24.11.1887	24.11.1887	Toenship of Korumburra, 1887	Cadastral map from the Department of Crown Lands and Survey, Victoria. 1887.	http://www.nls.gov.au/pic/nls-map-m/2/6/2-1-g	Victoria, Dept. of Crown Lands and Survey	Noone 24.11.87 ; R.C. Macey, draughtsman	
12/1/2011 0:00:00	12/1/2011 0:00:00	SoundCloud — Lotus Flower - SBTRKT RMX on BBC		http://soundcloud.com/lotus-flower-sbtrkt	Radiohead	Edwin Land on BBC	
12/7/2011 0:00:00	12/7/2011 0:00:00	YouTube — Edwin Land		http://www.youtube.com/watch?v=3C-Cy5n1D4Y			
12/14/2011 0:00:00	12/14/2011 0:00:00	A Tweet		https://twitter.com/#/https://maps.google.com/maps?geo=40.758176,-87.629844&zoom=0			
12/22/2011 0:00:00	12/28/2011 0:00:00	Google Map	Just put a link to the map. Nothing fancy, just a link.				

Figure 9. Timeline development spreadsheet.

This approach was abandoned and the user interface developed by Chris Marmo, from RMIT University, was employed. Chris has programmed an interactive interface that generates the timeline online.

This methodology will be used in the Zurich workshop to further develop the narrative. The 'work in progress' is shown below:

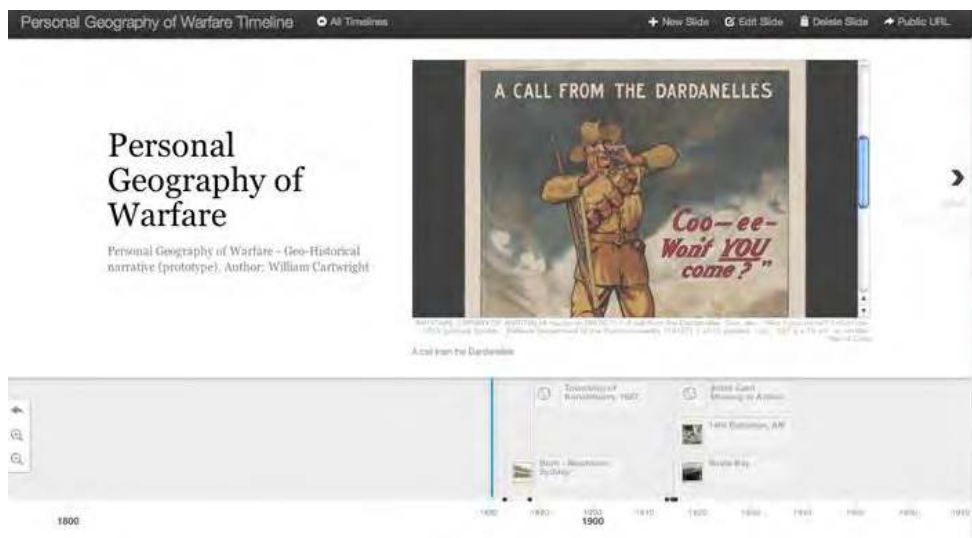


Figure 9. Personal Geography of Warfare Timeline.

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<Http://proquest.umi.com.ezproxy.lib.rmit.edu.au/pqdweb?index=76&did=524843031&SrchMode=1&sid=1&Fmt=4&VInst=PROD&VType=PQD&RQT=309&VName=PQD&TS=1230866445&clientId=16532>

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Travers, T., 2001b, "The Ottoman Crisis of 1915 at Gallipoli", *War in History*, 8 (1), pp. 72-86. <http://wih.sagepub.com/cgi/content/abstract/8/1/72> Web page accessed December 30 2008.

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<http://proquest.umi.com.ezproxy.lib.rmit.edu.au/pqdweb?index=5&sid=1&srchmode=2&vinst=PROD&fmt=6&startpage=-1&clientId=16532&vname=PQD&RQT=309&did=738217001&scaling=FULL&ts=1230726095&vtype=PQD&rq=309&TS=1230726950&clientId=16532>

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Thank you to Chis Marmo, who kindly provided the interface that he has developed to the Timeline package.

Geocriticism, interdisciplinarity, and (re)mediated geographies: The Cultural Atlas of Australia⁽¹⁾

Jane STADLER & Peta MITCHELL

(1) This extended project outline is based on a chapter published in *Geocritical Explorations* (Palgrave MacMillan 2011). For further information, please see: Mitchell, Peta, and Jane Stadler “Redrawing the Map: An Interdisciplinary Geocritical Approach to Australian Cultural Narratives.” *Geocritical Explorations: Space, Place, and Mapping in Literary and Cultural Studies*. Ed. Robert T. Tally. New York: Palgrave Macmillan, 2011. 47–62.

Project abstract

The Cultural Atlas of Australia (CAA) is an Australian Research Council (ARC) funded digital geohumanities project that digitally maps representations of iconic landscapes and sites across Australian literary, theatrical, and cinematic narratives. The CAA has just entered its second year, with 2011 seeing the project team working to build a pilot digital map (accessible at <http://australian-cultural-atlas.info/CAA/>), preliminary data set, and database.

The CAA was conceived by an interdisciplinary team of researchers interested in spatio-cultural research: Jane Stadler, from film studies; Peta Mitchell, from literary studies and cultural geography; and Stephen Carleton, from theatre studies. The digital map treats films, plays, and novels together, thereby revealing patterns of representation across these cultural narrative forms. As spatio-cultural researchers, our main interest in developing this digital map lies in the way in which the map has the potential to suggest new ways of thinking about location and landscape and to break down traditional typologies of Australian space.

The central problem this project tackles is the troubled relationships among space, place, landscape, narrative, and nation in the context of Australian Studies. In what ways, we ask, is the experience of place mediated in Australian film, literature, and theatre? We argue that existing analysis tends to be framed by generalised concepts such as ‘the bush’ and typically focuses on just one disciplinary area. In this respect, geospatial visualization and mapping technologies are indeed integral to our research question. Our digital map visualises new perspectives on, intersections between, and layerings of geographic and textual information that will in turn enable us to identify regional tropes, patterns, and gaps in spatial representations that may not have previously been evident in research that

focused on isolated case studies of individual texts, whether literary, cinematic or theatrical. Our use of digital mapping offers fresh ways of tackling enduring questions and texts in the field of Australian Studies by developing new categories and techniques of spatial analysis to advance established landscape research.

Introduction

Space, place, and landscape are longstanding themes in Australian literary and cultural studies, and, from the colonial era to the present day, Australian cultural narratives have proven fertile ground for spatial analysis. In his influential 1986 book on Australian film and literature, *National Fictions*, Graeme Turner argues that narrative forms are, in the Australian context, profoundly tied up with national myths of land, landscape, and identity. Moreover, Turner argues, Australian filmic and fictive texts “invite us to accept that the land is central to a distinctively Australian meaning” (30). This concept of the “land producing its literature” has, he continues, in turn influenced both Australian literary and film criticism, though the former more strongly than the latter (30). This carries through into theatre for, as Joanne Tompkins argues in her landmark study *Unsettling Space*, spatial tensions driven by anxieties about contested land, nationalism, colonial settlement, and Aboriginal reconciliation play out as narratives on the Australian stage, where the performance of nationhood and identity is dramatically enacted: “Australian theatre not only contests conventional Australian history and culture; it also stages alternative means of managing the production of space in a spatially unstable nation” (5).

One reason for this emphasis on spatial enquiry in Australian cultural studies is the fact that, as Allaine Cerwonka has noted, Australian history has traditionally “been imagined in relation to geography. Its history testifies to how colonisation largely depended on spatial practices that shaped the landscape” (6). In his *Geographical Imaginations*, Derek Gregory points out the interrelationship between imagination, geography, and spatial politics, and nowhere has this been more evident than in the mapping, naming, and colonisation of the Australian continent. Certainly, the iconic nature of Australia’s landform—its status as the “island continent”—affords it a singular place in the cultural-geographic imaginary, and one that has invited a textual-geographic reading of its history of colonisation.

In his seminal 1988 “essay in spatial history,” *The Road to Botany Bay*, Paul Carter argues that the continent’s “discoverers, explorers and settlers were making spatial history. They were choosing directions, applying names, imagining goals, inhabiting the country” (xxi). This process was, in itself, an exercise in spatial imagining, for, as Carter describes it, his concept of “spatial history” cannot simply be equated to the “geographer’s space”; rather, he says, what spatial history evokes “are the spatial forms and fantasies through which a culture declares its presence. It is spatiality as a form of non-linear writing; as a form of history” (xxii). Following Carter, Simon Ryan argues that the process of Western exploration effectively “reified” the Australian landscape as a “blank text, ready to be inscribed by the impending colonial process” (126). This textualisation of the landscape has in turn been played out in Australian cultural narratives, and particularly in Australian literature. Indeed, according to Martin Leer, the “evocative power” of Australia’s

cartographical image may be the reason why “Australian literature has been more diligent in literally, metaphorically and self-consciously mapping the continent than almost any other old or emerging national literature” (1).

Carter and Ryan’s work exemplifies the spatial focus that has typified Australian cultural studies—a focus that received new impetus with the “spatial turn” identified by Edward Soja and Fredric Jameson in the late 1980s and early 1990s.¹ Across Australian film, literary, and theatre studies, spatial enquiry—or approaching texts from a spatial/geographical perspective as well as from a temporal/historical one—has become increasingly important since the 1980s. Yet, despite the centrality of space as a theme in Australian film, literature, and theatre research over the past 30 years, very little research has been done to bring these strands of spatial enquiry into dialogue. In this chapter, we trace the largely separate—and until now unmapped—traditions of spatial enquiry in literary geography, film geography, and Australian film, literature, and theatre studies, and we suggest ways in which the concept of “geocriticism” might provide a unified approach to examining how place is depicted and translated across media forms. Finally, we discuss how a geocritical method might be applied to an interdisciplinary and multi-modal research project examining representations of Australian landscape and locations.

Geo/critical traditions: Literary geography, film geography, and traditions of spatial enquiry in Australian literary, film, and theatre studies

As we note above, although spatial enquiry has been a preoccupation for Australian literary, film, and theatre studies since the 1980s, very little research exists that has brought these strands into dialogue to examine how spaces are depicted and translated across media forms. This lack of inter-media spatial analysis within Australian cultural studies is partly a question of disciplinary politics—and the question of literature’s primacy is at the fore. As Graeme Turner argues, “[t]he problem of making links between film and fiction [...] lies in the fact that historically, film has [...] been treated as a literary text,” and the “application of literary criticism to the analysis of film” has resulted in the privileging of “the literary text—by valorising those of its functions which are difficult to reproduce on screen” (14).

Each of these disciplinary traditions brings its own particular strengths to the study of narrative fiction: literary studies and literary geography enable a more complex discussion of relationships between language, representation, space, and place; film geography brings critical distinctions between land and landscape and theoretically informed understandings

¹ See Edward Soja, *Postmodern Geographies: The Reassertion of Space in Critical Social Theory* (London: Verso, 1989) and Fredric Jameson, *Postmodernism, or, The Cultural Logic of Late Capitalism* (Durham: Duke UP, 1991).

of the production of place as spectacle, metaphor, and cultural artefact while film studies brings questions about screen aesthetics, spectatorship, and the cinematic articulation of varied, ideologically charged perspectives on landscape; and theatre studies brings the staging of space into the frame.

If we accept, broadly speaking, that all of the approaches have developed in response to the “spatial turn,” that in their current forms they all hinge on the same body of theoretical knowledge, and yet that they have had little or no direct bearing upon one another, then I’d argue we need to start thinking about methodology, and this is where Bertrand Westphal’s concept of geocriticism may become useful both to our project and to interdisciplinary or intermedial projects more broadly.

Geocriticism

Given the long history of critical spatial analysis, the term “geocriticism” is a surprisingly recent coining, arising out of the work of Bertrand Westphal (2007) and Robert T. Tally (2008). As Tally defines it, geocriticism is a predominantly literary-critical methodological “framework that focuses on the spatial representations within [literary] texts” while also “explor[ing] the overlapping territories of actual, physical geography and an author’s or character’s cognitive mapping in the literary text” (4). Acknowledging that his approach differs in some respects from Westphal’s, Tally explains their shared interest in examining the relationship between the dimensions of the real and the imagination, between the referent and representation (4).

In Westphal’s *La Géocritique*, geocriticism emerges as a multifocal and dialectical method of analysis. Indeed, the principle of geocritical analysis, Westphal argues, lies in “the confrontation of several views that correct, feed, and enrich each other” (187). Geocritical representation “emerges from a rich and varied spectrum of individual representations,” and each representation must be treated in a “dialectical process” in keeping with geocriticism’s plurality of viewpoints (187–88). This dialectical process carves out a “common space, born in and out of contact with these different points of view” (188). Finally, Westphal is adamant that geocriticism is a fundamentally *interdisciplinary* approach (197–98).

For our project, we see the value of a geocritical approach in the way that it moves beyond the examination of space in literary narratives, or the analysis of location in film or theatre. It is a theoretical framework that informs various modes of textual analysis and foregrounds the significance of geography to culture without privileging any particular textual form. Geocriticism, therefore, enables us to grapple with adapting spatial representations across various media forms. As such, a geocritical approach may prove germane to media geography, itself a recent development within the interdisciplinary field of human geography, which has undergone, as Tristan Thielmann puts it, a “media turn” to complement media studies’ spatial turn (5).

In the context of Australian narrative fiction, and in developing our Cultural Atlas of Australia, we are interested in investigating the ways in which film, literature, and theatre

are at once mediated and remediated. Cultural narratives not only mediate and represent space, place, and location, but they are themselves mediated representational spaces. Furthermore, films, novels, and plays also open themselves up to further remediation in the form of cross-media adaptation, or, as we will argue, spatial analysis in the form of geovisualisation. Where geocriticism offers a response to the striking lack of dialogue between different traditions of spatial research in the humanities, many of which focus on common texts and locations, recent technological developments in digital cartography make it possible to visualise some of these intersecting concerns and varied perspectives and to map the ways in which spatial storytelling ‘enacts,’ ‘produces,’ and ‘translates’ space across different media.

Digital cartography and geocriticism in practice

In this sense, interactive online mapping is one way in which geocriticism can put into practice its capacity to reframe understandings of place and space by revealing connections between separate strands of spatial enquiry. According to William Buckingham and Samuel Dennis the development of open source mapping tools, such as Google Maps, has generated much interest in the use of maps for “understanding ‘non-mapped’ phenomena (e.g., qualitative data or localized community information and knowledge),” and this, they continue, articulates well with the sociological perspectives that have influenced the discipline over the past two decades (55). This is, as Buckingham and Dennis argue, a “new world of spatial information,” promising increased dialogue among cartography, geography, the humanities, and citizens (61).

At the same time, there has been a surge of popular and critical interest in linking online mapping with narrative. This manifests most obviously in a rash of “movie maps” and “literary atlases,” cultural mapping projects that are (as far as our research has shown), inevitably limited to one kind of text—usually either films or novels. Where geocriticism encourages dialogue among discrete traditions of spatial analysis, geovisualisation and interactive mapping have the added benefit of rendering this work accessible to a broader audience. We envision that the map will not only be a cultural information resource, but that it will also be participatory, incorporating user-generated content. As a research tool, the map will be fully searchable (by medium, location, theme, author, and text) and will enable users to generate and export their own maps with information they require. For instance, users of the Cultural Atlas might generate a map of all locations featured in the novels of David Malouf for a cultural tour of literary sites, or a map of plays, novels and films set in central Australia. The map’s temporal dimension will enable users to plot successive adaptations of a text and identify multiple texts set in the same place. These functions have the capacity to reveal how cultural meanings accrue on the landscape, and how our relationship with, and understanding of, the natural and cultural environment changes over time. The possibilities for incorporating participants’ photographs, videos, and textual accounts of Australian places via mobile social computing technologies opens up still more opportunities for the representation of multiple perspectives.

Geovisualisation certainly offers the potential to open up new questions for spatial analysis and to encourage broader public engagement in cultural geography. However, as a form of remediation, it does carry its own representational problems. In film, literature, and theatre, the representation of space and place can never simply be mimetic, but always, to a greater or lesser degree, creates an imaginative geography that may correspond to what Barbara Piatti calls the “geospace” (or map space) directly, only loosely, or not at all (182). Bringing film and theatre space into the analytical frame carries its own set of complexities and ambiguities: film requires attention to the relationship between narrative locations and shooting locations, while drama brings questions of performance and dramaturgical space. Beyond the question of impreciseness, we must also remain aware that the remediation of narrative locations is not simply a matter of re-presenting narrative locations in map form, difficult though that process might be in itself; the process of re-presenting narrative locations, too, is a process of imagining and re-imagining geography that, by its very nature, must also be political. In creating our cultural atlas, we have needed to continually ask questions of it: *Whose* geography does it represent?; how can we foreground multiple perspectives, given that the map space privileges an omniscient viewing perspective?; and how might the technology and database structure both enable and limit forms of spatial representation?

A vital question for our project has been considering what spaces, locations, and forms of spatial knowledge might be overlooked. Especially in regard to Indigenous perspectives, it is not a straightforward matter of making visible the invisible because complex issues surround the representation, naming and mapping of sacred or culturally sensitive sites. These questions are themselves all geocritical ones and they cannot, and should not, be elided.

Ultimately, then, geocriticism offers itself as a metacritical methodology that is particularly relevant for Australian cultural studies, but is also applicable to interdisciplinary spatio-cultural research more broadly. It recognises literature, film, and theatre texts as being more than representations, more than containers for narrative symbolism and ideological views and values, and this extends to any geovisualisation strategy that seeks to map those texts. Such texts are also generative—productive of meanings, social relationships and subject positions. Tom Conley argues in *Cartographic Cinema* that cinematic images “produce space through the act of perception” (20); similarly, theatre stages and enacts space and literature imaginatively invokes space in ways that subsequently inflect the meanings readers associate with actual places. Where geocriticism enables analysis of locational information in narrative fiction informed by insights from geography as well as literary and cultural studies, it also builds from the premise that such texts intervene in the cultural field and alter the perceptual, ideological, political and practical orientation of readers and audiences in relation to the physical environment

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Archaeology of the geographical imaginary of Julien Gracq : Underneath the maps of "Le rivage des Syrtes"

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Abstract

Archeological work requires patience and takes time and humility during phases of interpretation. Many errors are necessary before being able to access the hidden meaning of things. In this paper I propose to develop an archeology of the geographical imaginary of "*Le ravage des Syrtes*", the legendary novel by Julien Gracq published in 1951. Others before us have tried such an exercise (M. Brosseau, J.- L. Tissier, Y. Lacoste). Revealing the "underside of maps" means attempting to demonstrate that maps have a hidden and imaginary power, a fantasmatic, a fantastical and a legendary power that can be reached only by a geographical consciousness coupled with an advanced mastery of mapping. Not only Julien Gracq had these two qualities, but he was also passionate about maps, described as "*something really magical, with an inexhaustible wealth, for which you have to reveal the "obscure message" of an enigma which seems to rise slowly towards you*"(JR Vanney).

For Gracq as for Aldo, the central character of "*Le rivage des Syrtes*", maps are much more than just pieces of paper describing territories, with their limits, their frames, their colors, their symbols and toponyms. As it appears in the second chapter ("The maps room"), maps are not a simple representation of space, a conceptual, image-making and reducing illustration of Syrtes territories; they ARE the territory. They re-present it, that is to say they produce a new materiality to a territory that seems to disappear under the weight of an infinite and anxious expectation to an invisible enemy. Maps fill up a reality synonymous of vacuum, absurdity of limitless space, indefensible borders, lack of an unknown enemy, deafening but still threatening silence. If "*geography is first used to make war*" (Y. Lacoste), for Aldo maps are first used to gain power over territories. Inspired by a similar conviction, Julien Gracq confessed one day "*I feel like owning land or region when I look at maps*". Without maps, Aldo's existence itself takes the appearance of vacuum, without any reference to provide guidance, without scale to provide proportions. Aldo has a vital need of maps in order to access to a sense of geographical reality that is disappearing facing at endangered Farghestan. André Breton wrote "*Beyond what is happening or not, the wait is beautiful.*" For Julien Gracq, maps put material forms to the immaterial, due to

their evocative power. For Aldo, maps will allow him to reverse his perception of waiting, because they are carrying an imaginary able to make him transcending the feeling of a human being, who became almost unreal, in charge of a mission in a land and a war that is almost legendary.

Archéologie de l'imaginaire géographique de Julien Gracq : le "dessous des cartes" dans *Le rivage des Syrtes*.

Introduction

Toute archéologie exige autant de temps que d'humilité. Lorsque l'archéologue découvre, interprète et restitue, il doit s'attendre d'abord à faire des erreurs avant d'accéder, parfois, au sens le plus probable des découvertes. Il devra aussi accepter qu'il ne découvrira jamais qu'une infime partie de ce qui fut, parce que les vestiges ayant parfois résisté au temps ne révèlent qu'un aspect d'un monde passé, qui fut autant spirituel et idéal que matériel.

Proposer une archéologie de l'imaginaire géographique pour un auteur comme Julien Gracq est une entreprise que celui-ci n'aurait probablement pas apprécié, tant il était rétif à la critique littéraire (Gracq J., 1950, 1980, 1982). Nous tentons néanmoins de proposer une approche de son œuvre la plus connue *Le rivage des Syrtes* (Gracq J., 1951) à travers une « lecture archéologique » non pas de toute cette œuvre mais uniquement de la place des cartes dans celle-ci et de leurs « pouvoirs imaginaires ». Bien d'autres avant nous se sont essayés à voir derrière Julien Gracq le géographe ou l'écrivain-géographe (Leutrat J-L., 1972, Collectif, 1981, Lacoste Y., 1987, Plazy G., 1989, Murat M., 1994, Jourde P., 1991, Brosseau M., 1996, Tissier J-L., 1996, Pelletier J., 2001, Denis A., 2003, Vion-Dury J. et al., 2003, Collectif, 2010).

L'analogie entre l'analyse d'un roman comme *Le rivage des Syrtes* et le travail d'un archéologue est séduisante mais mérite quelques précisions tant sur le terme que sur ses principes et ses limites. L'archéologie au sens où nous proposons de l'employer ici, peut renvoyer d'abord à ce que Michel Foucault a proposé pour une archéologie des domaines de la connaissance. « *Ce qui s'offre à l'analyse archéologique, c'est tout le savoir classique, ou plutôt ce seuil qui nous sépare de la pensée classique et constitue notre modernité. C'est sur ce seuil qu'est apparue pour la première fois cette étrange figure du savoir qu'on appelle l'homme, et qui a ouvert un espace propre aux sciences humaines* » (Foucault M., 1966). Cette autre citation de Michel Foucault permet de préciser le sens dans lequel nous avons utilisé ici le terme d' « archéologie de l'imaginaire » de Julien Gracq « *L'objet est ce qu'en dit celui qui en parle. L'épistémè se heurte donc à l'histoire des idées, à l'histoire des sciences, elle est l'objet et le résultat d'une élaboration conceptuelle où « l'archéologie » remplace « l'Histoire »* » (Foucault M., 1966). Notons au passage que les rapports de Michel Foucault avec la géographie et les géographes furent à la fois distants, complexes, et nécessitèrent quelques textes et échanges avant, tardivement et seulement par moments, de rentrer en écho (Lacoste Y., 1987, Claval P., 1978, Caduff C., 2005, Fall J., 2005, Ruby C., 2005, Crampton J.W. et Elden S., 2007, Vuattoux A., 2010, 2011).

Il faut donc considérer ici l'archéologie de l'imaginaire de Julien Gracq comme une entreprise non pas pour interpréter le roman et trouver ce qui renvoie à la formation du géographe Julien Poirier, véritable nom de Julien Gracq (Carrière J., 1986, Tissier J-L., 1996). Il ne s'agit pas non plus d'identifier dans le texte du roman tout ce qui relève de connaissances propres au champ de la géographie, à une description des paysages, à une approche géomorphologique ou encore d'une vision environnementaliste de l'espace du roman (Brosseau M., 1996). Nous ne voulons pas nous approprier le texte du roman en le décortiquant pour en retrouver un hypothétique squelette géographique, en disséquant la richesse de son vocabulaire ni en le dépouillant de sa richesse sémantique ni en l'asséchant de son pouvoir imaginaire.

La géographie imaginaire de Julien Gracq dans *Le rivage des Syrtes* témoigne d'un pouvoir évocateur des mots, des phrases, qui se transforment peu à peu en une atmosphère et une sensation quasi charnelle d'une manière d'être dans l'espace et le temps des personnages du roman. C'est le cas en particulier pour Aldo auquel le lecteur est invité à s'identifier et, comme lui, à s'interroger d'abord sur des paysages, puis sur le temps qui passe et enfin sur lui-même en tant qu'être. A travers cette invitation à l'expérience sensible du monde doublée d'une interrogation sur l'être, se révèlent une des « couches archéologiques » dans la stratigraphie emboîtée et parfois complexe du roman de Julien Gracq.

Le rapport intime à l'espace d'Aldo ne se réduit pas à une simple description paysagère. C'est un cheminement personnel d'un éveil au monde par une perception de ce monde qui est devant lui dont la dimension géographique est aussi importante que la dimension temporelle. Il s'agit d'un monde imaginaire, dont il est vain de vouloir deviner des indices qui permettraient de trouver de quel pays et de quelle époque ils témoignent. Le roman ne se trouve dans aucune époque ni aucun lieu qui nous soit connu. Il est hors de notre monde et de notre histoire.

Mais les expériences faites par Aldo pourraient l'être devant n'importe quel autre monde qu'il soit réel ou non. L'œuvre de Julien Gracq invite aussi à trouver quelques fils tendus entre elle et d'autres œuvres. Parmi ces liens, qu'ils étaient été tissés par une influence directe ou par le fait d'un hasard d'une publication concomitante, on peut en citer deux auxquels que de nombreux auteurs et critiques littéraires ont déjà largement commentés : *Le Désert des Tartares* de Dino Buzzati (Buzzati D., 1949) et *Sur les falaises de marbre* d'Ernst Jünger (Jünger E., 1979). Il est d'autres œuvres avec lesquelles des rapprochements ont été proposés avec *Le rivage des Syrtes : La montagne magique* de Thomas Mann (Mann T., 1991) et plus récemment *En attendant les barbares* de J.M. Coetzee (Coetzee J.M., 2000).

Les liens entre *Le rivage des Syrtes* et *Le désert des Tartares* de D. Buzzati (Buzzati D., 2004), ont été souvent commentés (Tufféry C., 2012). Pour autant, du fait de la chronologie de l'écriture respective de ces deux œuvres, il semble que ni l'une ni l'autre n'aient été lues par leurs auteurs avant qu'ils écrivent les leurs.

L'influence de l'œuvre d'Ernst Jünger, avec lequel Julien Gracq se lia d'amitié jusqu'à la fin de leurs vies, est certaine, la première traduction ayant été publiée par Gallimard en 1942, alors que *Le rivage des Syrtes* a été écrit en 1949. Julien Gracq a proposé sa lecture du récit (Gracq J., 1989) « *Ce n'est pas une explication de notre époque. [Ce] n'est pas non plus un livre à clé où on [pourrait], comme certains ont été tentés de le faire, mettre des noms sur les figures inquiétantes ou imposantes qui se lèvent de ces pages. Avec plus de vérité, on pourrait l'appeler un ouvrage symbolique, et ce serait seulement à condition d'admettre que les symboles ne peuvent s'y lire qu'en énigme et à travers un miroir* ».

« *Les trois romans présentent de nombreux traits communs, quant à leur thématique — l'attente du barbare —, leur style — très descriptif et laissant peu de place à l'action, quoique celle-ci soit moins présente encore chez Buzzati et Gracq qui la chassent hors des bornes du récit — ou quant au monde qu'ils décrivent — trois univers imaginaires, au bord du rêve : la « Marina » et la « Campagna » chez Jünger, le « Royaume » et « l'État du nord » chez Buzzati, « Orsenna » et le « Farghestan » chez Gracq » (Wikipedia, 2012).*

Au-delà du *Rivage des Syrtes*, l'archéologie de l'imaginaire géographique de Julien Gracq peut se référer à certains des auteurs dont Gracq lui-même reconnut leurs influences sur la « fabrique » de son imaginaire : Stendhal, Edgar Allan Poe, Jules Verne, Franz Kafka, André Breton bien sûr sur lequel Julien Gracq écrivit un texte (Gracq J., 1989) considéré par Bernhild Boie, la légatrice testamentaire de Gracq, comme « *le plus beau, le plus subtil et le plus rigoureux des ouvrages consacrés à l'écrivain André Breton* ». Il faut aussi citer Albert Camus et René Char, à propos desquels Julien Gracq écrivit « *J'ai connu un peu Camus en même temps que Char, dans les années d'après-guerre (...). Leurs ouvrages à tous deux me sont restés très proches, et l'éloignement dans le temps commence à rapprocher aussi, dans la signification de leurs œuvres, deux amis dont les silhouettes pouvaient sembler si différentes* » (Camus A. et Char R., 2007).

Enfin, il ne faudrait pas oublier de mentionner certaines figures de la géographie française comme E. de Martonne, qui fut son professeur, mais aussi P. Vidal de la Blache, celui du *Tableau de la géographie de la France* (Vidal de la Blache P., 1903).

Pour en revenir à l'archéologie de l'« imaginaire géographique » de Julien Gracq dans son roman, ce serait une erreur, à notre sens, de réduire cette œuvre à un simple roman géographique (Jourde P., 1991). C'en serait une autre, d'en faire un des modèles des romans géopolitiques, où les interrogations sur les relations des individus à l'espace se limiteraient à des relations de pouvoir et de volonté de domination sur les territoires par la présence de forces armées, dont la seule raison d'être serait d'occuper le territoire et de repousser un ennemi en cas d'invasion, même si cet ennemi reste invisible (Lacoste Y., 1987)

Et les cartes dans tout cela ?

Pour Gracq comme pour Aldo, le personnage central du *Rivage des Syrtes*, les cartes sont bien plus que de simples bouts de papier décrivant les territoires, avec leurs limites, leurs trames, leurs couleurs, leurs symboles et leurs toponymes. Dans le deuxième

chapitre intitulé "*La chambre des cartes*", les cartes ne sont pas une simple représentation de l'espace, une illustration imagière et réductrice des territoires des Syrtes face à ceux du Farghestan, ce territoire sorti de l'imaginaire cartographique de Julien Gracq, situé on ne sait où et qui devenu un des lieux mythiques de la littérature (Manguel A. et Guadalupi G., 2001). Par une sorte d'invention d'un nouveau paradigme cartographique, les cartes SONT le territoire. Elles le re-présentent. Les cartes sont une production conceptuelle et donne une nouvelle matérialité à un territoire qui s'est dissout dans l'attente d'un ennemi invisible. Ce sentiment est en partie lié à l'expérience de l'attente interminable du combat avec un ennemi annoncé mais jamais vraiment vu dont Julien Gracq fit l'objet de ses premiers écrits en 1940 (Gracq J, 2011). Les cartes mettent du plein "en lieu et place" d'un espace sans limites, de frontières impossibles à défendre, de l'absence d'un ennemi inconnu, au silence assourdissant mais toujours menaçant. Grâce aux cartes, Aldo retrouve du sens à une réalité qui semble en avoir perdu, car les cartes créent du sens, et ne font pas qu'aider à indiquer l'orientation des choses.

Si "*la géographie sert d'abord à faire la guerre*" (Lacoste Y., 1976), pour Aldo la carte sert d'abord à prendre le pouvoir sur le territoire, non pas un pouvoir militaire ou politique mais imaginaire. Habité par cette même conviction, Julien Gracq avoua un jour "*J'ai un peu le sentiment de posséder un terrain ou une région quand je regarde la carte*". En tentant une lecture foucauldienne du roman de Julien Gracq on pourrait reprendre la proposition Margo Huxley de mobiliser la notion de gouvernementalité comme « *un cadre pour l'analyse des cartes, pour les représentations et pratiques cartographiques ainsi que le fondement disciplinaire et régulateur qui influence la raison ou rationalité cartographique* » (Huxley M, 2007 in Crampton J.W, et Elden S., 2007, cité dans Vuattoux A., 2011).

Sans carte, c'est l'existence même d'Aldo qui prend l'aspect du vide, sans repère pour donner une orientation, sans échelle pour fournir des proportions. Aldo a un besoin vital de carte pour accéder au sentiment d'une réalité géographique en voie de disparition face au Farghestan. Dans *L'amour fou*, André Breton, écrivit "*J'aimerais que ma vie ne laissât après elle d'autre murmure que celui d'une chanson de guetteur, d'une chanson pour tromper l'attente. Indépendamment de ce qui arrive, n'arrive pas, c'est l'attente qui est magnifique*" (Breton A., 1976). Pour Julien Gracq la carte, par son pouvoir évocateur, matérialise l'immatériel. Pour Aldo la carte va lui permettre d'inverser sa perception de l'attente, parce qu'elle est porteuse d'un imaginaire capable de lui faire transcender le sentiment d'un être devenu presque irréel, chargé d'une mission dans une terre et une guerre devenues presque légendaires.

Extraire des morceaux géographiques du récit

Il n'y a eu aucun film réalisé à partir du *Le rivage des Syrtes*.

Cartographe des lieux du récit

Les lieux mentionnés dans *Le rivage des Syrtes* ne correspondent à aucun des pays, des régions, des villes, des zones géographiques réels et connus,. Ils proviennent de

l'imagination de Julien Gracq, même si cette imagination fut alimentée par les lectures de Julien Gracq et ses connaissances géographiques.

Conclusion

Révéler le "dessous des cartes" c'est tenter de démontrer que les cartes ont un pouvoir caché, un pouvoir imaginaire, fantastique, fantasmatique et légendaire auquel il n'est possible d'accéder que par une conscience géographique et ontologique doublée d'une maîtrise avancée des pouvoirs de la cartographie comme re-présentation du monde. Julien Gracq possédait ces capacités et ces qualités qui furent à l'origine de son attachement charnel à la carte, vue comme *"un objet vraiment magique, à la richesse inépuisable, dont il convient de déchiffrer "le message obscur" d'une énigme qui semble monter lentement vers soi"* (Vanney J-R., 2006).

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Mapping Fictional Routes

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I The Project – An Introduction

The following ideas are derived from an interdisciplinary project “A Literary Atlas of Europe“ where a team, consisting of literary scholars and cartographers, aims to visualise the places of fiction. My task as cartographer within this team was to build up a literary data model out of all desired, space---bounded properties and finally visualise each individual spatial element and find solutions for crowded data representations. Thereby we follow up the theory that Piatti developed in her book “Die Geographie der Literatur” [Piatti 2008] and assign each place to one of five categories, namely: Settings (this is where the action takes place), projected places (the character is not present but remembering the place or longing for it), zones of action (combined settings or projected places), marker (a just mentioned place) and routes (along the characters move).

II The Problematic – Fictional Routes

During work on this interdisciplinary project we apparently had the most discussions how to model and visualise routes. This is due to the fact that routes are more patchy than any other spatial literary element – for instance recognising an ‘Scotland Yard effect’ is not unusual: the character is showing up out of nowhere or the reader is loosing sight of them again. Within the frame of our project we came up with the idea to realise two kinds of routes (*schematised routes* that can have a quite abstract course – and *interpreted routes* that shows more detailed courses, more than the text is telling us) with different degrees of interpretation. A possible visualisation can be seen on Figure 1.

But there is a lot more to think about, when visualising fictional routes on maps. One big topic is the zooming effect – a narrative can easily switch back and forward between global and local locations – distances travelled are quite different and reach only the other side of the road or in contrast the other side of the world. They can even leave the reality and drift away into dreamlands. Following the characters on maps – even when they are digital and interactive – always means: changing the perspective from local to global (or globe) – changing the scale from large to small. Following a route from the characters perspective is not less complex: one path of a travellers group can separate into few, reconvene later or circulate. To keep on track with all of them, simultaneously, requires possibly again the change to an overview perspective.

Besides the zooming effect, another problem showing routes on static, traditional maps is the amount of (overlapping) data. Some texts already show itself extensive and manifold movements. (Like in an example of the 5 historical fictions of Alois Jirasék, “F. L. Věk”). There, more than 100 routes per text have been analysed and do show a complex pattern (Figure 2).

Due to the fact that routes are a sequence of two or more locations (that can be differentiated into settings, projected places, marker or zones of actions), one can further think about different emphasis and meaning of individual waypoints.

Or maybe one is interested to break down different velocities of movements and its development – does the speed of moving within contemporary fictions increases as much as speed and time in current reality?

III Brainstorming – Cinematic Ideas of Visualising Routes

‘Motion pictures’ or animations could help in a lot of the above---introduced questions. They could lead the user and focus to the right zoom level, could follow a characters travel and show the direction, the travelling velocity and breaks, could even feed the user with more information like text quotes along the way. In the following some brainstorming ideas for realising fictional route visualisation with the help of motion pictures.

- Chronological animation of individual interesting routes (e.g. one that leaves reality) – digital flyover like in (road) movies
- Stop motion route animation: while drawing it on paper maps – with switching scales e.g. world map to country map to town map – pointing out settings with little flags or other symbols for different categories
- Filming routes on prepared maps with quotes fading in
- Local text extracts from Zurich and surroundings with the actual walking and filming of the route. For instance Conrad Ferdinand Meyer: “Jürgen Jenatsch” (1876), Gottfried Keller: “Der Landvogt von Greifensee” (1877)

→ Maybe the same text examples with different technics

Acknowledgements: Find more about the project on www.literaturatlas.eu and on the mapping development sites:

<http://latlas.ethz.ch/mapOutput/sites/LitlasDemoPage.html>

<http://latlas.ethz.ch/mapOutput/sites/LitlasDemoTopics.html>

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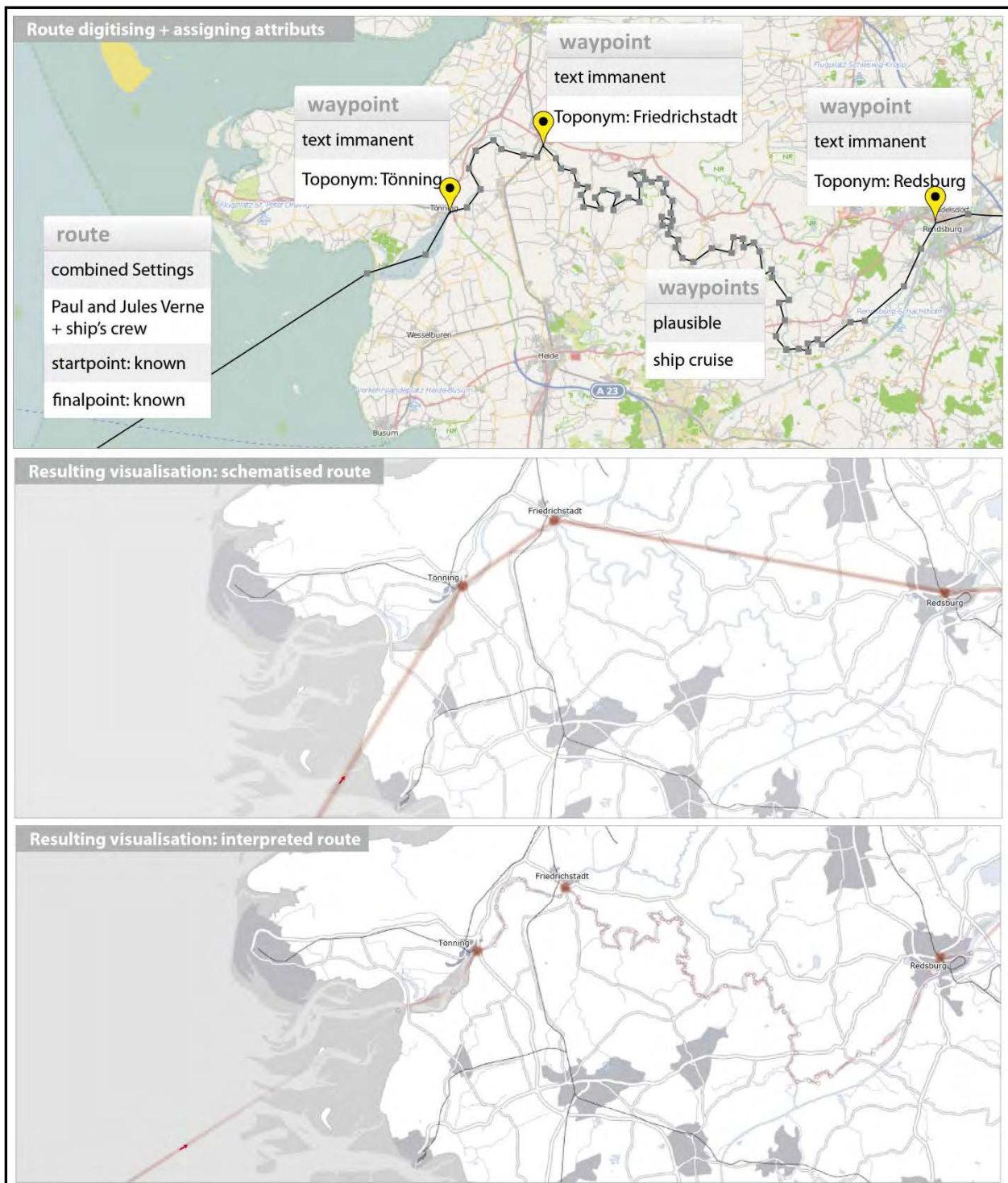


Figure 1: Automated route visualisation within the “Literary Atlas of Europe” example taken from Paul Verne’s ‘De Rotterdam à Copenhague à bord du yacht à vapeur Saint-Michel’ (1881)

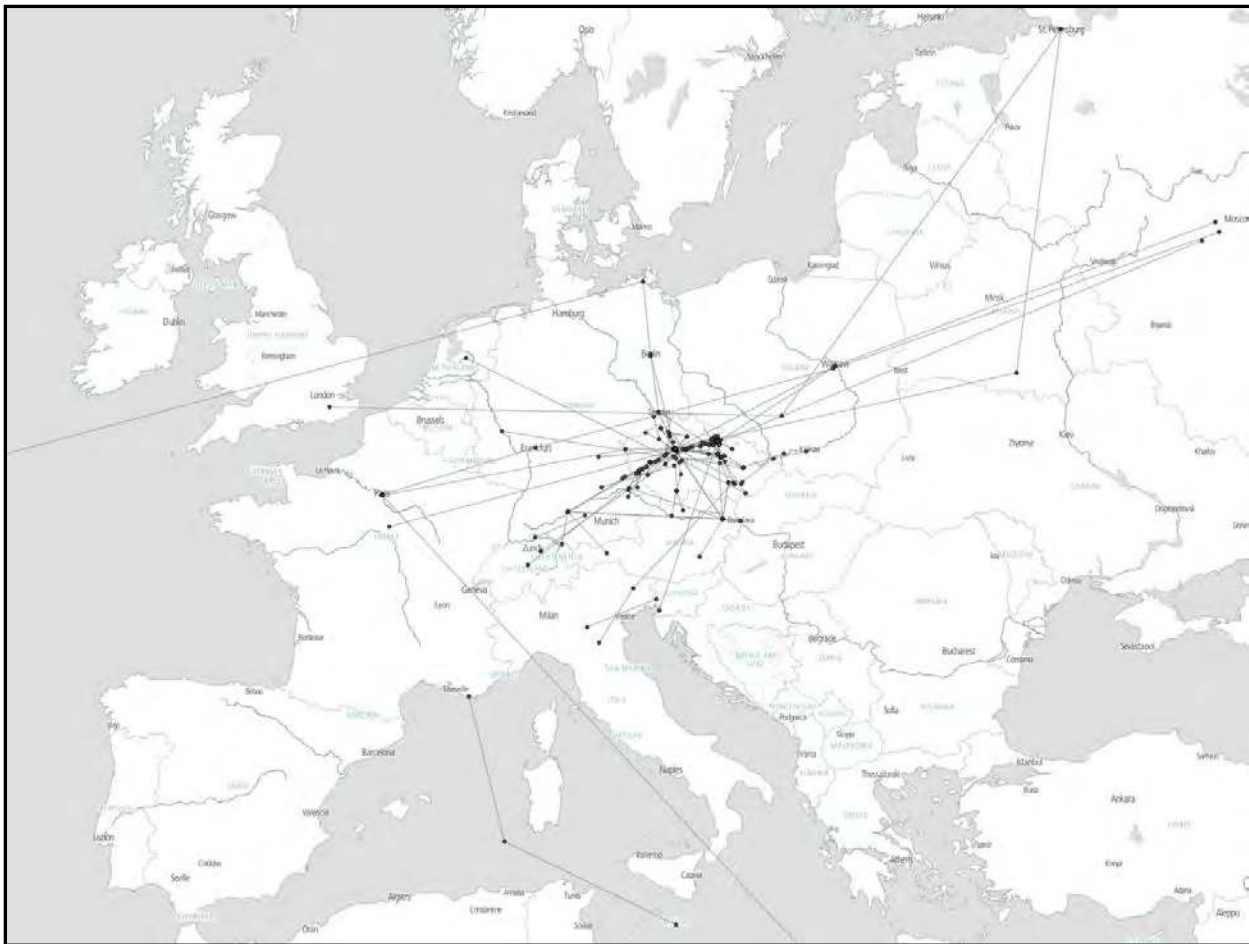


Figure 2: Extracted routes from the five historical fictions F. L. Věk from Alois Jirasék (1890---1907)



Figure 3: Animated route through France, taken from the opening credits of the movie „Bienvenue chez les ch’tis“ (2008)

Dreams, Longings, Memories – Visualising the Dimension of Projected Spaces in Fiction

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Background/Frame

This proposal builds on research carried out within the interdisciplinary project „A Literary Atlas of Europe“ (www.literaturatlas.eu) – in a close collaboration between scholars from literary studies and cartographers. The literary atlas deals with the specific geography of fiction by mapping the spatial dimension of novels, novellas, short stories etc. through a newly designed set of symbols. It aims at visibly rendering the complex overlays of real and fictional geographies. During the initial analyses of literary texts the space of fiction is broken down into 5 main categories: Settings/zones of action, projected spaces, topographical markers, paths/routes of characters, borders.

Projected Spaces in Fiction

Without any doubt **projected spaces** are one of the most fascinating categories. The term means that these are spaces a fictional character thinks of, remembers, is longing for or imagines, without being physically present in (compared to settings/zones of action where the actual plot takes place).

Fiction features an overwhelming abundance of projected spaces. A fine example is Arthur Phillips's novel *Prague* (2002): not a single sequence of action is set in Prague, as the toponymic title and the bookcover of the first edition (see picture 1 below) might very well indicate or even promise. As a matter of fact, all of the characters live in the Budapest of the Post-“Wende” era and remain there for the duration of the novel, while all their thoughts are quite hopelessly directed to the arcane and ghostly Prague, the Golden City.

Another older, but very impressive example is Ulrich Bechers *Murmeljagd* (The Groundhog Hunt), published in 1969. In this novel the protagonist Trebla, a war veteran and exiled from Austria in 1938, is seeking shelter in a Swiss alpine resort, but is restlessly haunted by his past – the trenches and the horrors he experienced as a young soldier in the years 1914-1918. Against the backdrop of the peaceful, sublime alpine scenery of Engadine, he gets virtually beamed back, by overpowering memories, into the theaters of war in Rumania and Italy. What is notable is a kind of “**triggering effect**”: In some cases Trebla's flashbacks are released by a topographical/visual similarity between his current whereabouts and the faraway places

he remembers. Moreover, the pittoresque shores of Silser Lake (setting) become congruent with the coastline of the Black Sea around Constanza (projected space) – a map of both regions would show an almost seamless overlay.

Projected Spaces and the Movies

Currently, we use **shades of blue** on our maps (see picture 2 below) in order to indicate projected spaces and networks of such spaces (while settings are depicted in red), but there must be many more options to deal cartographically and visually with this category.

One direction of future experiments might be to search for impulses/inspiration in the cinematic realm: It is more than evident that a transition/ “departure” from a setting to a projected space has an inherent **movie-like quality**, since movies often operate with different techniques of flashbacks and since fantasies, dreams and surreal moments belong to the art of motion pictures from its very beginnings (on the other hand it is important to note that the concept of “projected space” exists hundreds of years before the “pictures started to move”).

Out of thousands of examples I pick just 4 well-known examples, a classic, a blockbuster, an arthouse production and a television series.

In Ingemar Bergmans “Wild Strawberries” (1957) the main character, the old, selfish Isak Borg has four dreams, some of them carrying him back into his childhood. In a very artful manner the present time of Borg and the flashbacks are clearly separated in style.

In Antonio Minghella’s “The English Patient” (1996, based on the novel by Michael Ondaatje) Count Almásy lies as an immobile patient, burnt beyond recognition in a military hospital, somewhere in Italy at the end of WWII. Whenever he can he escapes his pain and the whole unbearable situation by “moving” back in time, daydreaming, plunging into memories about a tragic “amour fou”, which took place in the North African Desert before.

A movie that features a whole series of “transition moments” is Michel Gondry’s “Eternal Sunshine of the Spotless Mind”, 2004, where two former lovers try to get rid of their memories by a chemical procedure. During the process unhappy Joel finds „himself consciously stumbling through the map of his own memories. So as Joel flits from experience to experience, Gondry has to visually represent the abrupt shifts in his thoughts, allowing him to step from a Barnes & Noble sales floor through a doorway into his apartment, or from a natural environment to a bleak, forbidding one as he drops into a chair.“¹

¹<http://www.deep-focus.com/flicker/eternals.html> (last accessed January 30, 2012)

Finally the series „Lost“, 2004-2010, is built on the principle of several timelines. A bunch of survivors of a plane crash finds itself on a exotic island somewhere in the Carribean. Part of the story are their adventures on the island, but important sequences are dedicated to the life of each character *before* the crash happened (flashbacks).

Including cinematic ideas into (animated) maps

The task for the workshop is: Is the triangle **fiction – maps – movies** a productive one, when it comes to the particular constellation of „projected spaces“? Is it possible to visualise the transition from a setting to a projected space (within the imagination of a character) in a combination of map and movie?

Going back to written, fictional accounts some questions which could be of special interest for the workshop are listed below:

- Is there a difference in the **spatial density/plasticity** of the two categories (is maybe one level depicted with more accuracy, while the other remains more vague)?
- Can a **typology concerning modes of transitions** (between setting and projected space) be set up?
- What kind of devices could support a visualisation of the **triggering moment**?
- **Changing function**: Some projected spaces can become settings in the course of plot development (or vice versa).
- How can the different **subcategories of projected places** be symbolised in a meaningful way –memories vs. dreams/daydreams/nightmares vs. moments of longing?

It might make sense to focus on one of these questions and to try to develop a sketch/a solution with means and tools from animation design and/or film techniques.

In a first approach / preparational stage selected movie extracts with triggering moments should be analysed. Secondly, elements and ideas which could – theoretically – be applied for an interactive, digital mapping need to be identified and further developed.

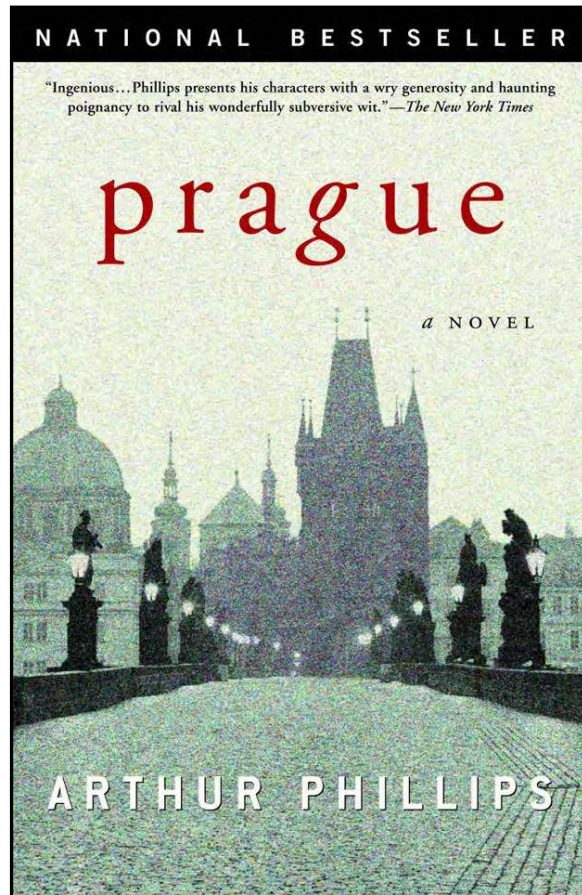


Figure 1: Bookcover with a dusty Charles Bridge

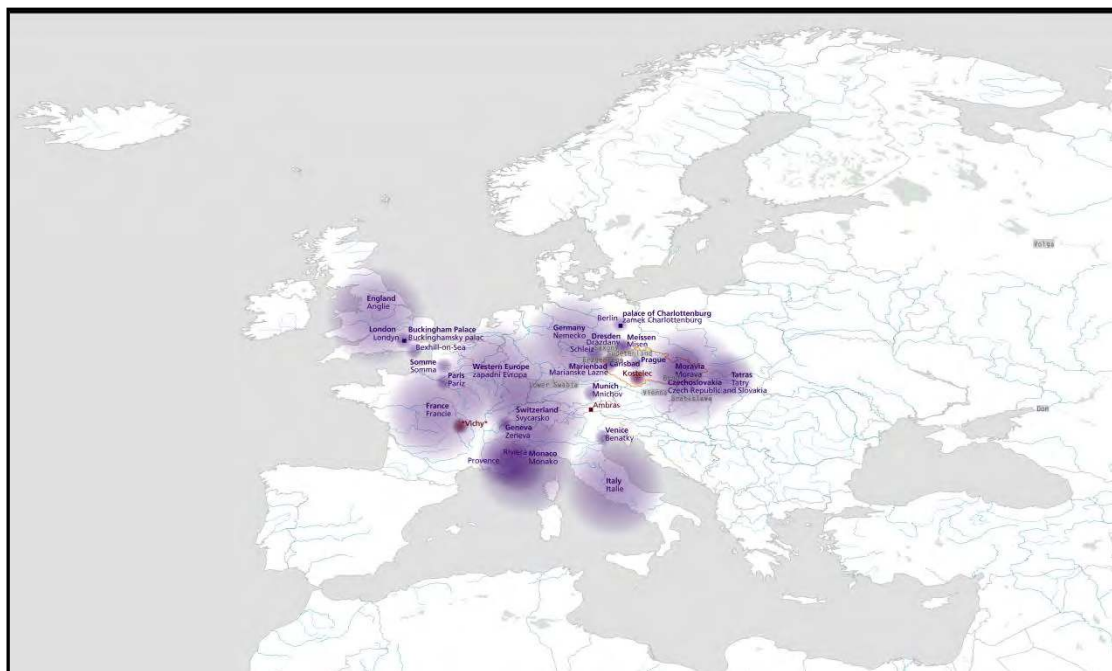


Figure 2: Bruce Chatwin: Utz (1989) – the novel's projected spaces spread all over Europe

Imaginary Spaces – Visualizing Time Travel in Kurt Vonnegut’s novel *Slaughterhouse Five*

Christina LJUNGBERG

This proposal takes as its departure the notion of imaginary, i.e., ‘projected’ spaces in fiction (cf. Piatti 2008). How do we map the space of a character’s memories, trauma or daydreaming in a text, on a map or in a film? Vonnegut’s 1969 novel *Slaughterhouse Five* is an interesting case in point since Billy Pilgrim, its main character, frequently relives the past through his dreams, reminiscences, flashback episodes but also projections of time travel in outer space. Billy exists simultaneously in various time zones / spaces that are triggered by these various types of memories, including the distressing recollections of his traumatic WW II experiences as a POW during the destruction of Dresden at the end of the war, and the daydreams of his intergalactic trips to the planet Tralfamadore – all while living, at least externally, a perfectly functioning normal life. How are these time zones / spaces represented by Vonnegut, how do they compare with the visualization in George Roy Hill’s 1972 film, and how would we represent them today using contemporary cartographic and cinematic visualization methods? That is what my contribution proposes to do by

- identifying the various kinds of imaginary, projected spaces
- charting the diagrammatic relationship between these imaginary, projected spaces and geographic space as well as their function in the text
- comparing these to how the 1972 cinematic version of the novel solved the problem of how to represent the relation between imaginary spaces and geographic space in order to suggest new ways of visualizing Billy Pilgrim’s time travel cinematographically and cartographically

Fiction – film – maps

As Tom Conley points out, “[e]ven if a film does not display a map as such, by nature it bears an implicit relation with cartography” (2006, 1). The same can be said about a novel in which the diagrammatic verbal mapping of the environment helps the reader to cognitively create the space in which the characters move (Ljungberg, forthcoming). This becomes particularly important in a novel such as Vonnegut’s *Slaughterhouse Five*, whose narrative *form* is intrinsically important to an understanding of the novel (and which the film adaptation only conveys to some degree).

Slaughterhouse Five is a frame story introduced by a narrator who foreshadows the beginning and the end as well as intrudes at certain points in the third person narration about Billy Pilgrim who has “come unstuck in time” (Vonnegut 2000, 19). The most striking symptom of Billy’s condition is his altered perception of time:

Billy has gone to sleep a senile widower and awakened on his wedding day. He has walked through a door in 1955 and come out another one in 1941. He has gone back through that door to find himself in 1963. He has seen his birth and death many times, he says, and pays random visits to all the events in between.

He says.

Billy is spastic in time, has no control over where he is going next, and the trips aren’t necessarily fun. (Vonnegut 2000, 23)

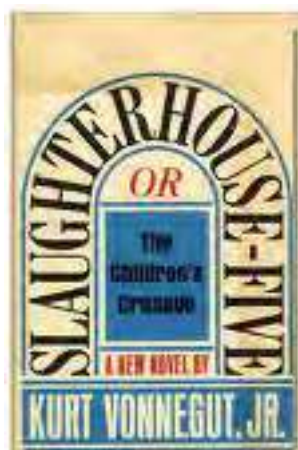


Figure 1: First edition book cover

The metaphor of being “spastic in time” mirrors Billy’s continuous re-experiencing of the trauma he has suffered during the war, his experience as a POW in Germany and, at the center of his trauma, the destruction of Dresden at the end of WW II. A sudden internal or external cue triggers painful memories, which causes him to re-live war in suddenly erupting memories and flashback incidents. Billy could even be said to live parallel lives or in parallel universes since he is, as he says, “simultaneously on foot in Germany in 1944 and riding his Cadillac [in Ilium, N.Y.] in 1967” (Vonnegut 2000, 58). The switches from one ‘space-time’ to another are triggered by psychological and structural linking devices between different scenes and events in Billy’s life (cf. Klinckowitz 1990). These linking devices are sensorial inputs such as colours, e.g. “ivory and blue”, “orange and black” – his death is a “violet light” sensation whereas his birth is red; smells such as “mustard gas and roses”; or sounds such as a siren (57, 164) which “scare[s] the hell out of him” (57) so that “he [is] expecting World War Two at any time” or is suddenly “back in World War Two again” (58). While he never talks about his experiences of war, he projects his own crippled mental state on to those who are physically crippled.

Billy can also predict events such as the plane crash in 1968 that will kill everyone onboard but himself. He can even foretell his own death in 1976, which he ascribes to the transformation he has undergone since he was abducted by aliens from outer space:

He said, too, that he had been kidnapped by a flying saucer in 1967. The saucer was from the planet Tralfamadore, he said. He was taken to Tralfamadore where he was displayed naked in a zoo, he said. He was mated there with a former Earthling movie star named Montana Wildhack...[...]

He said he had been kidnapped by the Tralfamadorians on the night of his daughter’s wedding. He hadn’t been missed, he said, because the Tralfamadorians had taken him through a time warp, so that he could be on Tralfamadore for years, and still be away from Earth for only a microsecond. (Vonnegut 2000, 21)

Green, two feet tall and shaped like a plumbing device, the Tralfamadorians are provided “with suction cups on the ground and flexible shafts pointing towards the sky, with a little hand with a green eye in its palm. The creatures were friendly, and they could see in four dimensions. They pitted Earthlings for being able to see only three” (Vonnegut 2000, 21). Vonnegut’s humorous description of the Tralfamadorians does not conceal his momentous project, which is to spatialize time, to abolish its linearity and make it reversible in order to heal what has been broken – much in the same way as he has Billy watch a war movie backwards in which the unimaginable terror of his war experiences is reversed. Seen backwards, the fires from a German city in flames are miraculously shrunk by the bomber planes while they also suck up bombs into their interior. When, over France, “German fighters came up again, they “made everything and everyone as good as new ... The American fliers turned in their uniforms and became high school kids. And Hitler turned into a baby, and all humanity, without exception, conspired biologically to produce two perfect people named Adam and Eve” (Vonnegut 2006, 61).

Utopian worlds then and now: An allegory

Using the Gothic device of allegory, Vonnegut’s early postmodernist novel thus has Billy force us to consider existence from the absurd idealism of a fourth dimension in which everything is upside down and inside out in terms of the reality of time and space. Not unlike Thomas More’s use of his narrator Hythloday (Gk. ‘nonsense-peddler) and the island of Utopia as an ‘ideal’ place for political criticism, Vonnegut recreates historic terror in geographical space by momentarily assuming the Tralfamadorian perspective and theory of time and existence in imaginary space in which there is no why. When Billy asks, “Why [kidnapping] me?” he gets the answer that this is a very “Earthling question to ask: Why *you*? Why *us* for that matter? Why anything? Because this moment simply *is*” (Vonnegut 63).

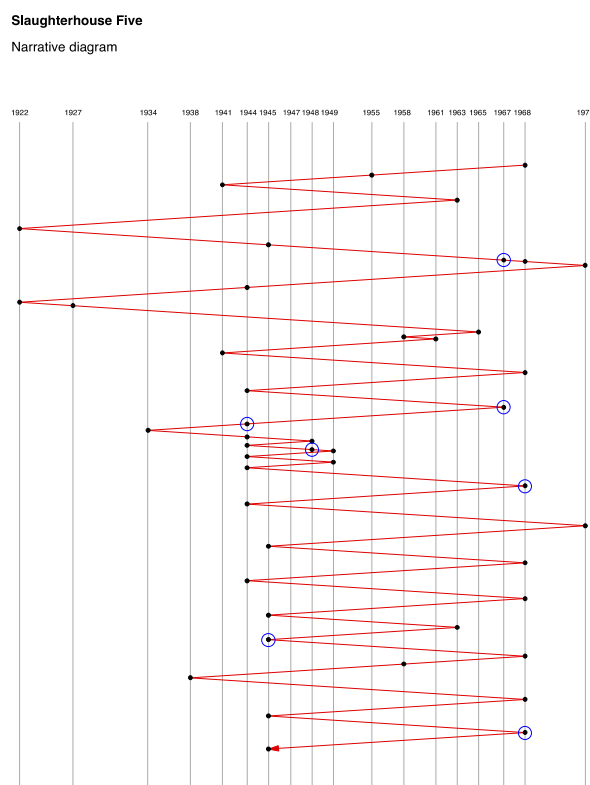


Figure 2. Narrative diagram showing Billy Pilgrim’s time travel starting when he is recuperating after a plane crash in a Vermont hospital in 1968. The nodes represent the various events organized by date. As the diagram shows, Billy is constantly returning to his experiences during WW II, especially the Dresden fire bombings on 13 February 1945 (a date which coincides with Billy’s own death, 31 years later, on 13 February 1976). His Tralfamadorian visits are marked by a blue ring, starting with the first incident in 1967, also invading his traumatic war memories.

Creating a Gothic postmodernist geography by mapping a contrasting perspective onto the novel’s suburban late 1960s America (Ilium, New York, is a transformed version of Vonnegut’s birthplace, Troy), and on Germany and especially Dresden during the last part of WW II as an ‘imported’ place, Trafaladore in outer space becomes an idealistic, fictive ‘counter’-place for Billy’s imaginary travels. Trafaladore is the mirror image of terror, in particular the terror of war and the horror Billy experienced during the fire bombings of Dresden as an event whose monstrosity eludes representation. Hence, Vonnegut’s novel cannot be reduced to a deconstructive satire of the viciousness of humanity and the evil of war but is much more an allegorical mapping of innocence and fragility in the face of terror and death.

In his 1972 film adaptation of Vonnegut’s novel, George Roy Hill (*The Sting, Butch Cassidy and the Sundance Kid*) takes the novel’s sensorial linking devices for triggering moments and translates them into cinematic ones for intercutting between the film’s various settings and spaces. Hill (who had actually been a Marine pilot in WW II) has also changed

the ending into a rather corny affair by being too literal. This reduces the novel’s deeply traumatic concerns and turns Tralfamadore into a science fiction satire e.g., by turning the geodesic dome into a copy of a Sears Roebuck catalog and having Billy (Star-Trek)-‘beamed’ to Tralfamadore. The film’s softening of Vonnegut firm anti-war stance may also be linked to the fact that, in the middle of the Vietnam war, criticism of war-fare was riskier on screen than in the novel which, in itself, is a severe comment on America’s “Children’s Crusade” in Vietnam and its ‘collateral damages’ which caused the deaths of thousands of innocent civilians.



Figure 4. Screen shot of the geodesic dome on Tralfamadore (Hill 1972)

Questions to be discussed in the workshop on fiction, maps, and movies:

- How do you visualize time travel in narrative?
- When we map projected spaces, how can we differentiate between pleasant and negative memories, or trauma and longing? How do we deal with individuals’ traumatic memories of events that cannot be represented cartographically or cinematographically?
- How can we categorize the transitions between setting and projected space?

For a map, one way could be to apply the concept of **redshift and blueshift** in spectra from astronomy – to have an interactive map indicate distance and velocity. The more distant an astronomical object is and the more you are looking to the past, the more redshifted an object is, because the spectral diagrams are stretched. There is also the effect of a blueshift of fast approaching objects. An extreme blueshift might be an option to visualize future events or fear, projections and dreams.

For a cinematic representation of imaginary spaces, the projection of parallel lives would seem to be a much more productive solution than the traditional intercutting between setting and projection / imagination. The transition between the various spaces could then either be made through **pixellation**, or analog with **redshift/blueshift**, with the use of colour coding which then could be used in the corresponding sequence or as waves.

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Cinemaps: Toward an Inventory and a Typology of Maps in Fiction Films

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Sébastien CAQUARD & the (e)space&fiction
site team**

Introduction: Fictions as locational devices

Maps are pervasive in all forms of fictions. They can appear as a visual artefact - such as the map of Stevenson's *Treasure Island* (see Jacob 1992) – or be used as a key element of the narrative, such as the marauder's map described by J.K. Rowling in *Harry Potter* novels. These maps can be fictional and imagined, as well as referring to existing ones such as Google Maps in *Netherland*, the novel from Josef O'Neil.

The presence of maps and spatial machineries in fictions has been studied in cinema (Conley 2007; Castro 2009; Caquard 2009) and literature (Piatti and Hurni 2009; Piatti and Hurni 2012). In more general terms, most works involving some forms of narratives (e.g. novels, comic books, movies, painting and music) often include maps and can also be considered as locational devices. A designer or a creator always faces the challenge of staging the referenced space, imaginary or real, of his creation; one might even call this staging of place absolutely necessary for fictions. Whether it is by painting with words or describing with images, every narration requires to be spatially contextualized in order to provide a relevant environment for characters to develop and stories to unfold. Certain works incorporate machineries whose explicit role is to create and represent the space of the fiction within the work. These specific spatial machineries can be quite diverse, ranging from textual descriptions and music to charts, maps, diagrams and magical or technical interfaces. They can be concrete representations arranged by the author outside of the work - just like a map presenting the places where the action of the novel takes place - a cartographic insert in a film displaying the itinerary of the voyagers, or a globe placed in the background of a painting. They can also be fictional machineries activated by the characters, and designed by the creator - such as *Harry Potter's Marauder's map* – as well as much more common forms of maps such as Google Maps or world maps.

Objectives of the blog (e)space & fiction¹

The main goal of the blog (e)space & fiction is to collectively develop an inventory of this spatial machineries². Our objective is also to analyze these machineries, to establish typologies and chronologies, and to identify connections between works and places and between places and works. We can, for example, establish connections between J. K. Rowling's Marauder's Map and other sci-fi machineries, as well as link these maps to other contemporary machineries such as Geographic Information Systems (GIS) or mobile software equipped with GPS. Analyzing the uses of the Marauder's Map in Harry Potter can also help us deciphering the uses of technical machineries in real life, and vice versa. Beyond this necessary (and entertaining) inventory, we wish to present some analysis about those "machineries" and "materializations", to determine their commonalities and differences, and through them to rethink how representations in fictions contribute to produce and reproduce our contemporary world. We hope that the blog will help to mobilize theoretical references, to propose and discuss hypotheses, to construct debates on the role that spatial machineries play in cultural works in contemporary society, and to understand the mutations that they induce and reflect in the representations and status of places. Our idea is that works of fiction are excellent social analyzers for our everyday life, which in return is what inspires artists and creators.

This communication is limited to spatial machineries in movies that we call *cinemaps* (see Caquard 2009). They are the most common ones in our collection. 102 films and TV series using maps or other geographic devices have been collected so far, which is enough to build a first typology framework in order to organize a more systematic inventory.

From maps to cinemaps: Developing a typology

Cinemaps can take multiple forms and functions as described previously. Here we propose to differentiate maps and geographic machineries simply appearing in movies, from genuine cinematic objects specifically produced by cinematographic techniques. In this abstract these categories are simply introduced in a synthetic table illustrated by examples with links to some of the blog posts.

1. Type of Machinery
 - 1.1. Genuine cinematic objects
 - 1.1.1. New
 - [Casablanca](#) (Curtiz, 42), [M](#) (Lang, 31)
 - 1.1.2. Precursor

¹ <http://spacefiction.wordpress.com>

² (e)space & fiction collects also an another kind of items, the local materializations of fiction.

- *Goldfinger* (Hamilton, 1964), [RoboCop](#) (Verhoeven, 97), [High and Low](#) (Kurosawa, 63),
 - 1.2. Existing objects shot in the movie
 - 1.2.1. Technique
 - 1.2.1.1. Paper
 - 1.2.1.1.1. Published map
 - Large scale: building plans : [Riget](#) (Von Trier & Arnfred, 94) , [Dawn of the dead](#) (Romero, 78), land register maps : [The Gingerbread Man](#) (Altman, 98)
 - Medium scale : City maps : [Le mani sulla città](#) (Rosi, 63), subway maps: [Mélodie en sous-sol](#) (Verneuil 65), topographic maps : [Un Balcon en forêt](#) (Mitrani, 79), [Le cercle rouge](#) (Melville, 70), [Predator](#) (McTierman, 87),
 - Small scale : road maps : [The Monster Club](#) (Baker, 80), [The Hitch-Hiker](#) (Lupino, 53), planisphere [Lola](#) (Demy, 60)
 - 1.2.1.1.2. Hand drawn map
 - School map: [Le viager](#) (Tchernia, 72)
 - Sketch : [Bob le Flambeur](#) (Melville, 55), [Kendama](#) (Shinohara, 02), [Mean Girls](#) (Waters, 04)
 - 1.2.1.2. Solid models
 - Globes : [Casablanca](#) (Curtiz, 42), *The Private Life of Sherlock Holmes* (Wilder, 70)
 - Solid models with clay : *Close Encounters of the Third Kind* (Spielberg, 78) , with daily life objects : [Mélodie en sous-sol](#) (Verneuil 65), *La Bandera* (Duvivier, 35), [La Baston](#) (Missiaen, 85), with building games : [Was tun, wenn's brennt?](#) (Schnitzler, 01), [Game of Thrones](#) (Benioff & Weiss, 11), with architecture models : [Le Affinità elettive](#) (Taviani, 97), [RoboCop](#) (Verhoeven, 97), with battle models : [Cleopatra](#) (Mankiewicz, 63), [Les Chinois à Paris](#) (Yanne, 74).
 - On the ground 1:1 machineries : [Bob le Flambeur](#) (Melville, 55), [Dogville](#) (von Trier, 03)
 - 1.2.1.3. Screen
 - 1.2.1.3.1. TV
 - Weather Report : [Reality Bites](#) (Ben Stiller, 94)
 - News : [Die Hard 2](#) (Harlin, 90), [RoboCop](#) (Verhoeven, 97)
 - 1.2.1.3.2. Computer
 - 1.2.1.3.2.1. 2D
 - GIS : [24](#) (Surnow ,Cochan et al., 01-09) parmi de nombreux autres.
 - Remote location system : [Face/Off](#) (Woo, 1997), [Die Hard 2](#) (Harlin,90), [Sneakers](#) (Robinson, 1992)
 - Satellite image : [Enemy of the State](#) (Scott, 98)
 - GPS : [Dexter. Saison 2](#) (Manos, 2007), [The Ghost Writer](#) (Polanski, 2010)
 - Web mapping service : [Toy Story 3](#) (Unkrich, 2010)

- 1.2.1.3.2.2. 3D
 - *Jurassic Park* (Spielberg, 93), [Firefly](#) (Whedon, 02), [Avatar](#) (Cameron, 09), *Escape from New-York* (Carpenter, 81)
- 1.2.2. Display context
 - 1.2.2.1. Fixed vs mobile
 - 1.2.2.1.1. Fixed
 - 1.2.2.1.1.1. Inside
 - Walls : [The Parallax View](#) (Pakula, 74)
 - Train : [Tournée](#) (Amalric, 10)
 - 1.2.2.1.1.2. Outside
 - Subway : [Mélodie en sous-sol](#) (Verneuil 65)
 - 1.2.2.1.2. Mobile
 - Leaflet,: [Company Man](#) (Askin & McGrath, 00),
 - Book : [The Sunchaser](#) (Cimino, 96), [Toute la beauté du monde](#) (Esposito, 2006)
 - Phone, PDA, tablet ... : [24](#) (Surnow ,Cochan et al., 01-09)
 - 1.2.3. Nature
 - 1.2.3.1. Existing
 - Most of the case
 - 1.2.3.2. Modified
 - [The Monster Club](#) (Baker, 80), *Poupoupidou* (Hustache-Mathieu, 2011)
 - 2. Internal machineries
 - 2.1. Extra-diegetic
 - 2.1.1. Credits
 - [He Walked by Night](#) (Werker & Mann, 48), [Short Cuts](#) (Altman, 93), *Escape from New-York* (Carpenter, 81)
 - 2.1.2. During the movie
 - [La sirène du Mississippi](#) (Truffaut, 69),
 - 2.2. Intra-diegetic
 - 2.2.1. Within the set
 - [The Parallax View](#) (Pakula, 74), [The Killers](#) (Siodmark, 46), [Le cercle rouge](#) (Melville, 70)
 - 2.2.2. Used in action
 - 2.2.2.1. Use purpose (combination is possible)

To see and to imagine: *High Sierra* (Walsh, 41), [Synecdoche NewYork](#) (Kaufmann, 2008), [Zig-Zag , une fiction didactique](#) (Ruiz,80), [La Baston](#) (Missiaen, 85), to locate and to find a direction : [The Hitch-Hiker](#) (Lupino, 53), to explore and to travel, to set out and to decide, to learn and discover : [Riget](#) (Von Trier & Arnfred, 94), to delineate and to localize, to control and to track: *Jurassic Park* (Spielberg, 93), *Harry Potter and the Prisoner of Azkaban* (Cuarón, 2004), *The Adjustment Bureau* (Nolfi, 2011), to escape and to hide: *Dead Poets Society* (Weir, 89), [Moonrise Kingdom](#) (Anderson, 2012), *Harry Potter and the*

Prisoner of Azkaban (Cuarón, 2004), to allocate, to manage, to build, to equip and to dream : [Firefly](#) (Whedon, 2002).

2.2.2.2. Use context (combination is possible)

- Economy
- War
- Art and culture
- Society
- Knowledge

2.2.2.3. Hijacking the code

2.2.2.3.1. None

2.2.2.3.2. Inversion

- [Dexter. Saison 2](#) (Manos, 2007)

2.2.2.3.3. Other

- [Une affaire d'état](#) (Valette, 2009), [Children of the Damned](#) (Leader, 63), *Close Encounters of the Third Kind* (Spielberg, 78),

2.2.3. Work role

2.2.3.1. Narrative

- *Poupoupidou* (Hustache-Mathieu, 2011), [La sirène du Mississippi](#) (Truffaut, 69)

2.2.3.2. Symbolic

- *The Private Life of Sherlock Holmes* (Wilder, 70), [M](#) (Lang, 31), [Lola](#) (Demy, 60).

3. External machineries

3.1. Antecedent

- [Duel](#) (Spielberg, 71), [Twin Peaks](#) (Lynch, 90)

3.2. Posterior(Paracartography)

3.2.1. Sale Campaign

- Web site : [Moonrise Kingdom](#) (Anderson, 2012)
- Poster : [Une affaire d'état](#) (Valette, 2009)

3.2.2. Critics and scholars

- Interactive map of (e)space & fiction
- (Mauduy et Henriët 1989)

3.2.3. User content generation

- *Easy Rider* (Hopper,68), *Lost* (Abrams,2004-201).

3.2.4. Touristic

Whatever their shape and their importance in the narrative, maps are neither neutral artefacts nor simple means of location. Maps, and geographic machineries in general, are complex tools. They can be precise ways to fix the law and the borders, common artefacts used to facilitate our daily activities, or sophisticated and beautiful objects to stimulate imagination and dreams. In any case maps always open different spaces in the global

space of the movie. They can play many roles such as anticipating where the action will unfold, opening nostalgic or wished territories, controlling space and people, and connecting the fictional worlds to some real places.

A systematic approach combining film studies, cartography and geography has to be developed in order to get a better sense of the multiple way maps and similar objects are used in movies. In this project we propose to start this process by developing an inventory based on a large enough number of examples. We hope that this typology could help to better understanding the main functions of these maps and of spatial machineries in general.

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Mapping Canadian Cinematographic Narratives with the Geoweb

Sébastien CAQUARD & Jean-Pierre Fiset

Introduction

Movies and places are deeply connected. Places contribute to the shaping of a movie, just as movies contribute to the production of spatial identities. As emphasized by Jacques Van Waerbeke (1999, 1), “*A movie in which the narration refers to the real serves as a witness of a relationship to an experienced or perceived space, and reciprocally contributes to the construction of the meaning of that same place*” (translation mine). This paper proposes to further explore the relationships between films and places, through the mapping of cinematographic narratives. Mapping cinematographic narratives requires overcoming two major challenges. First, it calls for the transformation of audiovisual material into geographic data, which is a recurrent issue in geography. As emphasized by Sophie Clairet (2003, 3) geographers are still inquiring on the questions of “*how to treat image and sound? How to transform them into sources that could then be transformed in series?*” (Translation mine). Secondly, mapping narratives calls for the development of new forms of visualization. While it may be easy to map narratives as points, lines and areas, these representations are rarely appropriate to capture and characterize the complex spatio-temporal dimensions of stories.

In this paper we present an online cartographic application designed to alleviate these issues and to provide solutions to help properly map the many different dimensions of narratives. The first part of this paper describes a methodology developed in order to extract geographic data from films that can then be mapped. The second section presents a geoweb application developed to map these narratives. This tool has been used to map the narratives of 46 contemporary Canadian films, in order to sketch the geography of Canadian cinematographic territories. This application is envisioned as a way in which a multitude of narratives, including vernacular knowledge, can be mapped and studied.

1. Transforming audiovisual material into geographic data

Although the recognition of the relevance of films as a unique source of geographic information has grown since the 1990s (Rose 1994), very few attempts have been made in geography or cartography to map the spatial structure of film narratives in a systematic way. These few attempts include the comparative analysis of narrative places and shooting

location in Western films (Mauduit and Henriët 1989), and more recently the mapping of shooting places in Arizona (Lukinbeal 2012). Other disciplines such as literary studies have emphasized the potential of mapping to better understand narrative structures (Piatti and Hurni 2011). As argued by literary scholar Franco Moretti, in modern European novels, “*what happens depends a lot on where it happens*” (Moretti 1999, 70, author’s emphasis). This interest in the spatial dimension of narratives has led to the development of a wide variety of literary maps. These maps are envisioned as a way to give “*the readers something that novels do not: an image, a structure, a way to visualize form and narrative design*” (Bulson 2007, 3), and as a way to help reveal secret structures (Moretti 2005). This interest in mapping literary narratives has led to the development of specific methodologies used to capture the narrative territories within novels.

Barbara Piatti and her colleagues have developed a specific methodology that transforms narrative places in 19th century European novels into geographic objects (Piatti et al. 2009). This methodology is based on a reading grid applied to systematically capture the different places structuring the narrative of these novels. Inspired by this methodology, we have developed an analytical grid dedicated to capturing the geographical elements of narratives in films, such as the location of the scene, the duration of the scene, the type of environment, the importance of the place in the narration, and the way the place is materialised (e.g. through image or/and sound). This grid has been used to break down 46 contemporary Canadian films into geographic pieces in order to determine the geographic trends and patterns in contemporary Canadian cinema (for more details, see Caquard et al. 2012).

Once the narrative is broken down into geographic pieces, these pieces need to be mapped properly. The development of specific cartographic forms is necessary in order to overcome the different challenges faced by narrative cartography. To begin, a narrative map must represent simultaneously places and relationships between places. In literary cartography there is a distinction between geography (location) and geometry (connection). As emphasized by Moretti (2005), a map is associated to geography and places, while a diagram is related to the geometry of the relationships between elements of the story (e.g. characters, places). In literary cartography, the geometry is at least as important as the geography since it demonstrates that there was a process involved in the production of the structure (Moretti 2005). In other words, mapping narratives requires representing simultaneously the geometry and the geography of the narrative in order to capture the richness and the intrinsic structure of the story, as well as their relationships to real places.

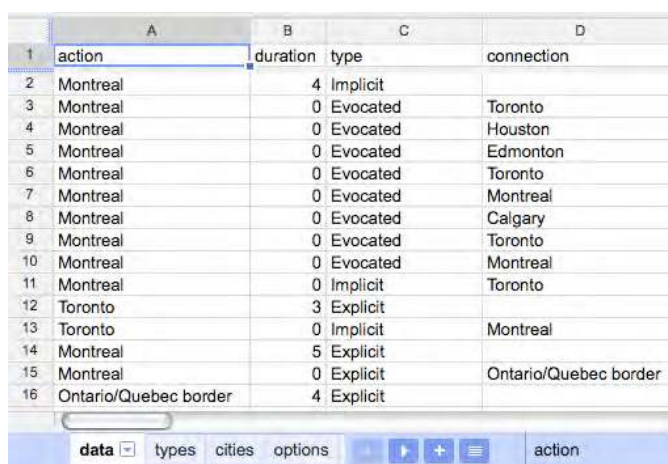
Secondly, mapping narratives also requires taking into account the spatio-temporal dimensions inherent to storytelling. As Doreen Massey (2005, 130) points out (in the context of mapping personal stories), stories cannot be represented “as points or areas on maps, but as integrations of space and time; as *spatio-temporal events*.” (Emphasis in the original). The process of mapping narratives calls for the development of particular forms of maps. Although it is easy to locate places of narratives by adding points to a Google map mash-up for instance (see <http://www.themoviemap.com>), it is much more complex to

capture simultaneously the spatio-temporal dimension of the narrative, as well as both its geometry and geography. These challenges provide the framework for developing a specific application for mapping narratives.

2. The cartographic application

This application has been designed by pulling together different tools available in different open source JavaScript libraries. More specifically, this application combines tools from Nunaliit, an open source software developed at Carleton university (Ottawa, Canada) that renders geospatial narratives in cybercartographic atlases (<http://nunaliit.org/>), as well as from OpenLayers (<http://openlayers.org/>) and JQuery (<http://jquery.com/>). The data that drives the map is fetched from a spreadsheet saved in Google Docs. The map is viewed by using a web browser and the background map is provided via a Google API. This application is then a hybrid tool combining open source libraries with Google tools.

In the spreadsheet the data is organised in 4 fields, or columns, (see figure 1): (1) **action** defines the location of the action; (2) **duration** defines the duration of each scene in minutes; (3) **type** defines the way different places are connected to each other in the narration (e.g. *explicit*: the location of the action is explicitly mentioned in the narrative – *implicit*: the location of the narration must be derived from personal knowledge or from the unfolding of the narration - and *evocated*: a specific place (e.g. a city) is simply mentioned in the narration); (4) **connection** defines the places that are connected to the action (e.g. a character mention a place during a discussion).



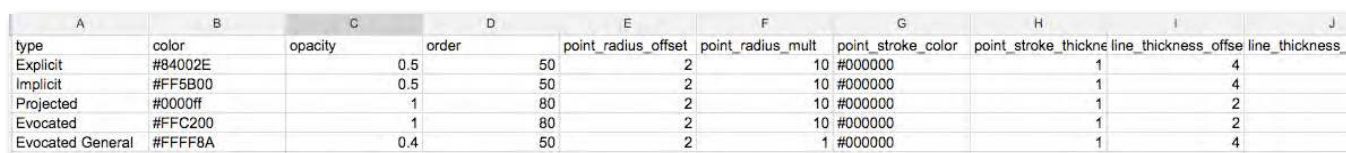
	A	B	C	D
1	action	duration	type	connection
2	Montreal	4	Implicit	
3	Montreal	0	Evocated	Toronto
4	Montreal	0	Evocated	Houston
5	Montreal	0	Evocated	Edmonton
6	Montreal	0	Evocated	Toronto
7	Montreal	0	Evocated	Montreal
8	Montreal	0	Evocated	Calgary
9	Montreal	0	Evocated	Toronto
10	Montreal	0	Evocated	Montreal
11	Montreal	0	Implicit	Toronto
12	Toronto	3	Explicit	
13	Toronto	0	Implicit	Montreal
14	Montreal	5	Explicit	
15	Montreal	0	Explicit	Ontario/Quebec border
16	Ontario/Quebec border	4	Explicit	

Figure 1. Screen capture of the Google spreadsheet used to structure the data that are fetched in the cartographic application.

Places (geography) are represented by proportional symbols and connections between places (geometry) by different types of lines. The size of the symbols (places) is defined by the amount of time associated to each of these places/connections in the narration, for example, if 40 minutes of a film takes place in Montreal and 20 minutes in Toronto, the circle representing Montreal will appear twice bigger than the circle representing Toronto. For connections, the thickness of the line is defined by the number of

times two places are connected in the movie; the more often two places are connected the thicker the line between them will be. Colours serve to differentiate the way places are materialized in the movie (e.g. red for places mentioned explicitly, and orange for places appearing implicitly). Different types of lines are used to represent different types of connections (e.g. plain lines represent the displacement of the action between two places, while dashed lines represent the connection between the place where the action unfolds and a place simply mentioned by a character).

A sheet in the spreadsheet (“types”) is used to define the map symbology, including the size, outline, colour, and opacity of the different objects (Figure 2). Another sheet named “city” includes all the XY coordinates of the different places mentioned in the narrative, while a sheet named “options” defines the bounding box of the narration as well as the name of the film mapped. This structure allows the content developer(s) to have full control over the choices of categories as well as of their representation. Although this application has been developed for mapping Canadian cinematographic narratives in a certain way, it could easily be used to map the narrative structure of films in a different way, as well as the structure of any forms of narratives such as novels and vernacular stories.



A	B	C	D	E	F	G	H	I	J
type	color	opacity	order	point_radius_offset	point_radius_mult	point_stroke_color	point_stroke_thickne	line_thickness_offse	line_thickness
Explicit	#84002E	0.5	50	2	10	#000000	1	4	
Implicit	#FF5B00	0.5	50	2	10	#000000	1	4	
Projected	#0000ff	1	80	2	10	#000000	1	2	
Evocated	#FFC200	1	80	2	10	#000000	1	2	
Evocated General	#FFFF8A	0.4	50	2	1	#000000	1	4	

Figure 2. Screen capture of the Google spreadsheet used to define the symbology for each category.

The results are mapped on a Google background map. The data are rendered through time using a double slider control. This temporal representation follows the temporal structure of the narration: points and lines appear and grow while the story unfolds. The double slider allows the visualization of selected moments of the narration (e.g. a user may want to map only the narrative territories of the second half of a movie). The user also has access to conventional navigation tools such as pan and zoom. She can decide to visualize either the places of the narration (geography), the connection between these places (geometry), or both simultaneously (Figure 3). Once these places of narration have been mapped, a third challenge remains: How to interpret these results?

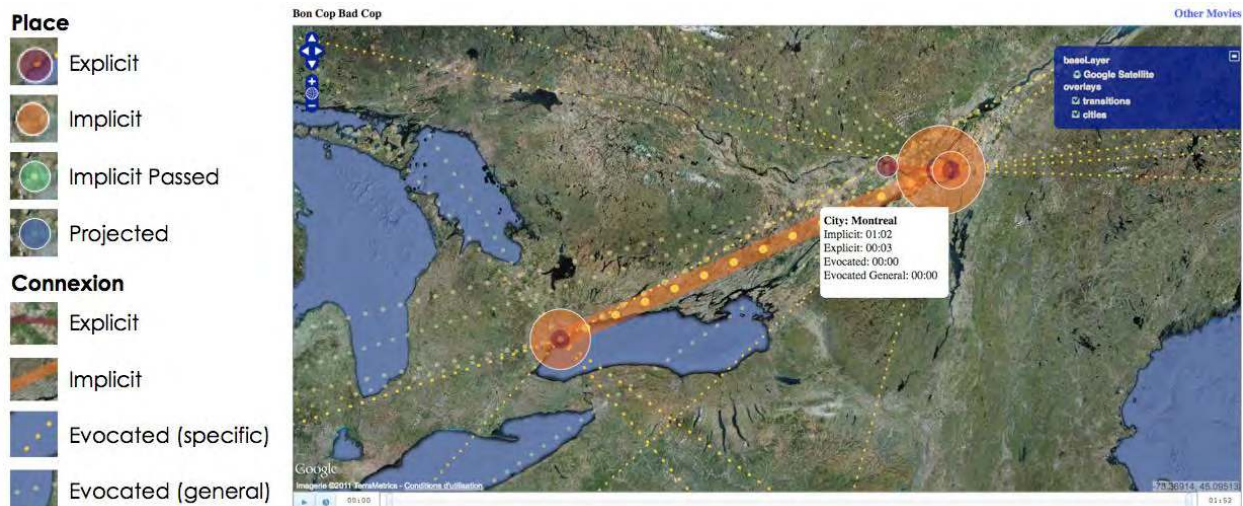


Figure 3. Map (and legend) showing the different places where the action of the film *Bon Cop Bad Cop* (dir. E. Canuel 2006) unfolds (with circles proportional to the time spent at each location in the movie) and the different connexions between these places (with plain lines proportional to the number of times the action is moving back and forth between two places, and dashed lines representing places that are simply mentioned in the movie).

3. Mapping the narrative of 44 contemporary Canadian films

44 Canadian films have been selected as representative of Canadian contemporary cinematographic production. To be selected, the films had to meet the following criteria: (1) being released between 2001 and 2008; (2) referring to existing places; and (3) being among the 10 most successful films at the year's box office (either in French or in English). These criteria were used to make sure only contemporary popular Canadian films unfolding in known places were selected (for more details about the methodology see Caquard et al. 2012). Among the 44 films, 22 were mainly in English, 21 in French and 1 in Inuktitut (the language of Inuit people). From these films we extracted 2,500 geographic places using the reading grid described previously. In this section we first present the results for four selected films, before providing a broader analysis and cartography for all the films selected.

Four films characterizing contemporary Canadian cinema and society have been first mapped with this cartographic application. *Bon Cop Bad Cop* (dir. Erik Canuel 2006) characterizes the historical duality of Anglophone / Francophone in Canadian society and film production (Melnyk 2004). In essence *Bon Cop Bad Cop* stands as a testament to the polemical debate between English and French Canadian cinema and society. The plot is set around a body found hanging on the border sign of Ontario (Anglophone) and Quebec (Francophone). This historical dichotomy in Canadian society and cinema has been recently challenged by the emergence of a post-national Canadian identity illustrating the multiculturalism of Canadian society (MacKenzie 1999). This emergence is translated in cinema by the surfacing of voices from communities talking about their own communities. The most compelling example of these new voices coming from Inuit communities is *Atanarjuat: The Fast Runner* (dir. Zacharias Kunuk 2001). *Atanarjuat* is the first Inuit

feature-length fictional film and it provides an Inuit perspective on Inuit issues. Alternately, the work of Canadian director Mina Shum provides a different view on multiculturalism by giving voices to the Chinese community in Vancouver. Her film *Long Life, Happiness & Prosperity* (dir. Mina Shum 2002), is set in Vancouver's Chinatown and proposes a reflection on Canadian-Chinese culture in contemporary Canada. Finally, immigration in Canada is also the outcome of transnationality, diaspora and memory as illustrated by Atom Egoyan film *Ararat* (2002). *Ararat* deals explicitly with the subject of the Armenian Genocide of 1915 and the repercussions of a traumatic past, cultural massacre, the loss of home, and the effect of exile on both the individual and the culture. These four films provide very different perspectives on contemporary Canadian society, as illustrated by their different narrative territories.

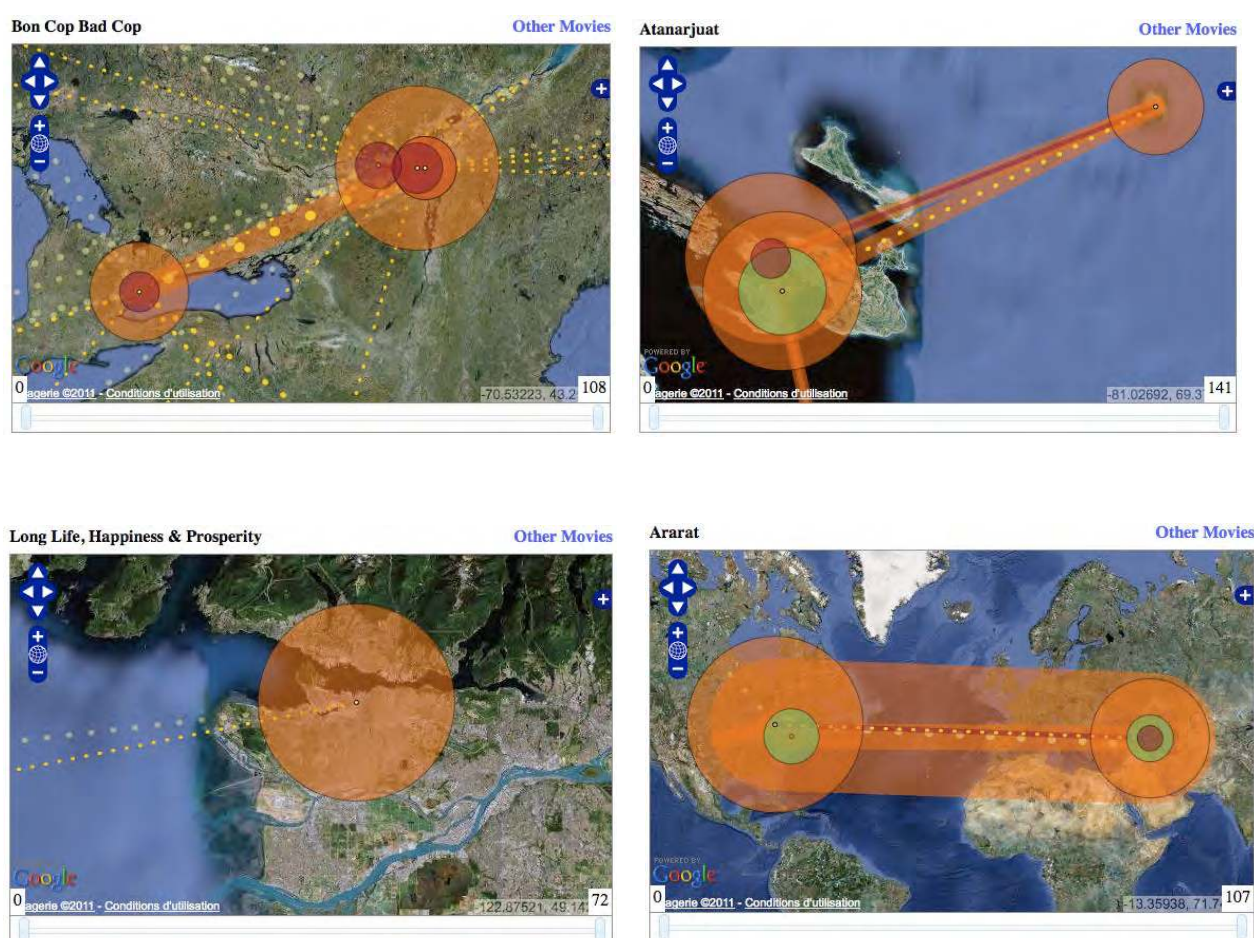


Figure 4. Screen capture of the narrative territories of each of the four films selected.

Bon Cop Bad Cop takes mainly place in Montréal and in Toronto, with some important scenes at the border between Ontario and Quebec as well as in Saint-Hubert, a city located outside of Montreal (see figure 4). The geographic spine of the narrative is then provided by the back and forth of the narration between Montreal and Toronto, which represents the historical spine of Canadian economy as well as the historical line of rivalries between Francophone and Anglophone Canada. *Bon Cop Bad Cop's* geographic structure is

completed by multiple references to different places in North America and Europe (materialised by the numerous dash lines). These references illustrate the fact that the action takes place in the world of hockey with multiple references to hockey teams across Canada and the US. The few other places mentioned in the movie are Paris, Nice and London, reframing the contemporary tensions between Anglophones and Francophones in Canada within its historical European roots. Overall, the geography of *Bon Cop Bad Cop* synthesizes the traits of the historical duality of Canadian geography.

The narrative structure of *Atanarjuat* is quite different from that of *Bon Cop Bad Cop*. In terms of location, the story unfolds in Nunavut (Northern Canada) between Igloolik, North Igloolik and the Northern Passages. The green on the map illustrates scenes taking place in the past in comparison to the time of the narrative. The structure is totally confined to this area since no places are mentioned in the narrative beside Igloolik. The narrative space of *Atanarjuat* is confined geographically, illustrating the existence of this historical community totally dissociated from the nation-state and from Western references. The situation is somehow similar for *Long Life, Happiness and Prosperity*, since the action takes also place in a confined environment (Chinatown in Vancouver), with very few references to the outer world beyond the community. In fact, only two places are mentioned throughout the movie (China and Honk-Hong), while Vancouver is never mentioned. *Long Life, Happiness and Prosperity* is deeply rooted in immigrant Chinese community without being attached to a specific place: it could have taken place in any Chinatown in North America.

Finally, *Ararat* unveils a completely different geography. The action unfolds between Toronto, Armenia and New-York city; between the present and the past. The main characteristic of the geography of this narrative is the strength of the connections between Toronto and Armenia, as illustrated by the size of the line linking these places. The action keeps moving back and forth between these two major narrative poles, illustrating simultaneously the complexity of the narrative structure developed by Atom Egoyan, as well as the complexity of dealing with traumatic past, and distant memories.

The analysis of these four films open the path for a more systematic analysis of the 44 selected movies, which will happen in the next phase of the project.

Conclusion and perspectives

In metaphorical terms, these narrative maps resonate with the mechanistic structure of the narrative: the points and lines resembling pulleys and belts. The stories then unfold between anchoring points and movements are provided by the connections between them. This first attempt to map narratives can have multiple applications to help map and characterize a wide variety of stories. It can be used in different domains such as literary maps, as well as to convey personal stories, including to the mapping of vernacular knowledge.

In order to adapt the prototype presented in this paper to broader narratives, certain technical elements of this application will have to be improved. For instance, at the moment places have been aggregated manually at the scale of towns and cities, while the original data is often available at a finer scale (e.g. neighbourhood). It would be meaningful to keep the original scale and to aggregate points and lines visually depending on the scale of visualisation in order to better represent the original level of detail.

Finally, it will be important to improve the capacity to capture and represent the complexity of narrative elements. Narratives provide a much richer perspective on place than what has been portrayed here, as they involve multifaceted elements that can be associated with places such as emotions and memories. At the moment we don't really know how best to transform these highly subjective elements into meaningful data and then into appropriate maps. This process will require more in depth study on the different dimensions that are associated with places through narratives. The development of an ontology of fictional places could serve as a base to further explore spatial narratives. This approach could serve to provide more sophisticated categories of spatial objects that will then require much more complex forms of representation. The cartographic application presented in this paper is only the first step in this direction.

Acknowledgements

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Made In Modernity: Narrating Cartographies of Production

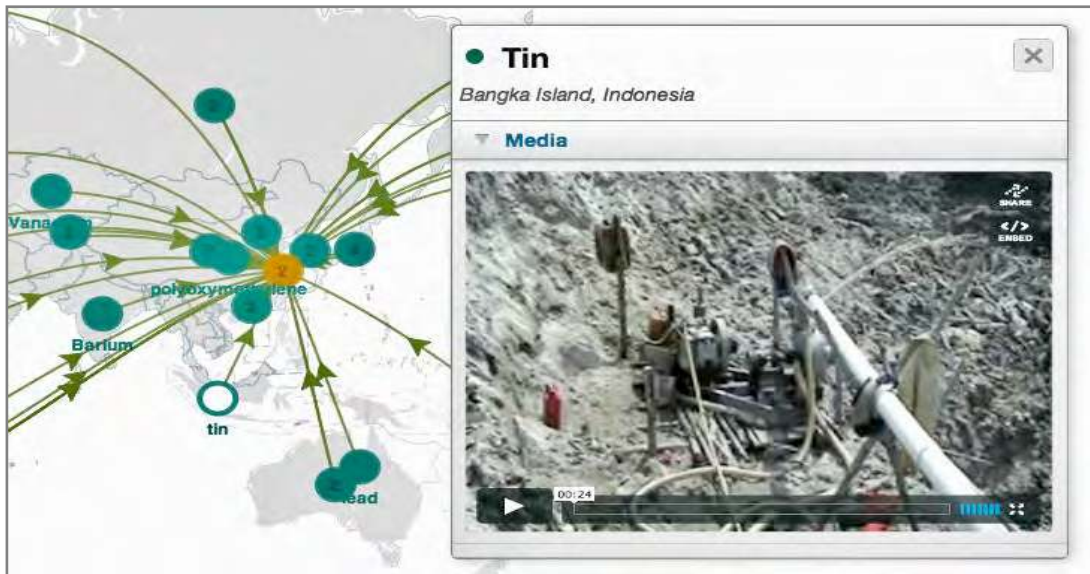
Matthew HOCKENBERRY

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The Organization for Supply Chain Studies / Sourcemap

Introduction

Questions about the nature and purpose of narrative cartography have been widely debated by geographers. Maps have always told stories. From ways of visualizing the world, to mechanisms that frame and define political boundaries and discourse. How can one not look at the sea routes inscribed in an eighteenth century handatlas and not see the foundation of a newly global world? Who can walk through the Vatican's Gallery of Maps and not imagine the powerful pontiffs who would see these as the only sights of their temporal power? Because the nature of these narratives are often subtle, they can appear insidious when they are not explicitly defined as the purpose of a particular geographic presentation. Modern maps have intensified the political import of spatial presentation. Towns vanish, people are wiped from the face of the earth, and geographic anonymity unfolds when a satellite map loses an image.¹

¹ Google maps has been the site of new political debates surrounding geographic representation. Errors in the representation of the Nicaraguan / Costa Rica border fueled conflict, while shantytowns in places like Brazil and Peru remain unrepresented by slow-moving satellite dissemination (addressed notably by initiatives like The Public Laboratory for Open Technology and Science grassroots "balloon" satellite maps)



Source map of a mobile telephone (circa 2006), showing its supply chain, and a video investigation of small scale tin mining in Bangka Island, Indonesia. Bangka is responsible for (at peak) forty percent of worldwide tin production, and it makes up a significant proportion of tin used in mobile devices. Comparing this map to a telephone produced in the early part of the twentieth century shows numerous differences, but Bangka remains a seemingly constant fixture. The statistics of tin reserves on Bangka, however, paint a grim picture for its inclusion on this map in the following decades.

While new approaches to an inclusive cartography have focused on the problematic positioning of the stories of marginal groups and human experience within such systems, these arguments often fail to recognize the potential of these narratives to not only include such groups, but to amplify their stories in ways that were previously unimaginable. In the case of production and manufacture, existing narratives are incredibly limited, even as they are potentially boundless. We reduce complex stories to superficial narratives. A product becomes something that is "made in" one place, even as it is composed of countless materials sourced from all over the corners of the earth. So long as this identification remains an encompassing structure for the network of productive relations the part *must* be mistaken for the whole."²

The New Reality of Global Manufacturing

The slippage inherent in this reductive collapse opens up new possibilities for describing the landscape of global production. "Made in" becomes a label that is untethered from the spatial constraints of mining and manufacture. It slips into a new reality. In October

² While we can certainly look to Marx for a representation of this problem, I particularly have in mind Slavoj Žižek's reading in *The Sublime Object of Ideology*.

of 2008 the president of the Canadian Manufacturers & Exporters, Jayson Myers, delivered an address at the Empire Club in Toronto. Despite the implications of the recent United States financial meltdown, Myers focused not on the collapse, nor the abstract financial instruments that had emerged as its most recognizable cause. He emphasized the state of Canadian manufacturing, and the role it still played as a critical index of the country's economic future. It is a role whose meaning, he conceded, has become increasingly ambiguous in the face of global networks of trade and manufacture.

- This is the new age of manufacturing. Not a single product in the past 50 years has revolutionized the way you and I work on a daily basis as much as this tool. The BlackBerry is synonymous with innovation and yes it is also synonymous with manufacturing—Canadian manufacturing.
- The BlackBerry is a testament to the changing face of manufacturing. We consider it to be a Canadian product, and we are proud of that fact. Did you know that BlackBerries are manufactured in seven different countries?
- We consider the BlackBerry to be a Made-in-Canada product because it is designed by Canadians. It is engineered here, in Canada's Technology Triangle, and it is supported and marketed here. And yes, some parts of it—the newest models and the most critical parts for new product development—are assembled here.
- Welcome to the reality of manufacturing in the twenty-first century.³

In light of this radical reconfiguration, we must look for alternative ways of constructing *grounded* productive narratives. New technological systems of geographic representation and interaction, while far from a universal panacea, provide potential pathways that expand the range of possibilities for diverse groups caught in the chains of worldwide production at issue in the “new reality” of global manufacture.

Sourcemap (sourcemap.com) is an open access web system that provides a spatial framework for the stories behind where things come from. These stories are produced by manufactures and designers, but they are also imagined by consumers, citizens, workers, and communities. This technological infrastructure makes possible narratives that construct and realize new relationships between things and the people and places that compose them. Consumers (and those representing themselves as such) construct the spatial landscape of the products they purchase, drawing from magazine reports, enthusiastic understanding, and causal deductions. These maps narrate the imagined genealogies of

³ Jayson Myers, “Is there a Future for Manufacturing in Canada?” (Paper presented at the Empire Club, Toronto, October 2, 2008).

the everyday objects of their lives, or situate the consumer at an intersection of objects defined only by singular geographic designations.⁴

Other maps are told from different perspectives. Businesses highlight the local and sustainable geographies of their products. Eric Henry's map of the "Organic Cotton of the Carolinas" unfolds in a tight locality, where a local process of production is confined to the borders of those states. Even for serious investigations, the search for a smaller geographic frame motivates both the object of investigation and the narrative through which it is presented. Journalism students in Montana look for the connections that weave their region into the national landscape of food production as a way to understand the productive disjuncture of the "grain drain" crippling their economy. Other investigators look to past histories, charting the commodity flows of nineteenth century London, or the massification of the 1920s telephone. Each is a singular narrative, but they collectively point toward refined arguments for emergent geographic politics defined by a collective aesthetics.

These cases demonstrate the narratives of production deployed in the presentation and communication of produced objects. Outside of the cartography, participants create quantified spatial narratives which provide new mechanisms for telling stories about the effects of production in local communities. When individuals are able to perform calculations, produce footprints, and measure impacts for a commodity like a cotton shirt or a bottle of water, they are given new political tools with which to address the global scope of production. I argue that these *quantified* narratives play a key role in expanding the reach of *qualitative* cartographic narrative, and have the potential to not only include more voices, but broadcast them in ways which begin to truly engage in political dialogues about labor, environment, and society. They bridge the social certainty of spatial language with the language of impact, creating a result with a more forceful presence in the politics of representation. Geographic expansion of a productive story is not itself sufficient without a quantifiable call to action, but the uncertain nature of these quantities creates a fragility without a spatial positioning to ground them.⁵

⁴ For example, "Spatiality of Products" by njohnstone describes 77 such products from 28 different locations across 10 countries. It connects the consumer of Charleston, South Carolina with the Egyptian production of jeans, Mexican candy, and an assortment of various staples and sundries.

⁵ As an example of the often ephemeral nature of these quantified narratives, one may consider the cases of chlorofluorocarbons, food miles, and other measures which have gradually receded over time. The measure of carbon footprint, while certainly more universal in some respects, is certainly not the last arbiter of social and environmental sustainability.

The Independent Republic of the Supply Chain

Consumer electronics, the most infrequently realized target of this mapping, demonstrate the reach of the problems these narratives seek to confront. Global supply chains create networked objects that begin in the artisanal mines of Bangka Island in Indonesia or amidst gang labor in the Congo. They move through Chinese factories where workers are pushed to new extremes by a relentless cycle of labor. These are the chains that bind the world together, but they are full of gaps:

These are evidence of governance gaps—gaps in our supply chains. Some happen in failed states. Some happen in states that feel like deregulation or lack of regulation is good for trade. But they provide a human rights dilemma for all of us. And most of the companies involved in these supply chains can't assure us that no one had to suffer to make our products. We need a reality check, to realize what a serious deficit of rights we have. The independent republic of the supply chain is not being governed in a way that promises ethical trade.⁶

It is in this way that we are connected to, and disconnected from, the place of production. With our devices, “designed in California” and “made in China,” there seems to be no room for places between the two. Narratives similar to those constructed by participants on Sourcemap are increasingly called upon to make arguments for particular configurations of the networks between geographies. Organizations like Greenpeace publish reports on the status of clothing manufacture in China. They do so not to attach a particular connotation to the label of manufacture, but to expand the meaning lurking behind the label. China becomes a fully realized place, with a society and environment not simply targeted, but intimately interwoven in the fabric of production. These deployments attempt to expand the geographies that have been collapsed in productive designations. The transformation of “Made in China” to the “Youngor Textile Complex” realizes a complex geography. It is a landscape heterogeneously populated by diverse spatial features. These maps attempt to reconnect narrative fibers that have been severed by a singular reduction. The label is replaced by hills and valleys, waterways and forests. It is expanded into the geographic and ecological features that had previously been encompassed in the social, political, and cultural association. The “reality” of this map stands outside the aesthetics of a tight local frame, and may yet remain a far flung point on a consumers cartography. As these narratives begin to compete, what role do we take in shaping their synthesis?

⁶ Ethan Zuckerman responding to a presentation from Auret Van Heerden, “Bringing Human Rights into the Global Supply Chain, July 15, 2010.

When maps are able to tell stories, we must carefully consider what kind of stories they tell. They not only need to create new narrative spaces, but new narrative languages that can reach global audiences and illuminate the diverse set of problems that increasingly plague our conception of worldwide production. Sourcemaps, like so many maps, are often taken as a real image of the world. As individuals and communities begin to engage with these narratives, they create cartographic narratives of the people and places involved in production, quantified by the statistics and measures of modern environmental and labor discourse. This is initially promising, as they are given new tools to effect political change. But by incorporating this mixture of cartographic narrative and quantifiable accounts, we can see future difficulties in translating these accounts to a collective frame—and the potential ramifications of such a translation. Actors who mobilize sourcemaps, and other geographic accounts of supply chains, do so in different ways for (sometimes) competing agendas. These deployments advance arguments about abstract cultural and political stakes that have the potential to reach beyond their mere representations. If we are to take seriously the narratives being deployed by these actors, we must acknowledge that the substitution of a singular narrative for a proliferation of new meaning brings about a new landscape. It is full of potential promise, but also of potential problems.

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Online Photo Repositories as Vehicles of Narratives: Stories about Zurich

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1. Introduction

Narrative has been described as “an expression in discourse of a distinct mode of experiencing and thinking about the world, its structures, and its processes“ (White 2010: 274) or any cultural artefact that ‘tells a story’ (Bal 2009: 3) or, even simpler, an account of events. Arguably one of the most ubiquitous types of every day narrative is the slide show of pictures from a trip – displayed using a projector, directly on the display of the camera or phone with which images were captured or online using the slide show functionality of a photo repository site. On a trip, be it for business or leisure, a person takes pictures of what they have seen or experienced often with a specific intention in mind, such as to show and relate to beloved ones and/or to document for an employer or record for one’s own memory.

2. Place and Its Elicitation

In many ways, Geography is the science about “the world, its structures, and its processes” which White (cf. above) mentioned. It thus establishes a link to narratives and narrative artefacts. An important concept in Geography and indeed one of the foci of geographic storytelling is the notion of place. Place is not synonymous with position or location. Unlike these latter ones which can be expressed in various geometric-mathematical, abstract and precise reference systems, place denotes a “shared frame of reference, corresponding to a collective conception of regions and associated names” (Hollenstein and Purves 2010: 23), complete with linked, implied or explicit, characteristics, one might add. Places expose fuzzy properties both in their spatial and in their thematic dimensions.

There have been various approaches to eliciting mostly the extent of places using crowdsourced (or volunteered) geographic information from Web 2.0 services such as the Flickr (www.flickr.com) image hosting community or the Geograph initiative in the UK (www.geograph.org.uk), e.g. Jones et al. (2008), Hollenstein and Purves (2010). Taking a different route, the work of Edwardes and Purves (2007) have investigated the semantics of places using crowdsourced data.

3. Story of a City

3.1 Data and Study Area

In the same sense as the afore-mentioned researchers we conceptualised Flickr (with 6 billion hosted images the arguably biggest image hosting community (Flickr 2011)) as a vast narrative aggregation with *visual*, *textual*, *temporal* and *spatial* components. Building on the afore-mentioned research into places from crowdsourced data and on the notion of narratives we mined Flickr for collective narratives. For doing so, we limited ourselves to the confines of the city of Zurich (Switzerland) which is well-known to us, thus facilitating plausibilising and ground-truthing of findings.

3.2 Research Questions

We used geocoded imagery and available metadata and Exif data from Flickr to elicit various components of the collective narrative about Zurich. The following questions were investigated:

Explorative spatio-temporal visualization and analysis: How do clusters of photographs distribute in space and time? Are there specific hotspots which many people chose to visit? In winter, in summer, in the morning, at noon, at night?

Analysis of contributors characteristics: Can we find typicalities in the narratives about a place which different subgroups of the community chose to acquire? E.g. do locals cover different locations in their narratives than tourists? Do Italians tell a different story about a place than Americans?

Storytelling and spatial typification: Using a gridded subdivision of the area, can we find tags which are typically employed in certain regions? What is the storytelling behaviour of Flickr users? E.g. how do they use the tagging system of Flickr to annotate their images? Can we build a cartographic tool which helps with exploration of the study area?

3.3 Data Acquisition

Starting from raw data containing Flickr image IDs and coordinates that was acquired by a group at IAIS Fraunhofer (G. Andrienko, communication 24 Feb 2012) an extensive set of metadata (cf. Appendix A) along with differently sized copies of the actual images was obtained from Flickr using the Flickr API (2012). Additionally, using a semi-automated methodology we drilled down into the *UserLoc* attribute of the Flickr profiles of photo authors in order to distinguish locals from tourists (national tourism, e.g. somebody travelling from Geneva, Switzerland, to Zurich, Switzerland, was ignored). The heuristics employed in this process are detailed in Appendix C and reflect one of the key problems of working with crowdsourced data: its noisiness and lacking structure. Finally, the study area has been

gridded at different, compatible resolutions and the gridding information has been transferred to the image records (cf. Appendix B).

3.4 Analysis and Visualization Methodology

The largest amount of time was spent on data acquisition, data cleansing and preprocessing. For these we relied on custom Python scripts, employing a Python Flickr API kit (Stüvel 2012) and a Python library (Wang and Mendes da Costa 2010) for computation of tf-idf . Visualizations have been produced mostly in ESRI ArcGIS (most static ones) and in Processing (dynamic; Processing 2012).

4. Results

4.1 Overview

The data acquired in the way described amounted to metadata of 81,194 Flickr-hosted pictures stemming from 4,002 distinct users. Before applying any spatial analysis and devising cartographic displays we investigated the geocoding accuracy which is stated by Flickr using numerical codes [1, 16], where 1 is „World“, 3 is „Country“, 6 is „Region“, 11 is „City“ and 16 is „Street“. These accuracy codes are only rough guidelines and it is unknown whether the codes applied by third-party apps are chosen sensibly. With all these caveats we have found the mean geocoding accuracy to be high at 14.58. The overall distribution is shown in Figure 1. For the analyses we have decided on a case-by-case basis about filtering images based on their indicated geocoding accuracy.

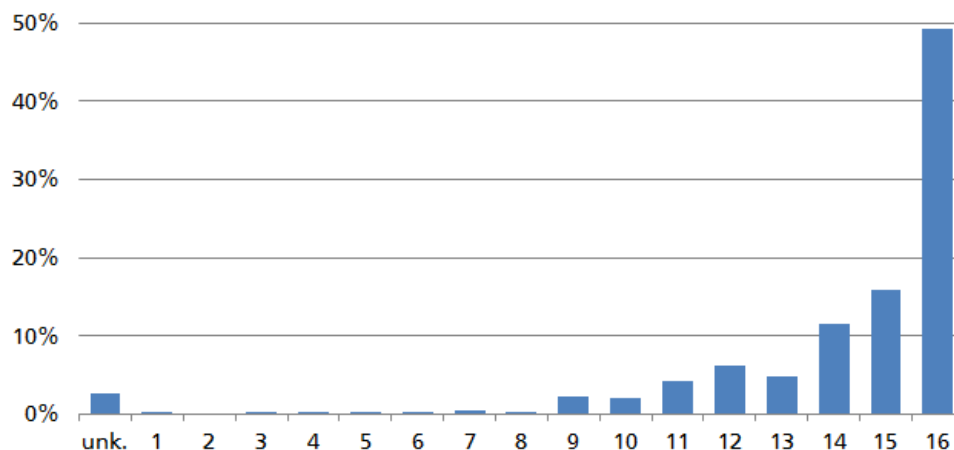


Figure 1: Proportion of pictures with different geocoding accuracy codes, where „unk.“ is „unknown“, 1 is „World“, 3 is „Country“, 6 is „Region“, 11 is „City“ and 16 is „Street“.

4.2 Explorative spatio-temporal visualization and analysis: What spatial and temporal patterns emerge?

Following the semi-automatic investigation detailed in Appendices B and C, the largest amount of photos (approximating 50%) has been found to have been taken by locals

(where locals are defined as having their residency in Switzerland). The other half of the photos have been taken by people with a residency abroad (“tourists”) or by people with unknown residency (Figure 2).

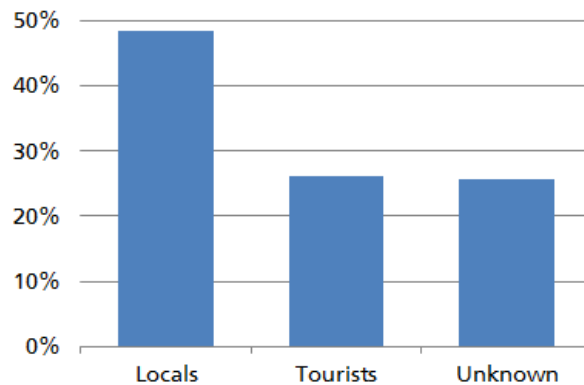


Figure 2: Proportion of pictures by authors of different residency.

This circumstance matters potentially for analyses of diurnal patterns. We hypothesised (from our own experience) that tourists (especially on short-term visits) may not adjust the clock in their cameras and may thus shoot photos with creation timestamps in their own respective time zone. As Fig. 3 shows, this effect seems to be not very strong. This may be due to a generally higher level of discipline in the tourists than in the author, in the fact that many tourists travel to Zurich from ‘close’ timezones (temporally and spatially speaking; cf. Figure 7) or in the considerable usage, especially in recent years, of automatically timezone-adjusting smartphones as photo-taking equipment. From the graph, a shift to earlier hours in tourist photos may be suspected as well as an under-representation of tourist photos in the evening hours, however, both these effects may also be (partly) due to different photo-taking behaviours.

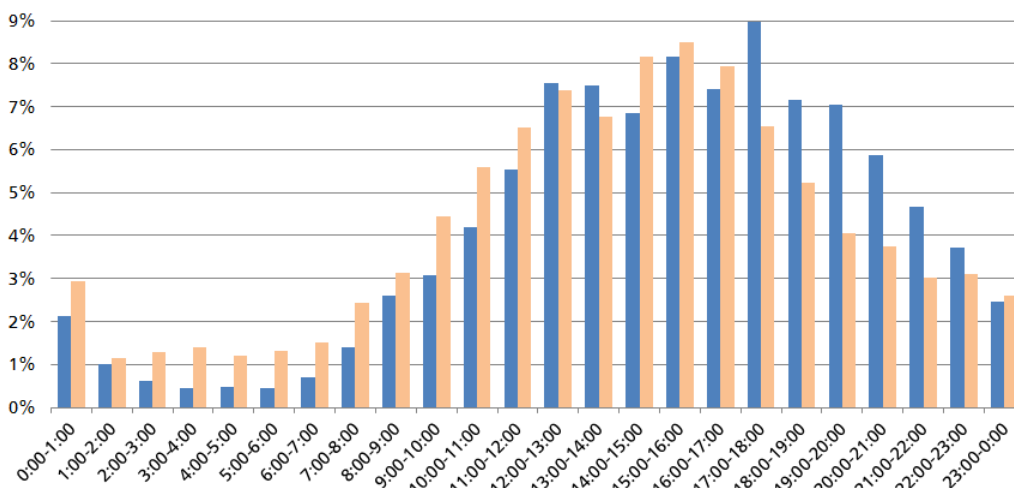


Figure 4: Diurnal distribution of photos by locals (dark blue) and tourists (light orange).

In order to visualize the temporal patterns of photo-taking or narrative-construction and open it to visual analytics a dynamic geovisualisation was developed. To that end all

the days in the study period have been conflated into one day. Although the shift in times between locals and tourists as identified above did not seem large, it was decided to filter out tourist photos and photos by authors of unknown residency in the dynamic visualization of diurnal patterns.

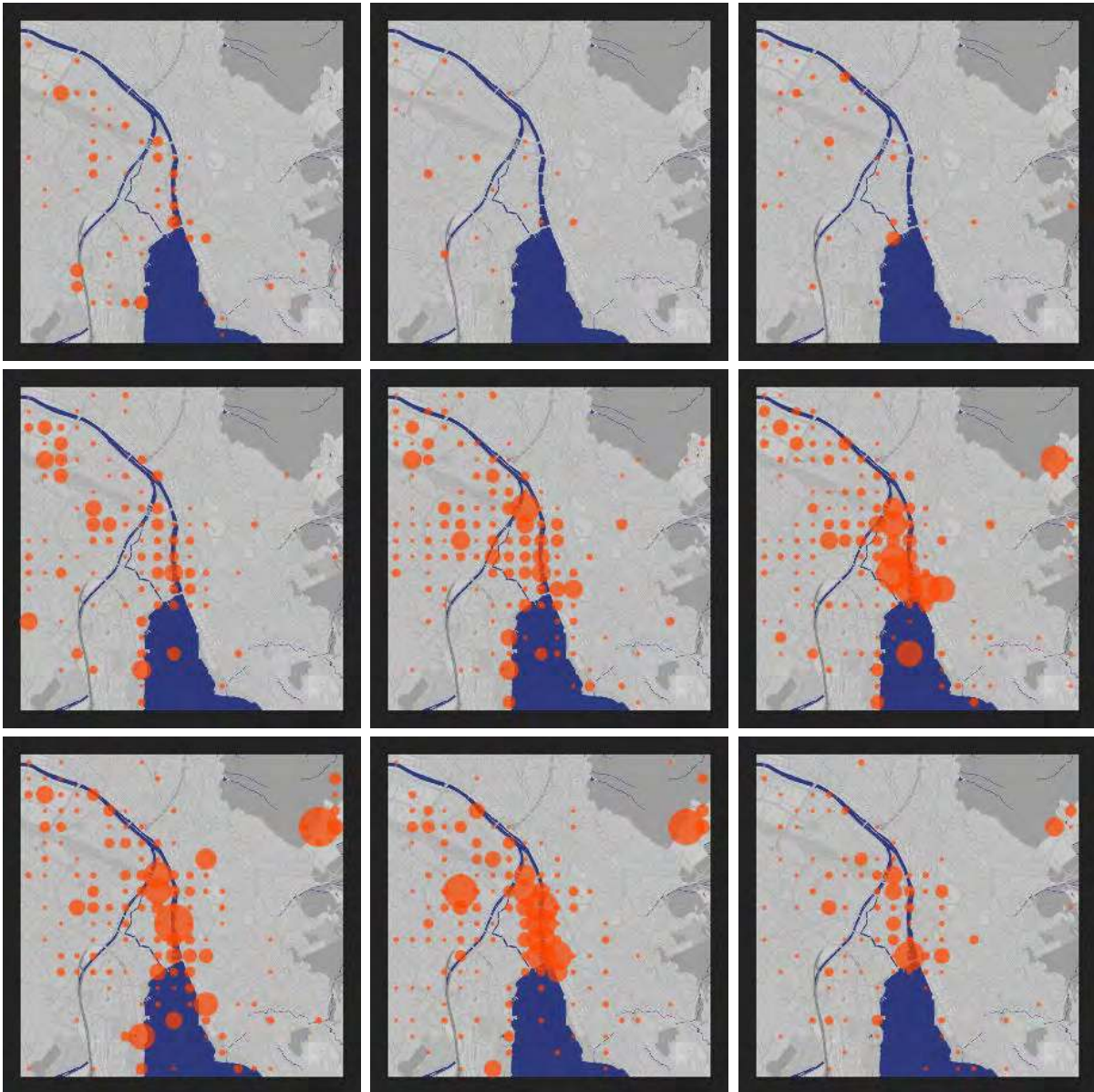


Figure 5: Series of screenshots of dynamic geovisualization of gridded diurnal photo-taking pattern in the centre of Zurich. Image centre: old town of Zurich, top-right: Zurich Zoo, top-left quadrant: formerly industrial, newly hip districts.

A first draft of the visualization plotted the individual photo locations dynamically on a map. However, upon examination it became clear that the data was too noisy for this visualization to offer real insight into diurnal patterns. Instead we chose to bin the photo locations geographically using the grid system described in Section 3.3. The visualization was implemented in Processing (v. 1.5.1) and displays the photo counts per bin and time step as circles with proportional area. Both the temporal (time span during which a photo

location is considered ‘active’ in a bin) and spatial resolutions (different grid resolutions) can be varied by the user as well as the map extent and zoom factor. A series of screenshots from the dynamic visualization can be seen in Figure 5 (showing the popular (in terms of photo/narrative coverage) centre of Zurich).

From the dynamic map in Fig. 5 (and various variants of it by adjustment of spatial, temporal scale, speed of display, spatial extent and location) we can glance several diurnal patterns. Some facilities, such as the Zurich Zoo have strong daily time-variation of photo-taking activities.

An extension (not depicted here) used colour in order to visualize the number of different contributors per grid cell as a second dimension. This was deemed to be useful in order to distinguish widespread photo-taking activity from a narrative about a special event by one or several contributor(s).

Work in progress/possible extensions encompass animated maps depicting weekly (weekdays, weekends) and yearly patterns (seasons, months) as well as using distinct photo authors rather than pictures as primary variable to be depicted. A preliminary aspatial visualization of the variations in yearly photo-taking pattern can be seen in Figure 6.

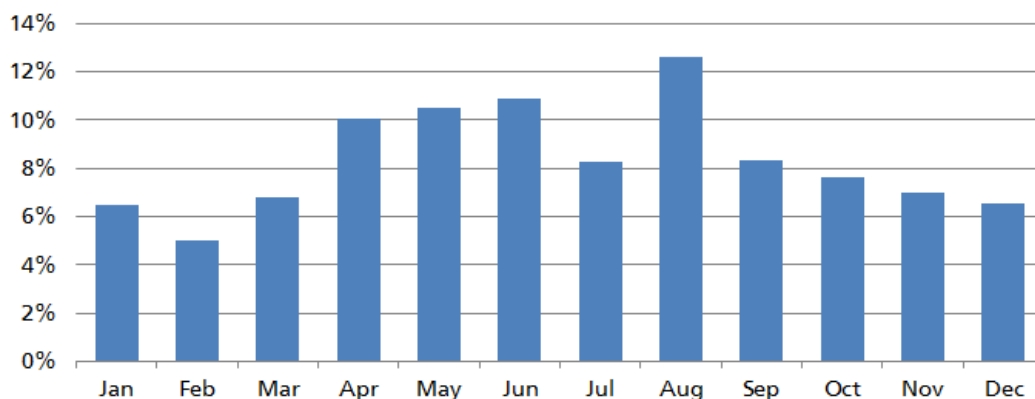


Figure 6: Monthly distribution of photos.

4.3 Analysis of contributors characteristics: Do different people cover a different geographic scope in their photo-based narratives?

Fig. 7 and Fig. 8 show the most prevalent countries of residence amongst photo contributors on a per-photo and per-contributor basis.

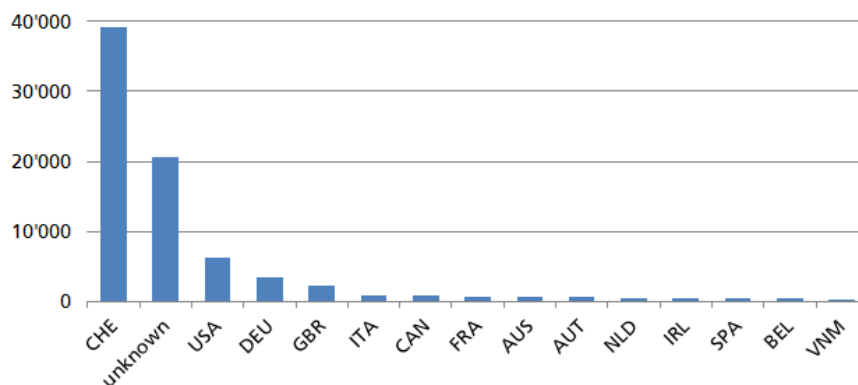


Figure 7: 15 most prevalent countries of residence (ISO codes) on per-photo level (CHE: Switzerland, DEU: Germany, AUS: Australia, AUT: Austria, NLD: Netherlands, VNM: Vietnam).

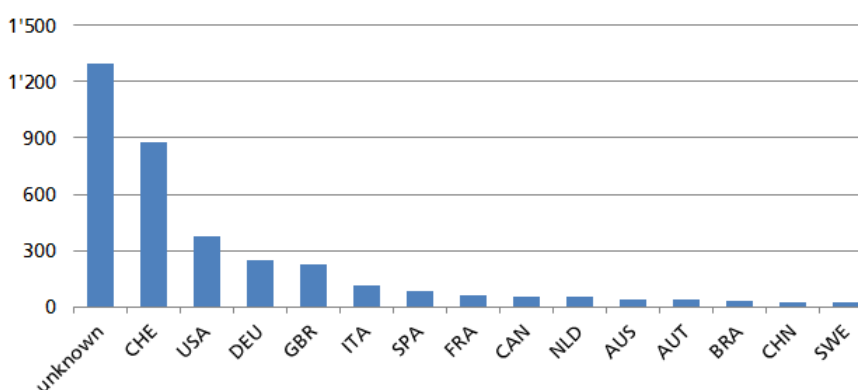


Figure 8: 15 most prevalent countries of residence (ISO codes) on per-user level (CHE: Switzerland, DEU: Germany, NLD: Netherlands, AUS: Australia, AUT: Austria, CHN: China).

For the analyses of geographic coverage by different nationals we selected the eight most prevalent countries in terms of numbers of photos. These are: Switzerland, USA, Germany, United Kingdom, Italy, Canada, France and Australia.

Coarse-Scale Analysis

Figure 10 shows the coarse-scale analysis of relative distribution of photo-taking locations by people of different residency (cf. Figure 7; legend key in Figure 10). While the city centre is generally well represented in the photo-narratives of people from different countries, the overall distributions exhibit significant dissimilarities. Unsurprisingly, photos by Swiss are more ubiquitous than those by any tourist group. Note, that when interpreting the spatial distribution one has to keep in mind, that a distribution may be based on a considerably smaller set of either photos (cf. Figure 7) or photographers (cf. Figure 8) or both.

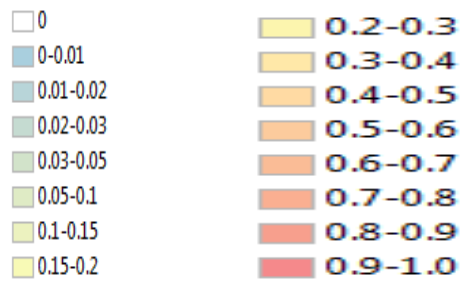
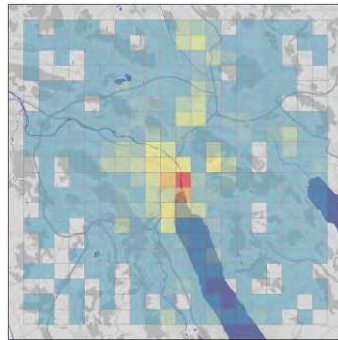
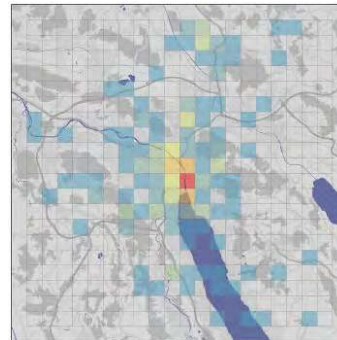


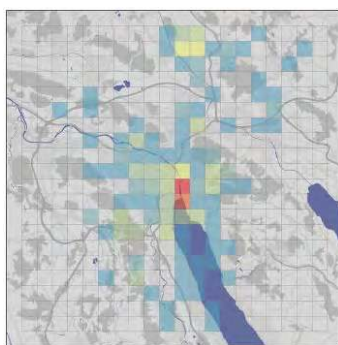
Figure 9: Legend key for both Figure 10 and Figure 11.



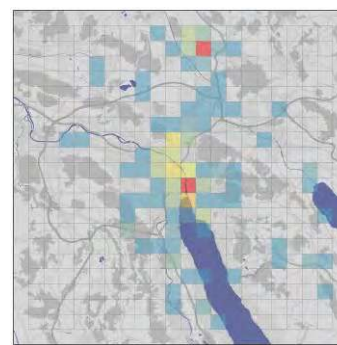
Switzerland



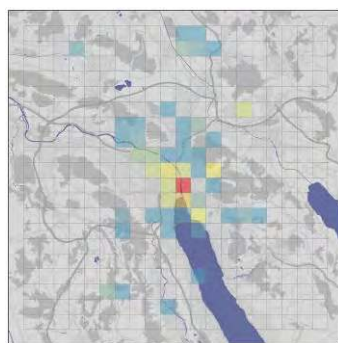
USA



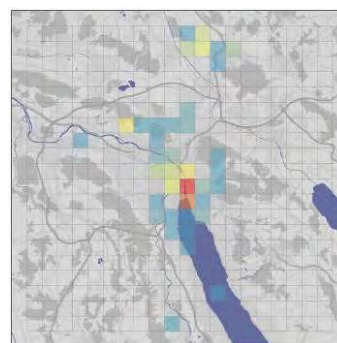
Germany



United Kingdom



Italy



Canada



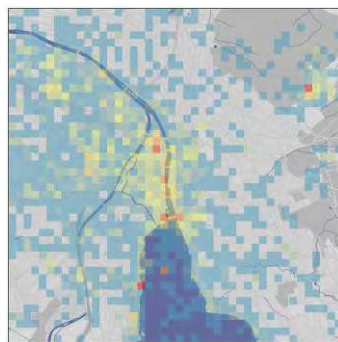
France

Australia

Figure 10: Small multiples of relative distribution of photos taken by people of different residency.

Fine-Scale Analysis

Similar caveats and interpretation apply to Figure 11 showing the spatial distribution at finer spatial scale and resolution as to Figure 10 previously (legend key in Figure 10).



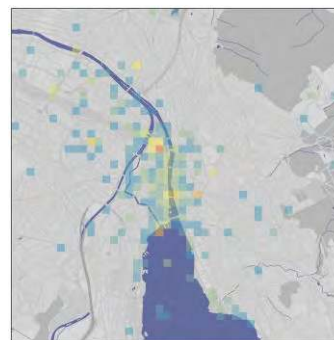
Switzerland



USA



Germany



United Kingdom

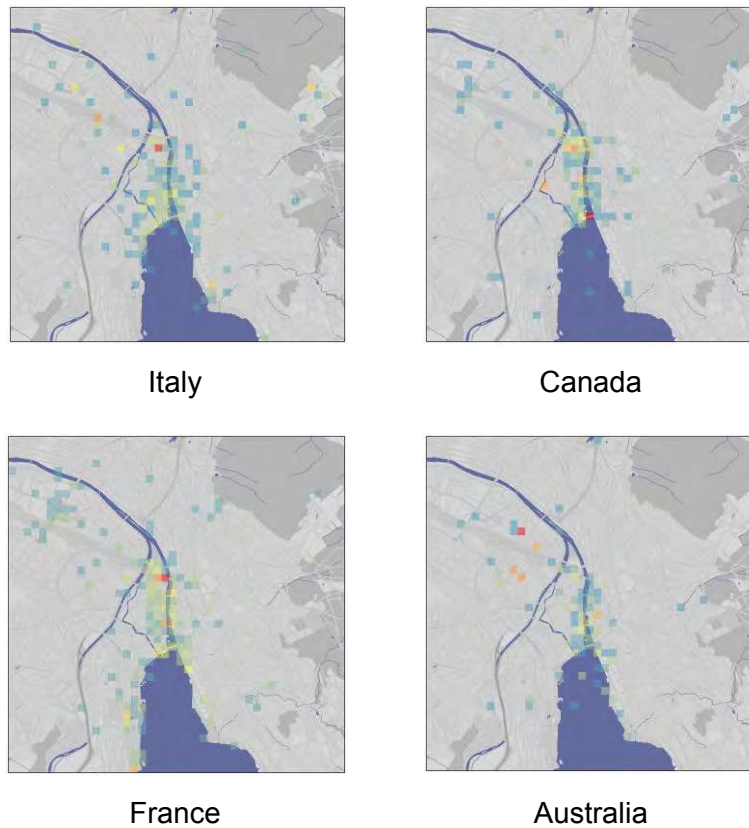


Figure 11: Small multiples of relative distribution of photos taken by people of different residency.

4.4 Storytelling and spatial typification

Besides authorship and geographic coverage and scope we consider annotations of any kind (image title, description, tags, image notes (the latter are actual annotations of image areas)) an important part of photographic narrative. Thus annotations of images were also analysed. Fig. 12 to Fig. 14 give some indication to tagging, commenting and annotating activity amongst Flickr users. The large skewness of the distributions is readily visible – a common internet phenomenon.

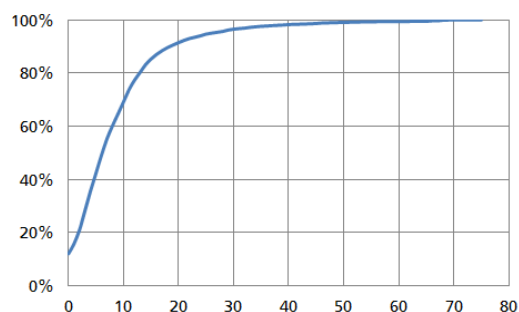


Figure 12: Cumulative distribution of number of tags per photo.

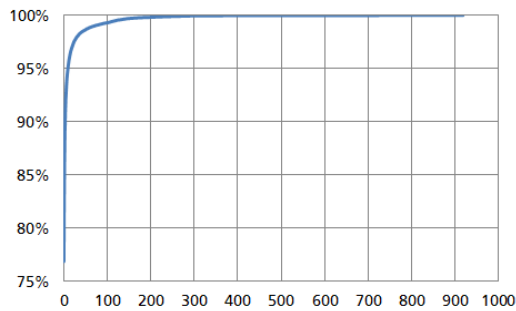


Figure 13: Cumulative distribution of number of comments per photo.

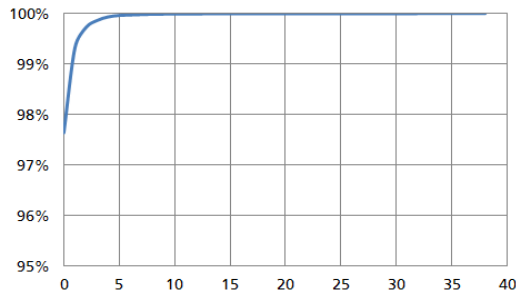


Figure 14: Cumulative distribution of number of notes per photo.

Tags and image titles were included in an interactive, explorative visualization piece. The text from image tags and titles was used in order to derive most salient terms for each grid cell in the study area. The methodology employed was tf-idf (or tf*idf; term frequency-inverse document frequency) from information retrieval, a well-established method to weigh those terms less that are most ubiquitous and weigh terms more that are special or unique to a certain location. Additionally to these most prominent terms the explorative visualization includes small displays of those images in the respective grid cell that are most popular amongst Flickr users.

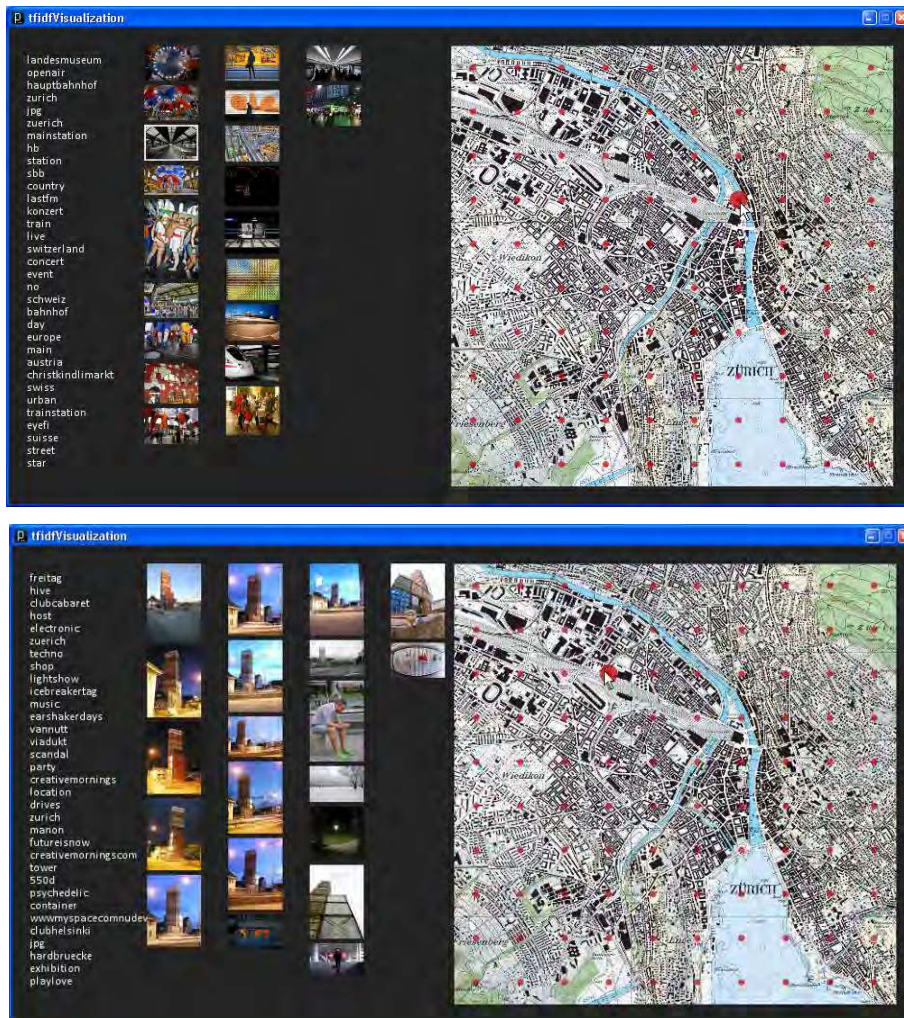


Figure 15: Example screens from Geo-Photo Explorer: the displays shows up to 20 most popular photos and the most typical terms harvested from tags and image title using tf-idf algorithm for the grid cell over which the mouse hovers.

Assessment, exploration and fine-tuning of this last visualization is still work in progress. Some interesting findings regarding tagging and favouriting behaviour have been made, however. Certain landmarks are very salient within their respective grid cell and thus often photographed, tagged and favourited (this applies, for example, to the Freitag Tower depicted in most photos in the lower example in Fig. 15).

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Appendix A: Metadata for Flickr images

<i>Attribute</i>	<i>Description</i>
Photoid	Flickr photo ID
Acc	Geocoding accuracy, operationalised as map zoom level during manual geocoding. It is unclear what various Flickr clients will indicate for different geocoding methodologies.
Lat	Latitude
Lon	Longitude
UserID	Flickr user ID
UserName	Flickr user name (human-friendly)
UserRealname	Real name (though this is not verified or enforced in any way)
UserLoc	User location (no formalisation or verification)
Title_lc	Photo title (free text entered by user) , if present
Desc_lc	Photo description (free text entered by user), if present
Ntags	Number of tags
Normtags	Normalised tags (i.e. lower-case, pruning of special characters/hyphens/etc.), if present
NNotes	Number of notes (image annotations which users can create in order to e.g. highlight an individual region of the image)
Notes_lc	Text associated with notes, if present
DateTime	Image creation date and time stamp
Date	Image creation date
YYYY	Image creation year
MM	Image creation month
DD	Image creation day
Time	Image creation time stamp
hh	Image creation hours
mm	Image creation minutes
XS_Url	URL of very small version of image, if present
S_Url	URL of small version of image, if present
M_Url	URL of very medium version of image, if present

L_Url	URL of large version of image, if present
NViews	Number of time this image has been viewed
NComs	Number of comments this image has attracted
NFavs	Number of times this image has been favourited.
NInteractions	Number of interactions this image has attracted (= NNotes + NComs + NFavs)
ComsPerView	Comments per view (NComs / NViews)
FavsPerView	Favourites per view (NFavs / NViews)
IntsPerView	Interactions per view (NInteractions / NViews)
Cam	Camera Model, if present
Manufacturer	Camera Manufacturer, if present
Rotation	Rotation angle of image. Attribute was regarded as mostly useless, since the data yielded 77,463 occurrences of value 0 versus 937 times 90, 35 times 180, 679 times 270 and 2,080 times NoData.
ExpNum	Exposure value, if present
ExpUnit	Exposure unit, if present
AptNum	Aperture value, if present
FocNum	Focal length, if present
FocUnit	Focal length unit, if present
Complete	Completeness of metadata acquisition for this image. 71,683 records were complete (88.3%) versus 9,511 incomplete (11.7%).

Appendix B: Derived metadata for Flickr images

Country	Country/countries of residence of Flickr user, as indicated in UserLoc
Tourist	Flag whether somebody resides outside Switzerland
X	X coordinate [m] in Swissgrid national projection system
Y	Y coordinate [m] in Swissgrid national projection system
SQID[1000, 500, 250, 125, 62.5]	ID of containing cell in [1000, 500, 250, 125, 62.5] metres gridding of study area
X[1000, 500, 250, 125, 62.5]	X coordinate grid cell centre
Y[1000, 500, 250, 125, 62.5]	Y coordinate grid cell centre

Appendix C: Heuristics for derivation of country of residence and tourist status

First, it was tried to extract the country of residence programmatically from the string stored in the UserLoc attribute of the Flickr profiles. Since many users adhered to the format “City, Country”, this approach was successful for a significant proportion of users (however, also those required manual checking). In the case of users from the USA, often the state abbreviation was used in the place of the country (e.g. “CA”, “MA”); this was corrected for.

Other cases were more difficult to approach:

User specified several countries: Keep up to two countries. If user specifies > 2 countries, their country of residence is “various”.

User used non-English language: Effort was made to research English term. E.g. “Caerdydd” (Welsh for Cardiff), “embra toon, ecosse”, “Bilbo, Euskal Herria”.

User specified toponym subordinate or superordinate to country level: Moderate effort was to research the referent. E.g. “brooklyn”, “Brussels, Europe”, “Lecco/Pisa, Europe”, “Scandinavia”.

User specified idiosyncratic term: Moderate effort was made to identify the referent of the term. E.g. “Beantown” (refers to Boston), “Minneapolis, United States of Awesome”, “Madison, Wis., United States of Disregard”.

User specified coordinates: No special effort was made to retain these locations.

User specified too ambiguous, too imprecise or made-up toponym: These records were set to NoData, e.g. “One Love, Earth”, “I live in a place with lots of sunshine :o), In southern Europe..... , o)”, “Nowhere and Everywhere”, “Venus”, “World, World”.

In some cases where *Country* has been left NoData, the tourist status of the user could still be defined, e.g. for “Scandinavia”, “Saint-Etienne-Lyon-Barbarel -Mantova-Torino, Francltalia”.

World/Map/Eye - I/Map/World

Katrina SIMON

Project description

Maps are readily associated with narratives of travel and inhabitation, where the content and form of the map denote a selective and meaningful articulation of place and experience, whether individual or collective. Increasingly, the process of mapping is attracting attention as a narrative event in its own right, where the conceptual and formal constructions that enable and influence the making of a map or atlas are the primary focus of attention. This proposal addresses a particular narrative of cartographic process with a very long history; for over two thousand years cartographers have been devising projections that enable maps to be made of the whole earth.

The problem of drawing the surface of a sphere onto a flat surface is an ancient one in geometry and geography. The map projections devised by Ptolemy in the first century CE inspired new discoveries techniques and projections when his writings were reintroduced to European scholars, geographers and artists at the beginning of the Italian Renaissance. Graphic and mathematical projections that have been devised subsequently have created a vast and theoretically infinite repertoire of world maps.

Translating material from the surface of a 3 dimensional form to a 2 dimensional page requires some kind of apparatus that enables the translation of locations and surface data to be made. The conceptual apparatus of graphic projection creates a tangible relationship between a notional light source, the shape of the earth as a wireframe ball or graticule, and a surface onto which the light source casts a shadow of the graticule. The different relationship between the three components creates a different shadow, and each shadow, or map, has distinct spatial properties. These necessarily involve disruptions in the normal relationships between characteristics such as shape, size, and orientation. Mathematical projections create a translation by way of curved rather than straight lines, allowing even greater variation in the properties of the resulting map.

While the cartographic history of these developments in projection is well documented, the ideas of narrative within this history are open to further investigation. The narratives embedded in this relationship between map and world have several layers. One is the narrative of the casting of the shadow, a process that is made explicit in atlases and texts on map-making but virtually invisible in the map itself. Once a map is produced, the process of its conceptual and technical construction is effectively rendered invisible, and the viewing eye takes the place of the notional light source.

As the light source can range from infinity to the centre of the graticule, this has the effect of repositioning the viewer, both in relation to the projective apparatus, and also in relation to some notion of the inhabited world, conveyed by its familiar delineation. A further layer of narrative is that relating to the sequential development and selection of world projections that have been devised and deployed over two millennia. This sequence effectively creates the armature for the visual exploration of the dynamic relationship between world, map and viewer; viewer, map and world.

CINEMATOGRAPHIC ESSAY PROPOSAL

World/Map/Eye - I/Map/World

The ideas and apparatus of map projection lend themselves readily to exposition through cinematographic means, as they have a clear relationship to the construction and reception of the moving image via the media of space and light. The narrative exploration of world projections carried out via the cinematographic essay is envisaged as a moving image and animation/stop motion sequence that charts the historical development of world maps. This is done in such a way as to create an explicit relationship between the viewer, the process of map projection and the visualization of the earth.

The film is envisaged as more exploratory than purely documentary in nature. Instead of simply projecting a selection of significant map projections one by one in historical sequence, the movie will use the three dimensional space of the projective apparatus itself to explore the transformations between them. In other words, the sequence will move not just in time through the different world projections but will also animate and move the viewer through the spatial projection of each of the different maps, engaging with their unique deployment of the projective apparatus of light source, graticule and cast shadow. The effect of this will be to reveal the transformations in the viewing positions in relation to the earth, as well as the transformations of spatial properties that the different maps contain.

The raw material for the sequence will be sourced from the extensive literature available on world projections, where the graticules created by different forms of projection have been carefully documented and analyzed. The animation of the sequence will be achieved in a number of ways: some of the projections will be recreated and filmed from the point of the generating light source as well as from a variety of positions; some 2 dimensional map projections may be cut out of the surface matrix and this new wireframe may be subjected to further transformation by photographing or filming the effects of shadows cast as the viewing position moves in relation to the graticule; morphing software may be used to transform from one map projection to another, which may in turn generate new map projections.

Some of these techniques have already been used as the basis of exhibitions that I have produced as part of an ongoing series of projects relating to maps and mapping. A key idea behind this proposal is that the viewing of the map of the world can be seen as directly

connected to its conceptual and visual production. Re-viewing the map through the medium of the moving image can be seen as a potential source of further projective iteration. The construction of this visual narrative may thus extend our ideas of the world through our visual engagement with projecting and mapping it, as well as contribute to the conceptual and formal development of the narrative of world projections.

A Pictorial Transect of the United States [in Attribute Space]

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The core product of this project will be an animated stream of aerial photographs depicting places along a high-dimensional transect across the United States, with the intent of visually conveying the diversity of landscapes encountered. The succession of environments encountered in a *conventional* long-distance transect of geographic space tends to be characterized by a mix of cyclical and continuous patterns of change. For example, a traditional travelogue might recall a repeated sequence of forests-fields-town-fields-forests or of ridges and valleys. Contrary to this, I intent to unravel that “natural” sequence and instead completely focus on the continuity encountered among geographic locales, irrespective of their physical location. Since *that* continuity will be based on the *similarity* of locales – in other words their proximity in an attribute space as opposed to their physical proximity – one could interpret the resulting pictorial narrative as a willful enforcement of Tobler’s First Law of Geography. The pictorial transect imagines a world that is dominated by slow, gradual variation.

While the audience will be immersed in a space of colors and textures inhabited by the aerial photographs, similarity as such will be derived from a completely different space, namely a high-dimensional space formed by a large number of descriptive attributes, including climate, soils, geology, land use/cover, and population attributes.

Specifically, I intent to leverage a data set of 200,000+ polygons covering the continental U.S. to which the above-mentioned attributes were attached in a previous study (Skupin and Esperbé 2011). Two locations at opposite ends of that 69-dimensional attribute space will become start and end points of the transect. For example, rural Arizona and downtown Manhattan might be two such locations, though the exact pair will be determined strictly computationally, aiming for maximum dissimilarity. The path connecting the start and end point will be refined through a sequence of interpolated high-dimensional vertices. For each of those *surrogate* locations, the most similar *actual* location is determined and the corresponding aerial photograph retrieved.

The final, animated display will be dominated by a smoothly transitioning sequence of aerial photographs. This is accompanied by two smaller displays, in which the corresponding transect path is projected into a traditional geographic map and into a two-dimensional depiction of attribute space, with the latter presumably showing slow and

steady movement and the former displaying more rapid transitions. Depiction of attribute space will be based on a high-resolution self-organizing map of the continental U.S. (Skupin and Esperbé 2008, 2011). The proposed transect is a type of attribute-time path (ATP) that is delineated in the attribute space itself (as opposed to the transformation of GPS tracks into ATP form, as demonstrated by Skupin (2007)).

One of the interesting questions regarding the resulting pictorial journey across the United States will be whether the presumed continuity of aerial photography patterns will indeed occur. Several sources for discontinuity (i.e., rapid change in visual patterns) come to mind, including overly large dissimilarity between some surrogate locations and their best-matching actual location (which basically means that a hypothetical locale does not exist in geographic reality). The presumed affinity between descriptive attributes and patterns visible from the air may also be problematic.

In a larger context, it is hoped that this project will stimulate the development of new perspectives on the very notions surrounding “geographic narratives”, which are often either too narrowly grounded in traditional ideas of geographic space or are alternatively altogether dismissing approaches involving measurement, computation, and visualization.

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Hyperreal & Augmented Narrative Maps

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Introduction

The borders between the real and unreal are blurred. The faith we put into a manufactured landscapes, the trust we place in a machine for everything we do, where we go, getting up with alarm clocks, people running their lives from phones, are absorbed by media. Instantaneous access to the world through concepts such as ‘chronoscopic’ & ‘dromospheric’ are changing our perspectives (Virilio, 1997). To think we are not living a fantasy is to not be realistic about it. Through augmented reality it offers a further medium to enhance and exploit this fantasy and reliance on the machine of technology. There to help make our choices of how to consume the world and how to perceive it. I intend to show how augmented reality can integrate aspects of this media machine-fueled reality, or hyperreality as I suggest it becomes, to further enhance the world outdoors through the Creative Maps project.

Augmented Reality & Creative Maps

Using crowdsourcing and google maps through augmented reality enables everyday users to enjoy and engage with the real world better than they would without it.

There is the argument that randomly finding your way when visiting a city or location was an experience that allowed you to interact with the environment and discover all the little nuances that enhance the enjoyment of the journey. I intend to explain how through mobiles and the Creative Maps project the users will be able to discover the environment without the frustration of getting lost, and have time to take in their surroundings without having to focus on their ultimate destination. who amongst us has not had the frustration and stress of not knowing where they are, where they are going, and even doubt if the place actually exists. Now because of augmented reality they can better engage and enjoy the journey in a more relaxed manner.

By freeing up peripheral vision with AR and the selections made from google maps and crowd-sourcing would allow you to discover the environment in a more relaxed manner as you have the assurance of knowing that you’re heading in the right direction. It lets you focus your attention on discovering things that are of interest. An example would be Bruce

Chatwin's Songlines that by use of words in song and music allows aborigines to interact within their world without the use of maps.

Augmented reality is a form of 'participatory simulation' (Naismith, Lonsdale, Vavoula, Sharples, 2004).

From this & the Creative Maps project allow users to be part of crowd sourced selections, represented through simplified google maps (Caquard, 2012).

Marshall Macluhan called this 'the unreality of a world depicted through electronic media' (Coupland, 2010) and engages 'situated learning' in a 'context sensitivity' (Naismith, Lonsdale, Vavoula, Sharples, 2004) where users experience a 'reality of what [is] physically available to individuals' (Coupland, 2010).

The Creative Maps project when accessed through the augmented reality iOS app for smartphone/portable device is a form of 'egocentric subjectivity' (Nold & Boyd-Davis, 2009). Depending on the direction the lens of the devices camera is pointing at a given location and a set radius of the near vicinity, this would change the representation of what POI's (points of interest) can be seen. This works on the premise of non-peripheral vision, 'what we attend to is in the centre of the field of view where visual discrimination is finest, while things not currently of importance are confined to less well defined regions at the edge of sight' (Nold & Boyd-Davis, 2009).

Once a user has selected a POI to navigate too, through integration of other apps on the same device such as Google Navigate, you no longer need to monitor the device as the app works much like a GPS Sat Nav and verbally narrates directions to you unique to your location. With this functionality your vision is no longer fixated to non-peripheral and is free to allow you to see the world at the 'edge of sight'.

Discarnate Man, Fantasy & Hyperreality

Being able to engage with the world at the edge of sight, the narrative, the story of the journey will be enriched further and internalised, imbued with meaning as you are free to interact with them better and build your own connotations of places. I believe that through this internalisation it can help to serve and build a 'poetic image', where places, architecture, what you see are a 'salience on the psyche', they do not require knowledge and it is this poetry, which 'rather than being a phenomenology of the mind, is a phenomenology of the soul' (Bachelard, 1958). Therefore as you perceive these places on the edge of sight, you will build these poetic images imbued with your own connotations and meanings through your heart and soul, your emotions and pleasures.

Bachelard continues to say mind you that 'within the city dwelling there is no room for daydreams' (Bachelard, 1958). It is these dreams which bring great pleasure and I think that engaging with the world through augmented reality and electronic media, it elicits the

imagination of how the physical city looks through the hyperreal. Indeed Macluhan describes someone who prefers the unreality of a world depicted through electronic media such as google maps, or more generally video games, television, 'is an electronic human disconnected from his body', his heart and soul. He describes them as a 'discarnate man who prefers a world between fantasy and a dream' (Coupland, 2010).

I think that, the hyperreal created through augmented reality on electronic devices would provide room, a space within the city dwelling to which users can daydream. As the electronic human, discarnate man, will still have that connection to the world between fantasy and a dream. This world is the hyperreal.

There are differing views of what hyperreal means, Sebastien Caquard proposes that the 'map is more interesting than the territory because it is an idealized simplification of a complex – and often depressing – reality. This resonates with the idea that in the postmodern world most of the time the hyper-real appears joyful beside the deterioration of the environment to which it refers (Westphal, 2007).' (Caquard, 2011).

This view that 'Google Maps are more interesting than the territory' (Caquard, 2011), 'appear joyful' I believe is true, and is no doubt a major contributing factor to the reasons as to why crowd-sourcing uses of the google maps are popular.

A further view of hyperreal is that of Baudrillard.

'The era of hyperreality now begins. What I mean is this: what was projected psychologically and mentally, what used to be lived out on earth as metaphor, as mental or metaphorical scene, is henceforth projected into reality, without any metaphor at all, into an absolute which is also that of simulation' (Jencks, 1992).

The Creative Maps project utilises a customised digital google map style marker (sign) that is overlaid through augmented reality to identify POI's. I believe this google map marker is abstracted far enough in form and context/purpose from its origin to no longer be reflecting or mirroring a pushpin or drawing pin object(s) in reality, and therefore bear no relation to reality whatsoever and fulfil this simulacra. Indeed with their scale and use through augmented reality they bear no relation to reality in their use with the Creative Maps project and iOS app.

Interestingly Baudrillard describes an example of a hyperreal environment being Disneyland, as the signs and objects depicted are not examples of everyday reality. Indeed Disneyland in relation to this project of Creative Maps is that it is a place that is there to enable dreams and fantasies. Therefore with this understanding of hyperreal being a simulation, a simulacra, or to look at it as augmented reality and google maps vernaculars & crowd-sourcing are a simulacra. They are enhancing the environment as outlined as ways to imbue places with these poetic images that fulfil enjoyment and pleasure.

Conclusion

The views of Sebastien Caquard & indeed Gaston Bachelard are considered, or influenced by Geo-criticism. It is this Geo-criticism which is what the Creative Maps project is doing, critiquing, as well as enhancing the geographic terrain, reality.

Through augmented reality it is a medium to enhance the enjoyment through electronic fantasy, but also instigating critique through its presentation of POI's. The project invites people to engage with their environment and critique along their journey using peripheral vision and seeing the world at the 'edge of sight'.

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