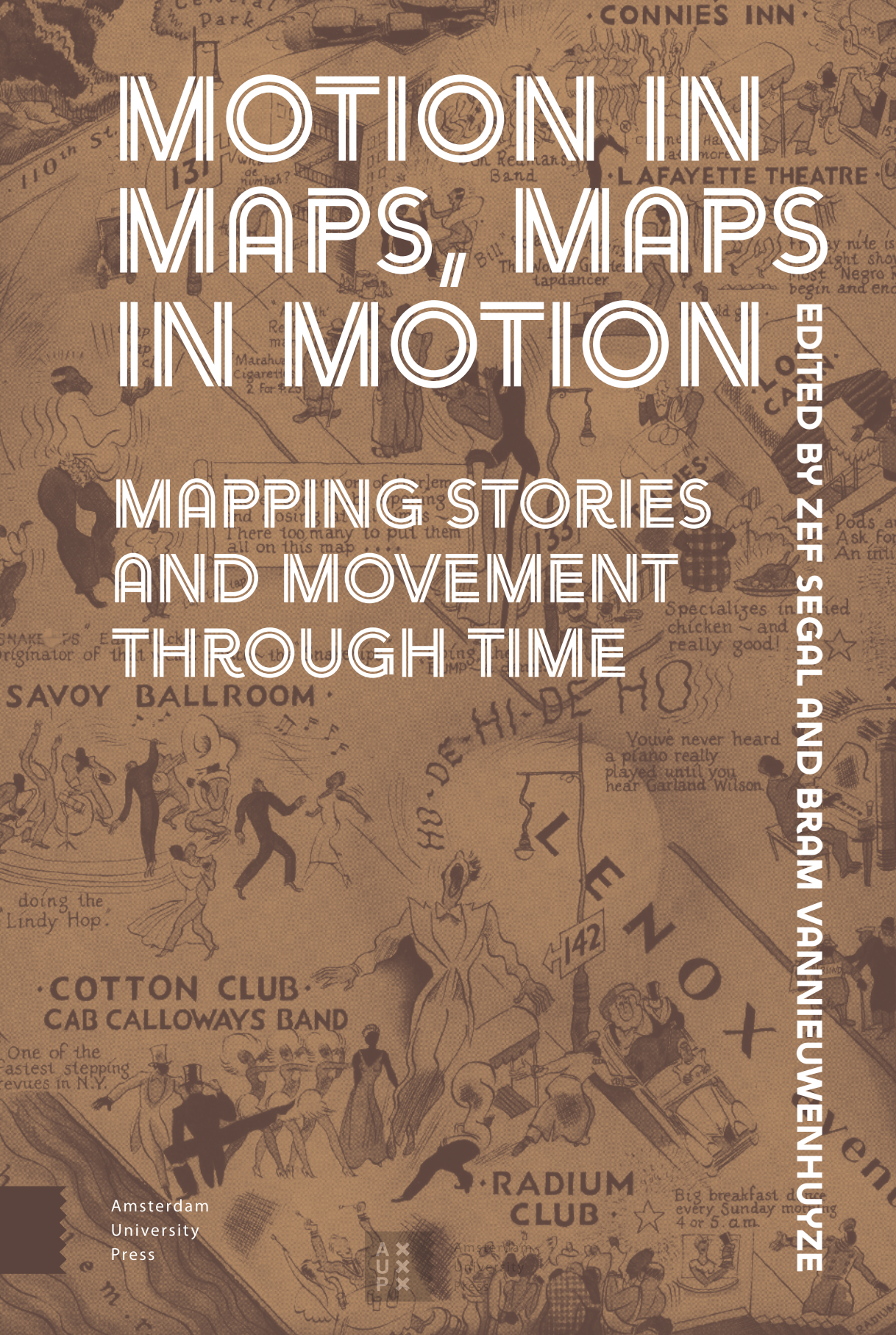

MOTION IN MAPS, MAPS IN MOTION

MAPPING STORIES AND MOVEMENT THROUGH TIME

EDITED BY ZEF SEGAL AND BRAM VANNIEUWENHUYZE

Amsterdam University Press

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Mapping Stories and Movement through Time

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Cover image: *A Nightclub Map of Harlem*, drawn by Elmer Simms Campbell in 1932 (Washington, Library of Congress, Geography and Map Division, 20540-4650 USA dcu).

Cover design: Coördesign, Leiden
Lay-out: Crius Group, Hulshout

ISBN 978 94 6372 110 3
e-ISBN 978 90 4854 295 6
DOI 10.5117/9789463721103
NUR 905

Amsterdam
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Table of Contents

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List of Figures

Figure 49 Souvenir weather map for the evening of 27 May 1896, distributed by the US Weather Bureau, to publicize its successful forecast that morning of an outbreak of 'tornadoes and violent local storms', marked with red crosses. Faint patches of red squares and triangles are read-through images of warning signals printed on the opposite side. 182

List of Diagrams

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Introduction

Jörn Seemann, Zef Segal, and Bram Vannieuwenhuyze

Maps are movement

For many people, maps are still conceived as two-dimensional graphic representations of spatial arrangements, printed or drawn on paper, included in a book, posted against a wall or, more recently, seen on a computer or smartphone screen. From this perspective, maps remain static documents, offering a range of lifeless geodata such as landscape objects (buildings, rivers, roads, mountains, swamps, etc.), surface areas (parcels of land, parishes, communes, cities, states, continents, etc.) and/or their thematic attributes (population densities, outbreak of diseases, levels of education, etc.). The function of maps is limited to location (what is where) and the physical space of the representation (printed or digital) only serves as a receptacle or repository for information. For their part, cartographers tended, and still tend, to map stable phenomena to endow their products with 'greater longevity if not greater utility,' and also to shift 'the burden of dealing with environmental temporality' to the map users.[1] In other words, '[b]y making maps of relatively static features, cartographers may simplify their job, but they largely ignore the fact that time is a vital part of the map user's world.'[2] As a result of this limited and limiting notion of maps, both movement and temporality are put in the background, stripping cartographic representations of their temporal depth, spatial dynamicity, and, equally important, of their potential and power as storytelling devices.

However, many old and new maps provide far more than just a static representation of spatial arrangements. Numerous examples of maps present narratives (e.g. wars and sieges, natural disasters, building campaigns, and miraculous events) and movement (e.g. traffic flows, pilgrimages, migration patterns, discoveries, weather changes, and trade routes). They visualize a particular (hi)story that happened 'in' the mapped landscape or territory, and spread the

1 Muehrcke and Muehrcke, *Map Use*, p. 160; see also Harrower, 'Time', p. 1528.
2 Muehrcke and Muehrcke, *Map Use*, p. 162.

Segal, Z. and B. Vannieuwenhuyze, *Motion in Maps, Maps in Motion: Mapping Stories and Movement through Time*. Amsterdam: Amsterdam University Press, 2020
DOI 10.5117/9789463721103_INTRO

news of one or more events; they show the directions, extent, and importance of flows of people, goods, physical phenomena, or societal trends. In addition, their production and consumption is always connected to flows of material and intellectual resources.

In this introductory chapter, we will discuss some current themes in the ongoing research on interrelations between mapping, motion, and narratives, and demonstrate the mutual existence of these elements in a thirteenth-century map and a twenty-first-century digital concept. We aim to focus the attention of map historiography on the diverse aspects of mobility, rather than the static depictions of the past. As the chapters in this volume eloquently demonstrate, maps do move, and in many diverse ways, whether in their content, production process, or usage. The six case studies range from seventeenth-century Dutch theatres of the world to the mapping of the present and the past in an American town through the lens of social media, from historical Japanese maps to Dutch school atlases, each showcasing different types of movement, relevant to its particular historical context, and the 'emplotment' of these movements in (series of) maps.

Movement in maps: The Ebstorf *mappa mundi* as example

The famous Ebstorf *mappa mundi* from the thirteenth century may serve as an early example to point out the dynamic elements of maps that are characterized by narratives and movements in a broader sense, resulting in what we label 'story maps' and 'motion maps'. Supposedly drawn in the Northern German monastery of Ebstorf and destroyed during World War II, the map is divided into thirty parchment sheets and spans an area of more than twelve square metres (Figure 1).[3] The circular shape symbolizes the body of Christ, indicated by a pair of hands, feet, and a head on the top of the image, next to a representation of Paradise. As a medieval T-O-style map, the Ebstorf *mappa mundi* puts Jerusalem at its centre, with the rest of the world literally spinning around the sacred city.

The map contains approximately 1,500 text references (mere place names or detailed descriptions) and the depiction of 500 edifices, 160 water bodies, sixty islands and mountains, forty-five human or human-like beings, and about sixty animals.[4] There are many parallels between this map and present-day story maps that convey messages, stories, facts, and sometimes fantasies or fake news. On the one hand, pictures of curious animals and humans with strange anatomies and qualities described in a Marco-Polo-esque style are used to tell stories of remote

3 Miller, *Kurze Erklärung der Weltkarte*, p. 11.

4 Warnke, 'Das Thema ist die ganze Welt', p. 269.

Figure 1: Ebstorf *mappa mundi*, thirteenth century (Wikimedia Commons, https://commons.wikimedia.org/wiki/File:Ebstorfer-stich2.jpg).

and unknown places, e.g. the four-eyed *maritimi* in Northern Africa who excel in archery, or the birds in the forests of Hyrcania, southeast of the Caspian Sea, whose feathers glow in the dark. On the other hand, locations closer to Europe and the known world, including Ebstorf itself, are only simple locations, depicted by words or drawings on the parchment. As a complex visual statement from the Middle Ages, the Ebstorf map serves multiple purposes: as an encyclopaedia for education; as an iconographic argument to document God's creation; a devotional image; a political symbol of power; a world chronicle depicting medieval histories and worldviews; an illustrated Bible; a collection of myths and legends or even

anecdotes for entertainment; a zoological handbook; and, most obviously, as a simple map.[5]

In addition to its multiple storytelling contents and function, the Ebstorf *mappa mundi* reflects various types of movement, as do many other maps. Movement could be physical, since the mapping process includes the motion of information: 'Throughout history and across different cultures, oral and written stories have been recounted to map-makers by travellers and sailors, surveyors and artists, even writers and theologians. As map-makers assimilate these narratives, they in turn create their own graphic stories about the places they represent.'[6] In order to obtain information about the places on the Ebstorf map, someone had to go there physically to report on this news. Furthermore, rumours or stories about a place had to spread geographically before they reached the mapmaker at the Ebstorf monastery. Movement was also intellectual. Maps that represent the same themes, use similar production techniques (e.g. colours or symbols), and were produced during the same era, or published in the same place, reveal an intellectual movement expressed through changes, errata, and the introduction of new ideas. The Ebstorf map, for example, was certainly inspired by previous medieval works (e.g. Isidore of Seville's T-in-O map in his *Etymologiae*) and possibly served as a template for other cartographic depictions (e.g. the Hereford *mappa mundi* or Ranulf Higden's world map in his *Polychronicon*). The comparison of maps from different places and times provides ideas about changes in map contents and cartographic design in a broader context of cartographic history.

In addition, both the map and its users were and are in motion. This type of movement is accentuated and accelerated nowadays through digital mediums. With the emergence and spread of new cartographic applications and visualization technologies, many old maps, including the Ebstorf map, are now accessible online, not only as simple rasterized and downloadable digital images, but also through interactive interfaces that help map users navigate through the map space. Digital versions open up new perspectives on and relationships with maps because the users can literally be 'inside' them, adapt them, or add data. The Ebstorf *mappa mundi* is an early example of transferring analogue maps to digital environments. Since the end of the 1980s, the EbsKART digitization project at the Leuphana University (Lüneburg, Germany) has been working on a user-friendly, navigable online version of the document, which allows the reader to explore the map.[7]

5 Pischke, 'The Ebstorf Map', p. 157.

6 Brotton and Millea, *Talking Maps*, p. 9.

7 See the webpage http://www2.leuphana.de/ebskart/ (accessed 16 December 2019). The Belgian *MAGIS Brugge* project is a more recent example, which takes Marcus Gerards' sixteenth-century bird's-eye view of Bruges as the base layer for a searchable web database on the history of the medieval and early modern city, see http://magis.kaartenhuisbrugge.be (accessed 31 January 2020) and also Vannieuwenhuyze and Vernackt, 'Digital Thematic Deconstruction', pp. 26-30.

Mapping stories and motion

This volume focuses on the multiple and diverse relationships that exist between maps and cartography, on the one hand, and narratives and motion on the other. According to John Brian Harley and David Woodward's widespread definition of maps as 'graphic representations that facilitate a spatial understanding of things, concepts, conditions, processes, or events in the human world,' maps can indeed include or present narratives and motion.[8] While the Oxford English Dictionary defines 'narrative' as 'an account of a series of events, facts, etc., given in order and with the establishing of connections between them,' the term 'motion' in its more general sense is considered as 'the action or process of moving or being moved, with respect to place or position.' Although both narratives and motion can – and mostly do – have a spatial compound and thus can be mapped, they only rarely raised interest among map historians. During the last decades, however, the spatial and digital turns in the field of the Humanities have resulted in a large number of publications investigating the relations between society and space, culture and place. From a cartographic point of view, one major concern is about how to visualize narratives, flows, processes, and ideas that have been widely deemed 'unmappable', or – in a conventional cartographic sense – impossible to represent on a map due to their subjectivity, locational fuzziness, instability, and the randomness of their contents. Going beyond the map as we know it, scholars are now searching for alternative types of maps that capture movements and practices, following a shift from representation towards action, 'from considering texts as the bearers of culture, toward performative ways of knowing the world, in which the dynamic aspects of culture matter.'[9]

A current buzzword is 'deep map', a term introduced by the American travel writer William Least Heat-Moon in his in-depth exploration of place in Chase County, Kansas from 1991.[10] According to the English writer Robert MacFarlane, deep maps reflect place-related experiences in time and space and 'acknowledge the way memory and landscape layer and interleave.'[11] Instead of hard data, these maps are fed by mappable subjective values and 'discursive and ideological dimensions of place, the dreams, hopes, and fears of residents'; in short, they are 'positioned between matter and meaning.'[12] In the Digital Humanities, deep maps are multimedia depictions of places with many details and even ephemeral data

8 Harley and Woodward, 'Preface', p. xvi.
9 Perkins, 'Performative and Embodied Mapping', p. 126.
10 Heat-Moon, *PrairyErth*.
11 MacFarlane, *The Wild Places*, p. 145.
12 Bodenhamer, Corrigan and Harris, 'Introduction', p. 3.

that are closely related to everyday life. They are essentially 'visual, time-based, and structurally open'; in other words:

> They are genuinely multimedia and multilayered. They do not seek authority or objectivity but involve negotiation between insiders and outsiders, experts and contributors, over what is represented and how. Framed as a conversation and not a statement, deep maps are inherently unstable, continually unfolding and changing in response to new data, new perspectives, and new insights.[13]

What does a deep map look like? There is no specific general type. It can be an austere-looking official topographic map, on which indigenous sub-Arctic hunters pencil in their hunting grounds, fishing sites, and berry picking places,[14] or a 39 x 59 inches, foldable map showing the travel routes of the sixteenth-century French explorer and cartographer Samuel de Champlain along the Saint Lawrence River to the unknown backlands, in which both indigenous and European place names and Champlain's journal entries and imagined native dialogues appear as colour-coded texts.[15] Another example is the *City Atlas Trilogy* of the American writer Rebecca Solnit, which focuses on cartographic deep mapping. Solnit has produced alternative urban atlases of San Francisco, New Orleans, and New York, counting on the skills, creativity, and imagination of collaborating artists and map-makers.[16] The resulting atlases cover a wide range of themes addressing forgotten topics and marginalized populations from the past and present and combining improbable topics in one common map; for example, 'Poison/Palate' depicts famous or unique food places like the Ghiradelli chocolate factory and toxic waste disposals and polluting industries in the Bay Area.

A Nightclub Map of Harlem, a pictorial map of night life in Harlem, New York during the final years of the Prohibition era in the United States, is another good example (Figure 2).[17] Drawn by the American cartoonist Elmer Simms Campbell in 1932, the map features nightclubs and music shows (e.g. singer Cab Calloway, tap dancer Billy Bojangles, and pianist Garland Wilson), vignettes of common street scenes, and tips for night-birds, concentrated between Lenox Avenue and Seventh

13 Bodenhamer, 'Beyond GIS', p. 11.

14 Brody, *Maps and Dreams*.

15 Pearce and Hermann, *They Would Not Take me There*; see also Pearce, 'Framing the Days' and Pearce and Hermann, 'Mapping Champlain's Travels'.

16 Solnit, *Infinite City*; *Idem*, *Unfathomable City*; *Idem*, *Nonstop Metropolis*.

17 The map accompanied the folded newspaper *Manhattan: A Weekly for Wakeful New Yorkers*, 1933, vol. 1, nr. 1. Loose copies can be found in Washington, Library of Congress, Geography and Map Division, 20540-4650 USA dcu and in Stanford, Stanford Libraries, Rare Books Collection, G3804 .N4:2 H3 E622 1932 FF.

Avenue (today's Adam Clayton Powell Jr. Boulevard). In the title, Campbell mentions that 'the places that are open all night' are indicated by stars, including the 'nice new police station.' Entertainment goes hand in hand with alcohol consumption, but Campbell does not pin down the speakeasies, the illegal saloons, on his map, 'but since there are about 500 of them, you won't have any trouble [finding them].' The map is a 'compressed' version of Upper Manhattan between 131st and 142nd Avenues, emphasizing important clubs and omitting less relevant streets. The northern end of Central Park appears in the upper left corner; the top of the map is pointing southwest, as indicated by a compass rose in the lower right, which serves as a resting place for drunkards.

The caricatured drawings of street scenes (e.g. the reefer man, the blind beggar, and the food sellers) visualize the agitated nightlife in Harlem. The map captures movements and actions, based on Campbell's own personal experience and narrative of this New Yorker neighbourhood in the early 1930s: '[p]art tourist guide, part spoof, and part loving tribute, the map captures the boundless vitality of Harlem at the height of its popularity.'[18] In his autobiography, Cab Calloway included a printed copy of Campbell's map on the front and back inside cover of the book and wrote that '[i]t's not an ordinary map, and it gave a better idea of what Harlem was like in those days than I can give you with all these words. I always loved that map and I still have the original in my office at home.'[19] Much like twenty-first-century deep maps, Campbell's multi-layered map is the beginning of a discussion with the viewer, rather than an objective and authoritarian map.

As 'a kind of topographic story-telling that captures the spirit of a place and has a political agenda,' deep maps require 'a methodological and intellectual move beyond planar cartography to a more complex spatial-temporal assembling of multiple kinds of evidence and media.'[20] Accordingly, Robert MacFarlane distinguishes between story maps and grid maps. Story maps are place representations as they are perceived by individuals or groups. In a certain way, they are:

> [s]poken cartographies, describing landscapes and the events that took place in them. Maps that could be learned, amended and passed on between people and down through generations. This distinctive crag, that tree-line, this bend in the river, that rock at which this accident occurred, that tree where the hive was found: such features would have been descriptively plotted to make a route that was also a story.[21]

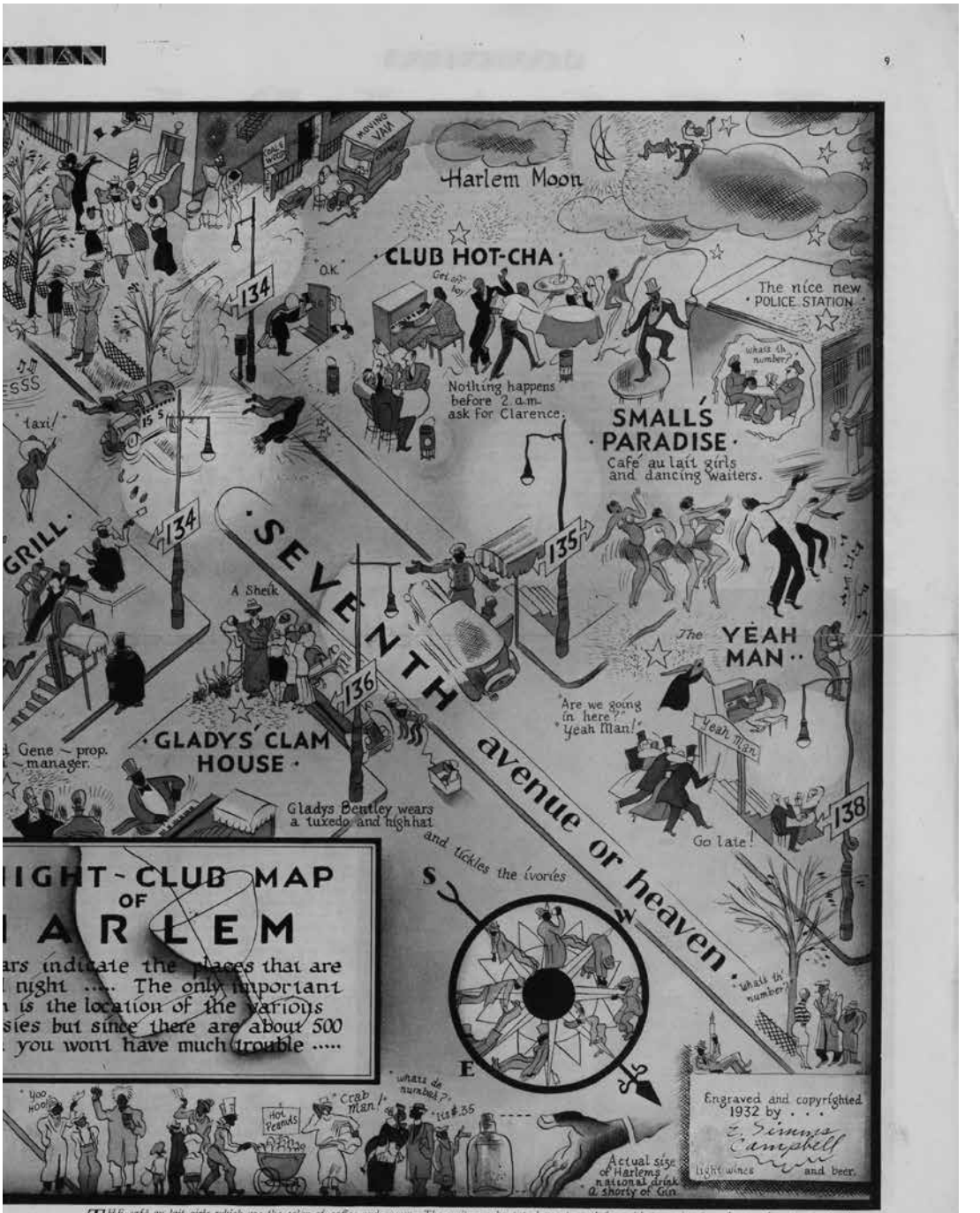
18 Schulten, *A History of America*, p. 190.

19 Calloway and Rollins, *Of Minnie the Moocher*, p. 119.

20 *Rethinking Maps*, p. 91.

21 MacFarlane, *The Wild Places*, pp. 141-142; for other examples of this kind of humanistic mapping, see Barry Lopez's short story *The Mappist* and Richard Francaviglia's cartographic history of the Great Basin (Lopez, 'The Mappist'; Francaviglia, *Mapping and Imagination*).

Figure 2: *A Nightclub Map of Harlem*, drawn by Elmer Simms Campbell in 1932 (Washington, Library of Congress, Geography and Map Division, 20540-4650 USA dcu).



THE café au lait girls which are the color of coffee and cream. The waiters who tap dance to and fro with trays bearing glasses of water (and other liquids) and never spill a drop. The police dogs which the sheiks hire for the Sunday Parade. The eternal Harlem question: "What's th' number?" meaning 3 Pari-mutuel digits of the seventh race, which all Harlem bets on. Most of the gamblers pick their numbers from dream books.

A "RELIEF" MAP OF GREENWICH VILLAGE IN THE FEB. 1 MANHATTAN

On the other hand, the grid map, a product of modern mapping practices that converts place into geometric space, 'celebrates precision, and suppresses touch, feel and provisionality.' The authority of grid maps eliminates 'our sense of the worth of map-as-story.'[22] Grid maps reproduce the rational ordering of space since the Renaissance, representing spaces and places as detached from human experience.[23] The spread and success of these maps can be seen as products of – or may have contributed to – what Max Weber has called the *Entzauberung der Welt* (the 'disenchantment of the world'), a process of rationalization, bureaucratization, and desacralization within modern Western society, which leaves no place for religion, superstition, magic, or mysticism.[24] In cartography, the dogma reigned that any location can be determined precisely, while spatial fuzziness, imprecisions, and temporal change were ignored. In grid maps, the complex and dynamic world is reduced to static data.

However, story maps and grid maps do not belong to separate or even opposite universes, and the former type is not scientifically worthless, nor is the latter humanistically insufficient. Furthermore, deep mapping, or at least its characteristics, is not necessarily a recent technique of cartography resulting from the digital revolution, as it can be found in many old maps. In their introduction to the exhibition catalogue *Talking Maps*, Jerry Brotton and Nick Millea rightly stressed that all maps are 'repositories of personal and collective knowledge, beliefs and memories, brought together by their unique ability to combine science with art, space with time, the visual and the written.'[25]

With the selection and juxtaposition of thematically, chronologically, and methodologically diverse case studies in this volume, we also argue that motion and change in time and space occupy a central position in map-making through the times. In fact, maps are rarely truly static. There are at least four different ways in which cartographic movement occurs. First, maps capture **movement and change in space and time** to indicate geographical differences and allow historical comparisons. Second, a map is part of a mapping process, and not just a singular product. These mappings are not restricted to the mathematical, but may also be cultural, spiritual, political, or moral and take a measure of the world 'in such a way that it may be communicated **between people, places or times**.'[26] Third, maps entail a user dimension. They might be dynamic and interactive, seeking to engage the reader, who can frequently find himself/herself **inside the map**, (virtually) navigate **through the map**, and (literally) move **with the map**. Lastly, maps are contested **references from and of the past** in all its complexity, diversity, and ambiguity.

22 MacFarlane, *The Wild Places*, p. 143.
23 Harvey, *The Condition of Postmodernity*, p. 246.
24 Weber, *Wissenschaft als Beruf*, pp. 16 and 36.
25 Brotton and Millea, *Talking Maps*, p. 9.
26 Cosgrove, 'Introduction', p. 2.

Narrative in/and cartography

There is another important element that characterizes story and motion maps: the representation of 'spatio-temporal structures of stories and their relationships with places.'[27] Maps can potentially 'tell' any kind of space- or place-related story visually.[28] Potentially, any map can function like a story, e.g. the use of the metaphor 'talking maps' as the title of a very recent exhibition at the Bodleian Libraries in Oxford.[29] In recent years, and especially with the emergence of critical cartography, cartographers, artists, writers, and journalists have increasingly become aware of the strong links between cartography and narratives. Sébastien Caquard and William Cartwright identified two main types of relationships: on the one hand, maps have been used to 'represent the spatiotemporal structures of stories and their relationships with referential places'; on the other, both maps and mappings have narrative potential themselves. However, in another publication, Caquard distinguishes between three clear, and even fundamental, differences between what he calls 'traditional forms of cartography' and narratives:

> While maps represent place and space, narratives are structured around time and a sequence of events. While maps typically provide a panoptic view of the world from above, narratives are often grounded, embodied perspectives. While maps present themselves as scientific and objective as possible, it is more difficult to dissociate narratives from their author and sense of partial perspective.[30]

The existence of these distinctions possibly explains why it remains very difficult to understand the narratives present in maps. When Jacinta Prunty and Howard B. Clarke edited their guidebook to the *Irish Historic Towns Atlas* series, they chose the title *Reading the Maps*, echoing the famous phrase 'reading the runes'. Just like runes, maps have an air of mystery about them, the editors argued, since 'they make extensive use of symbols and of conventions that need to be explained; they convey messages about spatial arrangements in a three-dimensional present and early maps do this in a four-dimensional past.'[31] The metaphor is, of course, especially relevant when it comes to 'reading' maps that 'tell' a story (and consequently, it appears in nearly all chapters of the present volume).[32] Story and motion map users are not only invited and challenged to interpret the spatial objects the maps

27 Caquard and Cartwright, 'Narrative Cartography', p. 101.
28 Caquard, 'Cartography I'.
29 Brotton and Millea, *Fifty Maps*, pp. 7-8; see also Brotton & Millea, *Talking Maps*.
30 Caquard, 'Narrative and Cartography', p. 986.
31 *Reading the Maps*, p. ix.
32 Vannieuwenhuyze, 'Reading History Maps'.

Figure 3: Second state of the map of Leyden, besieged by the Spanish army in 1574 (Amsterdam, Allard Pierson, OTM: HB-KZL O.K. 199).

present, but also to understand the stories and discourses that together form the map's narrative.

The narrative can be represented in figurative, abstract, or symbolic ways, according to the requirements of the mapmakers and to cartographic tendencies of the time. Sometimes, the map is all that is needed to present the story, or stories. Campbell's *Nightclub Map of Harlem*, for instance, releases its stories directly. Map users face little trouble 'reading' this extremely appealing map, overloaded with motion – although their readings possibly do not correspond with the story or stories the map-maker wanted to tell. In many other cases, narratives and motion are much more difficult to discern and interpret, either because the mapped storylines are extremely interlaced, or because they are scarce, scattered, or fragmented. Map users and historians must then definitely take into account the so-called paramap,[33] as is the case, for instance, with the seemingly motionless map of Leyden in the second volume of Georg Braun and

33 For a discussion of this concept, derived from Gerard Genette's 'paratext', see Wood and Fels, *The Natures of Maps*, pp. 8-12.

Frans Hogenberg's famous *Civitates Orbis Terrarum*, edited for the first time in Cologne in 1575 (Figure 3).[34] The narrative elements are extremely scarce, but the text in the cartouche clearly explains that the map evokes the siege of the town by the Spanish, followed by the liberation thanks to the provisioning of food by William of Orange in 1574.[35]

Web 2.0 increasingly offers the opportunity to exploit the narrative potential of maps and produce map-based stories, since map-making has become a continuous digital process and maps are never finished.[36] Virtual environments and map spaces and new ideas about map design help to transform static, analogue maps into interactive storytelling tools.[37] The emergence of new technologies has increasingly enabled map-makers to produce motion maps, i.e. digital maps that also present movement, change, and stories, such as migration and traffic flows, processes of state formation, recommended routings, road trips, background decors for video games and film scenes, to mention a few uses.[38] These applications are becoming more common and user-friendly. At the same time, the shift to digital map forms has triggered the debate on cartographic interaction, i.e. the dialogue between humans and maps through computing devices.[39] Instead of using static maps, people all over the world are not only able to see maps as a process on the screen, but are also able to make their own dynamic motion maps and map the stories of their daily lives. In short, nowadays, maps increasingly (re)present motion and are in motion themselves.

Story and motion maps through the ages

Somewhat surprisingly, the booming and revolutionary field of digital map applications that entails both technological innovations, such as augmented reality and philosophical reflections like deep mapping, does not really influence map historians, who seemingly remain focused on the analogue manuscript and printed maps and atlases they used to study. They tend to devote attention to the

34 De Vries, *Historische plattegronden*, p. 82; Van der Krogt, *Koeman's Atlantes Neerlandici*, vol. IV-2, p. 1077. A loose copy of the second state of the map is kept in Amsterdam, Allard Pierson, OTM: HB-KZL O.K. 199.

35 See the original Latin text: *opp. ab Hispanis obsidione cinctum, ab Auriacis autem comeatus invectione liberatum Anno parte salutis M DLXX IIII.*

36 Caquard and Cartwright, 'Narrative Cartography', pp. 104-105.

37 Mocnik and Fairbairn, 'Maps Telling Stories'.

38 For a recent critical assessment of six applications for mapping narratives on the internet, see Caquard and Dimitrovas, 'Story Maps & Co'.

39 Roth, 'Interactive Maps'.

descriptive analysis, the production process, the accuracy, the multiple uses, and the power of maps instead of interpreting their multifaceted content. Map librarians and archivists, for their part, are putting incredible efforts into unlocking their collections online, for instance through web viewers and georeferencing tools, but within these applications the maps themselves often remain or, equally, are presented as static products. And although in recent decades scholars have devoted attention to journalistic and literary cartography, Peter Vujakovic still observes a 'lingering "scientism" [...] in which map-making is still regarded by many of its practitioners as an objective, scientific enterprise disassociated from ideological concerns.'[40] Too often, cartographers criticized the designers and producers of narrative maps as 'artists untrained in cartographic principles.'[41] Consequently, the narrative qualities of maps remain heavily underexploited and the history of motion mapping is extremely understudied.

The time seems right to reflect upon the crucial characteristics of story and motion maps, in order to better understand and exploit this aspect of cartography. This book, the first on the topic, claims that the mapping of stories, movement, and change is not only becoming and will be an important aspect – perhaps even the standard – of cartography in the near future, but that it also has a history that is older than often thought. The authors of the chapters reflect upon the main characteristics and evolutions of story and motion mapping, from the figurative news and history maps that were mass-produced in early modern Europe, through the nineteenth- and twentieth-century flow maps that appeared in various atlases, up to the digital and interactive motion and personalized maps that are created today thanks to new technologies, but which are part of the long history of human cartography.

Rather than presenting a clear and homogeneous history of narrative and motion cartography from the past till the present and the future, this book aims to offer map historians a toolbox for understanding and interpreting the complex interplays and links between narrative, motion, and maps. The chapters offer a limited range of case studies,[42] yet cover different types of maps and atlases produced in various periods and regions. Each of the six chapters relates one or more specific case studies to four main questions: Which types of stories, events, flows or movements have been mapped? What were the goals of the map-makers, commissioners, and editors of these maps? What is the relationship between the mapped narrative and the spatial objects and how did or do readers understand it? And, finally, which

40 Vujakovic, 'Cartography and the News', p. 464.

41 Monmonier, *Maps with the News*, p. 14.

42 As a result, some periods and specific types of story and motion maps – e.g. literary maps and journalistic cartography – remain underexposed. With regard to the latter, see Schulten, 'Journalistic Cartography', Monmonier, *Maps with the News*, and, very recently, Reyes Novaes, *Maps in Newspapers*.

tools, techniques, and opportunities do twenty-first-century scholars have at their disposal for exploiting the narrative potential of these maps? The contributions have been written by both younger map historians and senior scholars and mirror actual research in the fields of cartography and map history. The book is largely structured in chronological order, starting with those case studies focussing on early modern maps and ending with those reflecting on present-day, internet-based digital maps and applications. All chapters are illustrated with a relevant sample of images that are necessary to understand and clarify the arguments.

In the first chapter, Djoeke van Netten offers a close reading of Joan Blaeu's *Nova Totius Terrarum Orbis Tabula*, a wall map that depicts the world in the mid-seventeenth century. Her study entails the analysis of contents, illustrative elements, and accompanying texts in Latin and French that create a compelling narrative of a new world order, dominated by a political discourse against Spain and a worldview that emphasizes the importance of the Dutch in the global scenario. By tracing some of the apparent and concealed narrative(s) of the wall map, Van Netten suggests that map-reading itself was a form of mobility.

The second contribution, written by Bram Vannieuwenhuyze, offers a close 'reading' of two large-scale story maps from the early seventeenth-century Low Countries, a bird's-eye perspective on the Ypres' siege of 1383, and a map of Northern Flanders by Mathias Quad. Based on a discussion of the mapping process and consumption of both documents, Vannieuwenhuyze sheds light on the motives that incited early modern map-makers and commercial editors to include narratives and depict chains of events. By considering them as 'entangled products' instead of simple by-products of official cartography, he argues that the maps themselves were also part of a chain of objects, and that their production and consumption must be considered in broader contexts.

In the third contribution, Zef Segal sheds light on the emergence of flow maps in Western cartography. Based on widely known flow maps and a survey of more than 400 commercial atlases in the collection of the Library of Congress that were produced between 1800 and 1940, he argues that flow maps were initially used to depict movement cartographically, but then changed into a tool for colonialism and nationalism by visualizing political expansion, commercial connections, and racial concepts, which is most evident in the maps of European imperialist projects and Nazi propaganda. The history of flow maps in this study is more than a technical history of depicting movement; it reveals changing meanings of 'movement' and 'mobility' in Western societies.

The depiction of movement and time-space relations is also at the core in the fourth chapter by Radu Leca, who offers a *longue durée* account of Japanese historical maps and discusses the distinct 'heterochronies' in Japanese cartographic history. He examines in particular how time is perceived and represented in historical maps

of Japan in the late eighteenth and early nineteenth centuries. Leca shows that the dynamics of history were reflected in various ways by changing colours and shapes while retaining a certain static image of an unchanging Japanese territory.

The fifth contribution, written by Ferjan Ormeling, approaches the regular re-editions and updates of the *Bosatlas*, the most important Dutch school atlas created in 1877 by the teacher Pieter Roelfs Bos, as a serial work that is currently in its 55th edition. Thanks to a recent digital project, copies of the first thirty-six editions are available online and allow the user to compare different versions of maps and their changes through the times with a single mouse-click. Ormeling argues that this 'history machine' turns a static school atlas into a visual tool to detect and understand changes both in map design and in the physical and cultural configuration of specific places throughout time. Ormeling offers a twenty-first-century digital perception of 'map-reading as mobility,' which complements Van Netten's seventeenth-century analogue perception of the same concept.

In Chapter 6, Jörn Seemann points out the potential of social media as a source for historical cartography and map-making to create historical documents that reflect local memories and opinions. He engages with the comments of a Facebook group with more than 20,000 followers, who discuss the past of Muncie, a rust-belt town in the American Midwest. Leaning on the idea of deep mapping in the Humanities, Seemann reflects on the possibilities and challenges of visualizing these 'big qualitative data' in the form of story maps.

Mark Monmonier's short reflective essay at the end of the book presents a typology of narrative and motion maps and places the various case studies discussed in the chapters within this framework. He concludes by presenting some directions for future research on the topic. The editors hope that, together with Monmoniers incentives, the entire book and its individual chapters will spark a more continued dialogue on the historical relationship between narratives, motion, and map-making practices.

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