An Introduction to Playful Mapping in the Digital Age

CHAPTER 1: PLAYFUL MAPPING IN THE DIGITAL AGE

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Mapping and play share a long and diverse history. From Mah-Jong, to the introduction of Prussian war-games, through to the emergence of location-based play, mapping and play have always been closely related. Central to both pursuits is the creative and strategic charting of environmental possibilities. When playing chess, for example, one moves through a map of an imaginary battlefield – probing – in both mind and action, its limitations and affordances; changing the board's appearance and possibilities by moving and taking pieces. Whether one's movement is literal or imaginary through such space is of secondary importance here. What matters is that play frequently entails an exploration and mapping of an environment, or what game-scholar Espen Aarseth describes as an 'active experimentation'[1] both of and within an environment. This experimentation can thus be a powerful and constitutive mechanism in how maps take (and lose) shape. Through playing, we can probe and produce spatial formations. If it is not our turn, we can take a step back to get an overview of what is at stake; mapping what has emerged and what could manifest in imaginary futures. Thus, playing and mapping constantly bleed into one another and can even legitimize each other's existence.

This book draws attention to the forms that reciprocal processes of mapping and playing can take in the digital age, with a specific emphasis on how play contributes to digital mapping practices. Such work constitutes a timely intervention, as we have witnessed an even greater resonance between mapping and play since the advent of the digital: novel connections between mapping and the ludic have emerged since the dawn of mass digital communication. These wide synergies between mapping and play are increasingly taking-place at a time when we are experiencing a 'ludification of culture'[2] and when an overt hybridization is taking place between play and other activities such as: work, science, commercialization (e.g. gamification[3]), politics, and education. Yet, despite the strong connections between the ludic and cartography, play is still infrequently investigated as part of mapping practices. Through this book, we want to actively change this. We approach play and mapping as liberating, dangerous, subversive and performative. This allows us to reconcile the still-often strictly conceived boundaries between cartographic media and

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1   Espen Aarseth, 'Allegories of Space: The Question of Spatiality in Computer Games' in Markku Eskelinen and Raine Koskimaa (eds) *Cybertext Yearbook 2000,* Jyväskylä: University of Jyväskylä, 2000, pp. 152.

2   Joost Raessens, 'Playful Identities, or the Ludification of Culture', *Games and Culture* 1, no. 1 (2006): 52-57; Joost Raessens, 'The Ludification of Culture' in Mathias Fuchs, Sonia Fizek, Paolo Ruffino and Niklas Schrape, in *Rethinking Gamification*, Lüneburg: Meson Press, 2014, pp. 91-114.

3   Sebastian Deterding, Miguel Sicart, Lennart Nacke, Kenton O'Hara and Dan Dixon, 'Gamification. Using Game-Design Elements in Non-Gaming Contexts' in *Proceedings of the 2011 Annual Conference on Human Factors in Computing Systems (extended abstracts)*: Vancouver: Association for Computing Machinery, 2011, pp. 2425-2428.

playfulness. Ultimately, we discuss play as a method to understand maps and, through them, space, rather than just as yet another object of exploration.

Evidenced from a rich plethora of contemporary case-studies, ranging from fieldwork, golf, activism and automotive navigation, to pervasive and desktop-based games, we show in this book how mapping and play can form productive synergies, whilst encouraging new ways of being, knowing and shaping our daily lives. The underpinning assumption of this book then is that mapping practices, whether digital or analogue, offer a rich potential for playful interaction. In other words, during mapping encounters, possibilities emerge that can encourage us to engage with playful practices as part of these mapping acts. But, in particular, we examine how this proximity of playing and mapping has taken on different meanings in the digital age, when far more fluid networks of interaction have come to characterize multiple and different hybridizations between mapping and playing.

This book taps into a newly-emerging interest in the relation between mapping and play in critical geography and media studies.[4] It asks theoretical questions about the hybridization of mapping and play in daily life, and subsequently anchors the perspectives that come out of this enquiry to empirical case-studies. To offer a better understanding of how such interactions can unfold, whilst avoiding universalistic claims about what this can entail, we approach playful mapping as 'situated'. We then present the reader with chapters that each take one specific 'manifestation' of how playing and mapping can come to be related. We do not claim that these cases cover the whole range of possible syner-gies between mapping and playing. In our view, case-evidence demonstrates heuristic possibilities, instead of serving as a deterministic or essentializing exercise. The cases in this book offer readers a rich cross-selection of instances that show mutually-productive relations between quotidian mapping and play. These cases vary greatly in the kinds of playful mapping that they foreground, ranging from (mini)maps in desktop games, to mapping as a pedagogic method, through to physical play and its relation with mapping. Furthermore, the case-studies are situated in a wide range of environments, locations, or contexts, which all dictate different translations between mapping and playing. We analyze playful mapping 'in the field' in chapters 2 and 3, whilst chapter 4 blends the field pursuit of golf with its re-enactment in desktop mapping; merging the design of maps of real places and playing on these creations. In chapter 5, we explore 'gamified' navigation on the motorway, whilst urban streets are the main setting for protest and pervasive mapping practices that are the focus of chapter 6. Chapter 7 shifts the focus to the performance of mapping 'on-screen' and 'in-house'. This emphasis on 'off-the-street' and 'in-house' settings of computer-games, running on various computer platforms, continues in chap-ters 8. The concluding chapter draws these threads together and offers a manifesto for future research. Through such a heterogeneous and interdisciplinary perspective, this book

4   See for example: Sybille Lammes, 'Spatial Regimes of the Digital Playground: Cultural Functions of
      Spatial Practices in Computer Games', *Space and Culture,* 11, no. 3 (2008): 260-72; Chris Perkins,
      'Playing with Maps' in Martin Dodge, Rob Kitchin and Chris Perkins, *Rethinking Maps*, London:
      Taylor and Francis, 2009, pp. 167-188; Tara Woodyer. 'Ludic geographies: not merely child's play',
      Geography Compass 6, no. 6 (2012): 313-326.

offers a wide range of exemplary cases, each demonstrating how playing and mapping are mutually constructive in daily life.

What we want to show in this book is how playful mapping can give rise to thought-pro-voking and very diverse practices, frequently entailing novel and hybrid combinations of: the imaginary and the material; things and people; designing and playing; touring and mapping; and of the map and the playground. In this introduction, we set the groundwork for the book; addressing the most important similarities between mapping and playing and teasing out the specificities of playful mapping in the digital age.

Changing the Playfield

Mapping practices are still somewhat sparsely-examined in terms of the ludic. This inat-tentiveness to play is surprising, as mapping has always invited users and mapmakers to take on lusory attitudes.[5] Ancient and archetypical board-games, like Mah-Jong and chess, deploy the map quite literally as a game-board. Indeed, more recent table-top games, such as *Monopoly* or *Risk*, are based on a game-board that also works simultaneously as a map; whether based on an actual environment or a more imaginary world. This merging of the map and game board has taken-on changed and differing forms in the digital era. Rather than players simply playing *on* the map, they can equally become pawns *in* the map. Rang-ing from interactive mini-maps in digital desktop games (such as the *Civilization* series), to mobile games that are GPS-enabled and also use satellite maps or base maps (such as *Ingress*, or *Zombies, Run!*), these new playful forms of mapping absorb the movements of players in the map. The appearance of the map itself may also be changed during playful practice. In a computer game like *Civilization*, for example, the player can see themselves and other players moving *in* the map. An interwoven consequence of this is that the map's design changes as well; borders shift, settlements expand and territories are discovered. The postcolonial drive and cartographical gaze of such games hinges on a fascination with mapping, exploration and play. This has a long and ideologically imbued tradition, explored by Emma Fraser and Clancy Wilmott in chapter 7.

So, playing and mapping have always informed each other and share a diverse and long history. Furthermore, their closeness is by no means limited to solely entertainment. For example, mapping and play are combined in field strategies deployed by security forces, such as the military and police, as well as by those seeking to counter or disrupt such powers.[6] In this book, we would further argue that play cannot only be an integral part of *using* maps, but also of *making* maps. It has been argued convincingly that maps are akin

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5   Chris Perkins, 'Mapping golf: A contextual study', *Cartographic Journal* 43, no. 3 (2006): 208-223;
     Chris Perkins, 'Performative and Embodied Mapping' in Rob Kitchin (ed.), *International Encyclopedia
     of Human Geography*, Oxford: Elsevier, 2009, pp. 126-132; Sybille Lammes, 'Playing the World:
     Computer Games, Cartography and Spatial Stories', *Aether: The Journal Of Media Geography* 3
     (Summer 2008): 84–96.

6   Sam Hind, 'Maps, Kettles and Inflatable Cobblestones: The Art of Playful Disruption in the City', *Media
     Fields Journal: Critical Explorations in Media and Space,* 11 (2015).

to scientific practice, constructed to explain and order the world.[7] As scholars in Science and Technology Studies (STS) have shown convincingly, these processes of producing 'scientific facts' in workplaces like laboratories are messy and consequently are open to play. Although maybe less visible to the outside world, such kinds of 'informal social play'[8] were undoubtedly also taking-place during traditional and pre-computer cartographic practice as part of the processes of making 'scientific facts'.[9] Therefore, the merging of playing and mapping is not exclusive to map use, but can be an important part of the design process of map making.[10] Indeed, a limited number of ethnographic studies regarding map-making highlight the complexity of decisions and analogies to play in the 'making' process of maps; where maps function as a 'playing field where different actor frames met, were shared, and sometimes competed.'[11]

What is most important for this book, then, is to understand why supposed asymmetries between mapping and play are so persistent. First and foremost, the cultural norms associated with mapping entice people to believe that the science of mapping is an objective, factual and serious business.[12] This discourages us from looking through the cracks of scientific workplaces where maps are made. There is little room for play in such a formalized and bureaucratic understanding of cartography as a techno-scientific pursuit. Recently, critical cartography scholars have started to unpack assumptions that underlie such objective conceptions of mapping discourses.[13] Yet their investigations still usually pertain to questions of power and play remains under-exposed. We applaud such work for criticizing asymmetrical assumptions about power and objectivity in relation to mapping, but we still believe that the lack of attention to play is based in a deep-seated idea that maps, as immutable mobiles[14], are serious instruments of power, doing work where play is irrelevant.[15] In this book we explore arguments to the contrary, but at this stage it is worth noting the wider cultural differences embodied in the two contrasting tropes: play signifies creativity, possibility, and flow, whereas immutability connotes closure, fixation and certainty. As one of the authors

7   David Harvey, *Explanation in Geography*, New York: St. Martin's Press, 1969.

8   Brian Sutton-Smith, *The Ambiguity of Play*, Cambridge, Massachusetts: Harvard University Press, 2001, pp. 4-5.

9   John Law, *After Method: Mess in Social Science Research*, London: Routledge, 2004; Bruno Latour, *We Have Never Been Modern*, trans. Catherine Porter, Cambridge, Massachusetts: Harvard University Press, 1993.

10   Chris Perkins, 'Playing with Maps', pp. 167-188; Alex Gekker, '*Digital Maps as Objects of Playful-Casual Power*', PhD. diss., Utrecht University, 2016; forthcoming.

11   Linda J. Carton. Map Making and Map Use in a Multi-Actor Context. Spatial Visualizations and Frame Conflicts in Regional Policymaking in the Netherlands, Delft: TU Delft, 2007, p. iv.

12   Denis Wood, *Rethinking The Power of Maps,* New York: The Guildford Press, 2010: 4-7.

13   Jeremy W. Crampton, *Mapping: A Critical Introduction to Cartography and GIS,* Malden, Massachusetts: Wiley-Blackwell, 2010.

14   Bruno Latour, 'Visualization and Cognition: Drawing Things Together' in Michael Lynch and Steve Woolgar, *Representation in Scientific Activity*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 1990, pp. 19-68.

15   Sybille Lammes, 'Digital Mapping Interfaces: From Immutable Mobiles to Mutable Images', *New Media & Society* (2016).

of this book noted recently[16], this belief in mapping *versus* playing has even become further engrained at a time when digital maps appear to be direct translators of real-live data, and the map *seems* to have become the territory, accessible through our fingertips.[17] This recurrent, yet deceiving, contrast between mapping and playing may well explain the lack of attention given to play in most accounts of mapping.

In a bid to further develop and refine an understanding of mapping as a playful process, and by way of contrast, we show the potential of approaching mapping from a ludic perspective, approached as plural, situated and processual.[18] Our point of departure is an understanding of play as both an actual and possible attitude to *all* mapping practices, and emphatically *not* as being opposed to serious mapping. We use a ludic lens as a way to build an alternative conceptual framework for understanding mapping. In doing so, our framework seeks to redress asymmetric power relations and draws attention to the plural and situated relations between digital mapping and play. As will become evident, the different playful mapping cases investigated in the following chapters of this book help us to look at research topics in creative and new ways, by offering new approaches to mapping as cultural ludic practices. We will return to methodologies in the conclusion of our arguments.

Play, Pleasure, and Practices

But how do we define play in this book? Play studies and cultural studies have both shown that play is not just fun or light entertainment, but a cultural praxis that can be very much related to power.[19] In line with this, we define play as an involvement in activities that give participants pleasure, but are not necessarily unserious or light-hearted. Furthermore, playful activities may, to a certain extent, be constrained by specific parameters or rules, as is the case with the computer games discussed in chapter 4. However, this is not necessarily always so either, as play can also be free and even anarchistic, as is poignantly illustrated in chapter 6 about protest mapping and play. Also, the duration of involvement in play may vary as it can span longer or shorter stretches of time, and this involvement can also vary according to the amount of 'incorporation'.[20] Furthermore, it is important to note that play is *not* characterized by boredom or anxiety, although boredom can be an impetus to start playing. Additionally, as several scholars have argued, play is not necessarily limited to domains such as the playground or a computer-game played on our desktops. Indeed, our whole culture is imbued with play[21], or is even born out of it.[22] As such, play is also a networked

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16   Alex Gekker, '*Digital Maps as Objects of Playful-Casual Power*', PhD. diss., Utrecht University, 2016; forthcoming.

17   Sam Hind and Sybille Lammes, 'Digital Mapping as Double-Tap: Cartographic Modes, Calculations and Failures', *Global Discourse: An Interdisciplinary Journal of Current Affairs and Applied Contemporary Thought* (2015).

18   Nigel Thrift, *Non-Representational Theory: Space, Politics, Affect*, London: Routledge, 2008.

19   John Fiske, *Power Plays, Power Works*, London: Verso, 1993.; Alexander R. Galloway, *Gaming: Essays on Algorithmic Culture*, Minneapolis: University of Minnesota Press, 2006.

20   Gordon Calleja, *In-Game: From Immersion to Incorporation*, Massachusetts: The Massachusetts Institute of Technology Press, 2011, p. 3.

21   Brian Sutton-Smith, *The Ambiguity of Play*.

22   Johan Huizinga, *Homo Ludens: A Study of the Play-Element in Culture*, Amsterdam: Amsterdam

praxis and 'is not tied to objects but brought by people to the complex interrelations with and between things that form daily life'.[23]

In the cases that will be analyzed in the following chapters, playful mapping refers to any mapping practice in which participants experience a combination of pleasure and ludic involvement during the process of mapping: from map-making, through to the deployment of mapping in particular navigational, sporting and strategic tasks. Additionally, in line with Sicart's approach, cartographical play does not simply unfold through an encounter with the map as an object, but also through a shifting assemblage emerging out of spatio-temporal translations between things (a building, a mobile phone, a tree, a paper map, an interface, a GPS receiver), contexts (commuting as 'playbour', topography, the weather), other people (co-makers, players, and bystanders), embodied actions (shouting, touching, measuring, walking, running, smelling) and feelings and emotions (excitement, fun, frustration, or anger).

The figure of the assemblage has emerged in recent years as an influential organizing device across many fields of investigation. Assemblage thinking focuses attention on the relation between many different material things that come together to facilitate particular tasks or activities. Informed by thinkers from Science and Technology Studies (STS), by Deleuze and Guattari[24] and by artistic-practice, assemblage thinking has been deployed for example in urban studies[25], island studies[26] and indeed mapping.[27]

We believe that the fluidity of this assemblage and its playful affordances may be even more prevalent when mapping is done in the field, and during 'pervasive' play in a physical environment.[28] This is most clearly evidenced in our case-studies of playful fieldwork and location-based games. In those kind of mapping circumstances, play is extended to the physical 'real' world. Such an extension enables players on the street or in the field to form and become part of assemblages that absorb and shed unanticipated things, such as people living on the game board, serendipitous experience or material objects. Luck, risk, fate or failure become foregrounded as shape-shifting factors of playful mapping assemblages when play takes place *in situ*.

As a consequence of our perspective towards playful mapping as akin to fluid assemblages, Huizinga's[29] theoretical notion of the 'magic circle' becomes untenable, or at least

University Press, 1938.

23 Miguel Sicart, *Play Matters*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 2014, pp. 1-2.

24 Giles Deleuze and Fèlix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia,* trans. Brian Massumi, Minneapolis: University of Minnesota Press, 1987.

25 Ben Anderson and Colin McFarlane, 'Assemblage and Geography', *Area* 43, no. 2 (2011): 124-127.

26 Elaine Stratford, 'The Idea of the Archipelago: Contemplating Island Relations', *Island Studies Journal* 8, no. 1 (2013): 3-8.

27 Gwilym Eades, 'An Apollonian Appreciation of Google Earth', *Geoforum* 41, no. 5 (2010): 671–73

28 Markus Montola, Jaakko Stenros and Annika Waern, *Pervasive Games: Theory and Design*, San Francisco, California: Morgan Kaufmann, 2009.

29 Johan Huizinga, *Homo Ludens*.

of limited potential for our approach. After all, how can we speak of delineated and closed circles when we approach mapping assemblages as being unstable in shape and unconstrained by any pre-defined limits? Play and game-scholars, such as Calleja[30], Consalvo[31], Pargman and Jakobsson[32] and Taylor[33], support this critique and see the 'magic circle' as a theoretical concept depending too much on pre-given, unchangeable and stable boundaries.

As an alternative to the 'magic circle', we therefore regard playful contexts as always an outcome of a process. In Latourian terms, playful contexts become nodes in a network that can be strengthened or weakened, and whose shape depends on players' relationality within that network, as well as on the translations that players seek to make between different parts of the playful assemblage. In the case-study on the island of Gozo as described in chapter 2 of this book, for example, the limits to the island defined where play could not take place. However, in other ways, the shape of the magic node[34] frequently changed as participants enrolled new actors into their assemblage, and also decided to remove certain elements. Thus, the mapping assemblages morphed during game play and did not have pre-given spatio-temporal or technological boundaries.

So, in this book we approach play as a potential formative aspect of *all* mapping practices. Of course, any social practice can include lusory attitudes, but we believe that strong similarities between mapping and playing can invite participants to hybridize both practices in particularly strong ways. In the following section, we explain what the most important correspondences between mapping and play are.

Compatibilities of Playing and Mapping

A first correspondence between play and mapping emerges through the rhetorical power that informs and drives both practices. In the wake of ground-breaking work from theorists such as Brian Harley[35] and Denis Wood[36], the power of mapping has received significant intellectual consideration. Early theoretical elaborations often leant on Marxian, or structuralist, approaches to mapping as an exploitative tool of capitalist control. This emphasis on control and hegemony can still be discerned in later post-structural approaches.[37] In cultural

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30   Gordon Calleja, 'Erasing the Magic Circle' in John R. Sageng, Hallvard J. Fossheim and Tarjei M. Larsen (eds) *The Philosophy of Computer Games*, Heidelberg: Springer Dordrecht, 2012, p. 77-91.

31   Mia Consalvo, 'Rule Sets, Cheating, and Magic Circles: Studying Games and Ethic', *International Review of Information Ethics* 4 (2005): 7-12.

32   Daniel Pargman and Peter Jakobsson, 'The Magic Is Gone: A Critical Examination of the Gaming Situation' in Manthos Santorineos, *Gaming realities: A challenge for digital culture*, Athens: Fournos, 2006, pp. 15-22.

33   Laurie Taylor, 'When Seams Fall Apart: Video Game Space and the Player', *Game Studies: The International Journal of Computer Game Research* 3, no. 2 (2003).

34   Sybille Lammes, 'Playing the World', pp. 84–96.

35   John Brian Harley, 'Deconstructing the Map', *Cartographica* 26, no. 2 (1989): 1-20.

36   Denis Wood, *The Power of Maps*, New York: The Guildford Press, 1992; Denis Wood *Rethinking The Power of Maps.*

37   Jeremy W. Crampton, *Mapping.*

studies, power has also been understood in such (neo)Marxist terms, but is also directly related to play. Play and power may be especially linked when users' appropriate meaning over cultural artifacts through play and pleasure.[38]

Whereas such investigations into the links between mapping, media and power are mainly concerned with pre-digital technologies, the status of play and mapping has shifted since the advent of the digital. As it stood in the last decades of the twentieth century, cultural studies still leant heavily on conceptions of apparatuses of control – based on Marxist, Foucauldian or, on-occasion, psycho-analytical discourses. At this time and age, such theoretical frameworks become harder sustain. We indeed subscribe to Alexander Galloway's observation that we have now moved from apparatus of control to *networks* of control.[39] As a consequence, at present, playing and mapping take place far more through interactions within fluid networks of media technologies, in which users are 'enmeshed' as actors.

Yet, it is important to keep in mind that such networks are still very much about power. Whilst playful appropriations of meaning may be a subversive strategy within apparatuses of control, we are now talking about far more mutable, complex and fluid networks of media technologies. In such networks, the pleasure and fun of 'shallow' or 'deep' hacking practices can be empowering, but can also, sometimes unwittingly, feed into ideologies of financial gain and help enforce capitalist ideologies.[40] The satnav app *Waze*, described in chapter 5 for example, engages users into 'taking the road' through play by asking drivers to add data to the map that is shared with other drivers, and in so doing, earns points. At first glance, this seems to empower drivers through play; functioning as an impetus for community-driven activities that bring pleasure and ownership over mapping practices. However, questions remain over whether users 'own' their cartographical data, or share them for purposes of financial gain with others in this network, and in particular with the owners of the app.[41] These data are valuable for commercial enterprises, such as Google, enabling them to refine their maps and to gather data on traffic flow and drivers' behavior, as well as selling location-tagged advertisements to third parties. So, whilst networks of control enroll users more actively in their assemblages, giving them some playing-power and even opening up possibilities for users to track how cartographical 'facts' are made[42], digital mapping practices can also be disempowering and play can be a lubricator facilitating hegemonic processes.

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38 See: John Fiske, *Television Culture*, London: Methuen, 1987; John Fiske, *Power Plays, Power Works*; Jackie Stacey, *Star-Gazing: Hollywood Cinema and Female Spectatorship*, London: Routledge, 1994; Elaine Stratford, 'The Idea of the Archipelago'.

39 Alexander, R. Galloway, *Protocol: How Control Exists after Decentralization*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 2004.

40 Craig, M. Dalton, 'For Fun and Profit: The Limits and Possibilities of Google-Maps-Based Geoweb Applications', *Environment and Planning A* 47, no. 5 (2015): 1029-46.

41 Sam Hind and Alex Gekker, 'Outsmarting Traffic, Together': Driving as Social Navigation', *Exchanges: The Warwick Research Journal* 1, no. 2 (2014): 1-17.

42 Valérie November, Eduardo Camacho-Hübner and Bruno Latour, 'Entering a Risky Territory: Space in the Age of Digital Navigation', *Environment and Planning D: Society and Space* 28 (2010): 581-599.

A second important similarity between mapping and playing is that as activities, they frequently trigger users to engage with processes of spatial navigation and test the possibilities of environments.[43] This navigational trope is especially prevalent when mapping takes place in the field and/or in a quotidian context. Be it a spatio-temporal environment simulated on a computer screen (such as some of the games described in chapter 3, or *Google Earth*), or an actual physical environment through which users navigate, mappers and players both engage in an activity that can be characterized as explorative and navigational. Kitchin and Dodge[44] highlight these processual elements that are called into play in mapping practice, arguing that maps so to speak 'emerge' during their deployment. Game-scholar Espen Aarseth's early definition of play also aligns seamlessly with navigation when seen from this perspective: 'an alternative to the narrative' by stimulating an 'active experimentation' of and within an environment.[45] Clearly, this spatial logic[46] is very similar to that of mapping, where explorers, wayfinders, dwellers, or cartographers navigate and chart an environment using mapping technologies, but also test spatial possibilities in an active interaction with a map limited by particular temporalities.[47] This strong resemblance between mapping and playing as processually and spatio-temporally driven by users as well as things, explains why maps are so attractive to use in playful settings. It also assists in explaining why playful practices so often include mapping activities[48]; a map can easily become a game-board, and a playground can transform into a map.

So, mapping and playing share a preoccupation with making things happen through navigating, testing and producing spatio-temporal relations. In this navigation, stories unfold, which brings us to another striking similarity. Clearly, mapping and playing can both be regarded as having narrative potential. In particular, they offer users strong tools to develop spatial stories: games can prompt players to create these narratives, with plots and characters that frequently unfold in spatial practice.[49] But mapping has also recently been rethought as a narrative practice[50], embodying particular spatial stories.[51]

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43   Valérie November, Eduardo Camacho-Hübner and Bruno Latour, 'Entering a Risky Territory: Space in the Age of Digital Navigation'.

44   Rob Kitchin and Martin Dodge, 'Rethinking Maps', *Progress in Human Geography* 31, no. 3 (2007): 331-344.

45   Espen Aarseth, 'Allegories of Space: The Question of Spatiality in Computer Games,' 152.

46   Henry Jenkins, 'Game Design as Narrative Architecture' in Noah Wardrip-Fruin and Pat Harrigan (eds), *First Person: New Media As Story, Performance, and Game*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 2004, pp. 118-130.

47   Mary Fuller and Henry Jenkins, 'Nintendo® and New World Travel Writing: A Dialogue' in Steven G. Jones (ed.), *Cybersociety: Computer-Mediated Communication and Community*, Thousand Oaks, California: Sage, 1995, pp. 57-72.

48   Chris Chesher, 'Navigating Sociotechnical Spaces: Comparing Computer Games and Sat Navs as Digital Spatial Media', *Convergence: The International Journal of Research into New Media Technologies* 18, no.3 (2012): 315-30.

49   Henry Jenkins, 'Game Design as Narrative Architecture', p. 118–30.

50   Sébastien Caquard, 'Cartography I: Mapping narrative cartography', *Progress in Human Geography* (2011).

51   Michel de Certeau, *The Practice of Everyday Life,* Berkeley, California: The University of California Press, 1984.

Furthermore, these stories emerge from specific *designed* affordances that entice us into making them happen. Chapter 4, in particular, explores some of the 'designerly' strategies enacted by people crafting golf courses as playful environments. But map designers also certainly playfully engage in the serious business of designing maps, with digital technologies encouraging a more iterative and processual manner of making mapping.[52] Hence, like play, maps are also 'designerly' assemblages, crafted to incorporate specified aesthetics and functions through which they invite users to take certain actions.[53]

Another strong link between the two activities is that mapping is part of a material assemblage which *has* play. Following play-scholar Sutton-Smith[54], as well as our own take on play as emerging from a changeable assemblage, we see play as an ambiguous activity, thus drawing attention to 'the play within' maps, or 'playing with' mapping. In a mobile cartographical game, as discussed in chapter 3, a location on the map, such as a bus stop, can have play by gaining plural and intertwined meanings. The real and the imagined, for example, might come together during a game of *Pokémon GO*, in which mapping practices are synchronously referenced alongside imagined and 'real' parts of the playful assemblage.

Assemblages are playful in the sense that they are always open to reconfigurations by users *in situ* and have no pre-fixed structure, being performative, processual and transformable.[55] Indeed, play itself has been theorized as amenable to assemblage thinking, with Taylor suggesting that 'games, and their play, are constituted by…interrelations'.[56]

So, things are aligned and realigned during mapping, and people engaging with a mapping assemblage enroll their own bodies, signals from satellites, their movements, road surfaces and stuff they find during the mapping process to add to particular, situated and mutable combinations of practice. There is play in how they establish this shifting network and it is exactly this quality that brings so much ludic potential to mapping as a performative practice.

Mapping Modes

Hence, mapping intrinsically offers interesting ludic possibilities through narrative, design, power, navigation and the inherent playability in mapping assemblages. Although we would therefore suggest that mapping and playing are close associates that are frequently enrolled into one another, it is important to differentiate between different kinds of mapping and how, as well as to what extent, they invite specific and situated ludic attitudes. To develop this stance further, we argue for a conceptual approach to playful mapping in terms of 'modes'. As first proposed by Dodge, Perkins and Kitchin[57], the notion of a mapping 'mode' was

52   Chris Perkins, 'Playing with Maps', p. 167-188.
53   Bieke Cattoor and Chris Perkins, 'Re-cartographies of Landscape: New Narratives in Architectural Atlases', *The Cartographic Journal* 51, no. 2 (2014): 166-178.
54   Brian Sutton-Smith, *The Ambiguity of Play*.
55   Bruno Latour, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford: Oxford University Press, 2005.
56   TL Taylor, 'The Assemblage of Play', *Games and Culture* 4, no. 4 (2009): 323.
57   Martin Dodge, Chris Perkins and Rob Kitchin, 'Mapping Modes, Methods and Moments: A Manifesto

introduced together with their concepts of 'moments' and 'methods' in an effort to further a processual rethinking of the medium. In their manifesto, Dodge, Perkins and Kitchin call for a situated approach to mapping that avoids universalistic definitions. The concept of modes casts mapping as situated and 'ontogenic'.[58] 'Mapping modes' are explained by the authors as 'the milieu in which mapping practice occur', and as 'unique to their time and place and transitory'[59]. Such a perspective on mapping practices opens up possibilities to view playful mapping as plural and situated; unfolding both through and within particular 'timespaces'.[60] At the same time, it acknowledges that the level to which mapping can be playful depends on the specific spatio-temporal setting.

Meandering Mapping Modes

The theoretical framework of this book is thus based on an understanding of mapping as processual and situated. Taking a plural understanding of mapping modes as our starting point, the following chapters examine the ludic affordances of particular digital and mobile cartographies, and how the digital mapping modes that are under scrutiny call into being specific kinds of playability. Mapping modes are not simply unique in the sense that they emerge from situated practices, such as the setting of the location-based game discussed in chapter 2 played on an island with pedagogic intent. Rather, mapping modes are also historically dependent and emerge with technological assemblages of a particular era, such as the changing configuration of mapping in wargames during the post-second-world-war period in chapter 6. Their processual properties also permit us to think of mapping modes as morphing over time. Novel mapping modes have arisen in this digital age, not by replacing 'old' modes, but hybridizing them in new ways. This calls into being new mapping modes and ludic possibilities.

The most striking contrast between digital and analogue maps is that digital maps frequently invite users to change the assemblage. This has the by-product of extending users' possibilities for playing with maps. Analogue maps, as classical 'immutable mobiles'[61], were frequently regarded as 'scientific things', or outcomes of processes that were difficult to modify. Once they began to circulate in the world, change on a surface-level was possible, but the general social role was to 'fix' knowledge.[62] Yet, in the case of much digital mapping, the *image* became mutable as it visually absorbed fleeting 'markers', such as the position of

for Map Studies' in Martin Dodge, Chris Perkins, and Rob Kitchin (eds) *Rethinking Maps: New Frontiers in Cartographic Theory*, London: Routledge, 2009, pp. 220-243.

58   Rob Kitchin and Martin Dodge, 'Rethinking Maps', *Progress in Human Geography* 31, no. 3 (2007): 331-344.

59   Martin Dodge, Chris Perkins and Rob Kitchin, 'Mapping Modes, Methods and Moments', p. 221.

60   Jon May and Nigel Thrift (eds), *TimeSpace: Geographies of Temporality*. London: Routledge, 2001.

61   Bruno Latour, 'Visualisation and Cognition: Thinking with Eyes and Hands' in Henrika Kuklick (ed.), *Knowledge and Society Studies in the Sociology of Culture Past and Present* (vol. 6), New York: Jai Press, 1986, p. 7.

62   Bruno Latour, 'Drawing Things Together' in Michael Lynch and Steve Woolgar, *Representation in Scientific Activity*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 1990, pp. 19-68; Valérie November, Eduardo Camacho-Hübner and Bruno Latour, 'Entering a Risky Territory'.

the navigator, traffic updates, or a crowd-sourced update to the mapped display.[63] Elements of immutability may remain, in the code or cultural connotations of the medium, but these assemblages are more complex and dynamic. They therefore increasingly insert 'play' into contemporary mapping.[64]

Digital mapping modes have the potential for being more playful because of the high degree of transformative spatial interaction between actants that interfaces mediate. So, their ludic qualities are related to the affordances of digital technologies that are now inscribed in the mapping assemblage. Or as play-scholar Miguel Sicart phrased it: 'programming a computer is making it play; that is, be another machine. So… all computation is play'.[65] The point here is that digital cartographical interfaces, such as Ingress or a navigational app on our phone, have play because of their computational disposition. This opens up novel connections between playing and mapping. With the advent of digital mapping, modes have morphed into a more playful endeavor; offering possibilities to engage with computer systems in a performative and interactive fashion.

As part of this shift, the tactility of our interaction with maps has changed as well, as users interact with mapping technologies through touching, clicking, or speaking. This tactile, reciprocal and semi-direct engagement with the interface can be described as a 'double tap mapping mode'.[66] It gives users the idea that they have unmediated access to a phys-ical environment – such as a city, an island or a motorway network – through the mapping interface. As we will see in some of the following chapters, it is only when technologies break down that we realize such immediacy is constructed. Simultaneously, this reveals that the creation of immediacy heavily depends on black-boxing processes that go on 'behind' the interface to facilitate this sense of directness. In the educational mapping games that are discussed in the next chapter, for example, playful affordances help to expose this con-structedness of direct correspondence. So, play can be used as a tactic to problematize the 'double tap' mode that can be so dominant in digital mapping practices.

To fully understand digital mapping practices in terms of play, we also have to be aware of the increased mobility of user and mapping interfaces. Not only is this in terms of portability, but also regarding how this user mobility is directly 'absorbed' in the mapping interface, further reinforcing the sense of immediacy. When we walk, run, drive or cycle, our move-ments instantaneously result in a changing visual appearance of the map image. Indeed, this double-sided mobility is built into these digital systems: actions are in a split-second absorbed into the mapping device, producing new relations between users and the interface. The mapping interface and operator become 'communicating vessels', hybridizing the mover

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63   Sam Hind and Alex Gekker, 'Outsmarting Traffic, Together'; Chris Perkins, 'Plotting Practices and politics: (Im)mutable Narratives in OpenStreetMap', *Transactions of the Institute of British Geographers* 39, no. 2 (2014): 304-17.

64   Sybille Lammes, 'Destabilising Playgrounds: Cartographical Interfaces, Mutability, Risk and Play' in Daniel Cermak-Sassenrath, Chek T. Tan, and Charles Walker, *Playful Subversion of Technoculture*, Heidelberg: Springer, 2016; in publication.

65   Miguel Sicart, *Play Matters*, p. 100.

66   Sam Hind and Sybille Lammes, 'Digital Mapping as Double-Tap'.

and mapping interface. This hybridization does not only result in a merging of mapping and touring as defined by de Certeau[67], but also results in a visual image of the map where users can see themselves and others as moving pawns *in* the map.[68]

Using this concept of playful mapping modes, we aim to move away from taxonomies or ontologies of playful mapping – including the question of what playful mapping might *be*. Instead, we want to show how playful mapping can be *enacted* through a series of case-studies, written to analyze how mapping and play, as forms of situated knowledge, merge in a specific digital or post-digital context. In some cases, this constitutes working as an integral part of fieldwork for students, elsewhere it is central to the simulation of playing golf. In other contexts, it is crucial for the designing and playing of videogames, for playing urban gaming, for automotive navigation and as an important part of activism. Through examining these different cases, our book reveals situated and heterogeneous knowledge practices enrolled in digital mapping.

References

Aarseth, Espen, 'Allegories of Space: The Question of Spatiality in Computer Games' in Markku Eskelinen and Raine Koskimaa (eds) *Cybertext Yearbook 2000* Jyväskylä: University of Jyväskylä, 2000, pp. 152-171.

Anderson, Ben and Colin McFarlane, 'Assemblage and Geography', *Area* 43, no. 2 (2011): 124-127.

Calleja, Gordon, *In-Game: From Immersion to Incorporation*, Massachusetts: The Massachusetts Institute of Technology Press, 2011.

Calleja, Gordon,'Erasing the Magic Circle' in John R. Sageng, Hallvard J. Fossheim and Tarjei M. Larsen (eds) *The Philosophy of Computer Games*, Heidelberg: Springer Dordrecht, 2012. 77-91.

Caquard, Sébastien, 'Cartography I: Mapping narrative cartography', *Progress in Human Geography* (2011). Accessed October 25, 2016. doi: 10.1177/0309132511423796.

Carton, Linda J. *Map Making and Map Use in a Multi-Actor Context. Spatial Visualizations and Frame Conflicts in Regional Policymaking in the Netherlands*, Delft: TU Delft, 2007.

Cattoor, Bieke and Chris Perkins, 'Re-cartographies of Landscape: New Narratives in Architectural Atlases', *The Cartographic Journal* 51, no. 2 (2014): 166-178.

Chesher, Chris, 'Navigating Sociotechnical Spaces: Comparing Computer Games and Sat Navs as Digital Spatial Media', *Convergence: The International Journal of Research into New Media Technologies* 18, no.3 (2012): 315-30.

Consalvo, Mia, 'Rule Sets, Cheating, and Magic Circles: Studying Games and Ethics', *International Review of Information Ethics* 4 (2005): 7-12.

Crampton, Jeremy W. *Mapping: A Critical Introduction to Cartography and GIS,* Malden, Massachusetts: Wiley-Blackwell, 2010.

Dalton, Craig M, 'For Fun and Profit: The Limits and Possibilities of Google-Maps-Based Geoweb Applications', *Environment and Planning A* 47, no. 5 (2015): 1029-46.

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67   Michel de Certeau, The Practice of Everyday Life.

68   Sybille Lammes, 'Digital Mapping Interfaces'; Sybille Lammes and Clancy Wilmott, 'Mapping the City, Playing the City: Location-based Apps as Navigational Interfaces', *Convergence* (2016; forthcoming).

de Certeau, Michel, *The Practice of Everyday Life,* Berkeley, California: The University of California Press, 1984.

Deleuze, Giles and Fèlix Guattari, *A Thousand Plateaus: Capitalism and Schizophrenia,* trans. Brian Massumi, Minneapolis: University of Minnesota Press, 1987.

Deterding, Sebastian, Miguel Sicart, Lennart Nacke, Kenton O'Hara and Dan Dixon, 'Gamification. Using Game-Design Elements in Non-Gaming Contexts' in *Proceedings of the 2011 Annual Conference on Human Factors in Computing Systems (extended abstracts)*: Vancouver: Association for Computing Machinery, 2011, pp. 2425-2428.

Dodge, Martin, Chris Perkins and Rob Kitchin, 'Mapping Modes, Methods and Moments: A Manifesto for Map Studies' in Martin Dodge, Chris Perkins, and Rob Kitchin (eds) *Rethinking Maps: New Frontiers in Cartographic Theory*, London: Routledge, 2009, pp. 220-243.

Eades, Gwilym, 'An Apollonian Appreciation of Google Earth', *Geoforum* 41, no. 5 (2010): 671–73

Fiske, John, *Television Culture*, London: Methuen, 1987.

Fiske, John, *Power Plays, Power Works*, London: Verso, 1993.

Fuller, Mary and Henry Jenkins, 'Nintendo® and New World Travel Writing: A Dialogue' in Steven G. Jones (ed.), *Cybersociety: Computer-Mediated Communication and Community*, Thousand Oaks, California: Sage, 1995, pp. 57-72.

Galloway, Alexander R. *Protocol: How Control Exists after Decentralization*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 2004.

Galloway, Alexander R. *Gaming: Essays on Algorithmic Culture*, Minneapolis: University of Minnesota Press, 2006.

Gekker, Alex, '*Digital Maps as Objects of Playful-Casual Power*', PhD. diss., Utrecht University, 2016; forthcoming.

Harley, Brian, 'Deconstructing the Map', *Cartographica* 26, no. 2 (1989): 1-20.

Harvey, David, *Explanation in Geography*, New York: St. Martin's Press, 1969.

Hind, Sam, 'Maps, Kettles and Inflatable Cobblestones: The Art of Playful Disruption in the City', *Media Fields Journal: Critical Explorations in Media and Space* 11 (2015). Accessed October 28, 2016. Available at: http://www.mediafieldsjournal.org/tactical-frivolity-and-disobed/.

Hind, Sam and Alex Gekker, 'Outsmarting Traffic, Together': Driving as Social Navigation', *Exchanges: The Warwick Research Journal* 1, no. 2 (2014): 1-17.

Hind, Sam and Sybille Lammes, 'Digital Mapping as Double-Tap: Cartographic Modes, Calculations and Failures', *Global Discourse: An Interdisciplinary Journal of Current Affairs and Applied Contemporary Thought* (2015).

Huizinga, Johan, *Homo Ludens: A Study of the Play-Element in Culture*, Amsterdam: Amsterdam University Press, 1938.

Jenkins, Henry, 'Game Design as Narrative Architecture' in Noah Wardrip-Fruin and Pat Harrigan (eds), *First Person: New Media As Story, Performance, and Game*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 2004, pp. 118-130.

Kitchin, Rob and Martin Dodge, 'Rethinking Maps', *Progress in Human Geography* 31, no. 3 (2007): 331-344.

Lammes, Sybille, 'Spatial Regimes of the Digital Playground: Cultural Functions of Spatial Practices in Computer Games', *Space and Culture* 11, no. 3 (2008): 260-72.

Lammes, Sybille, 'Playing the World: Computer Games, Cartography and Spatial Stories', *Aether: The Journal Of Media Geography* 3 (Summer 2008): 84–96.

Lammes, Sybille, 'Destabilising Playgrounds: Cartographical Interfaces, Mutability, Risk and Play', in Daniel Cermak-Sassenrath, Chek T. Tan, and Charles Walker, *Playful Subversion of Technoculture*, Heidelberg: Springer, 2016; in publication.

Lammes, Sybille, 'Digital Mapping Interfaces: From Immutable Mobiles to Mutable Images', *New Media & Society* (2016).

Lammes, Sybille and Clancy Wilmott, 'Mapping the City, Playing the City: Location-based Apps as Navigational Interfaces', *Convergence* (2016; forthcoming).

Latour, Bruno, 'Visualisation and Cognition: Thinking with Eyes and Hands' in Henrika Kuklick (ed.), *Knowledge and Society Studies in the Sociology of Culture Past and Present* (vol. 6), New York: Jai Press, 1986, pp. 1-40.

Latour, Bruno, 'Visualisation and Cognition: Drawing Things Together' in Michael Lynch and Steve Woolgar, *Representation in Scientific Activity*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 1990, pp. 19-68.

Latour, Bruno, *We Have Never Been Modern*, trans. Catherine Porter, Cambridge, Massachusetts: Harvard University Press, 1993.

Latour, Bruno, *Reassembling the Social: An Introduction to Actor-Network-Theory*, Oxford: Oxford University Press, 2005.

Law, John, *After Method: Mess in Social Science Research*, London: Routledge, 2004.

May, Jon and Nigel Thrift (eds) *TimeSpace: Geographies of Temporality*. London: Routledge, 2001.

Montola, Markus, Jaakko Stenros and Annika Waern, *Pervasive Games: Theory and Design*, San Francisco, California: Morgan Kaufmann, 2009.

November, Valérie, Eduardo Camacho-Hübner and Bruno Latour. 'Entering a Risky Territory: Space in the Age of Digital Navigation', *Environment and Planning D: Society and Space* 28 (2010): 581-599.

Pargman, Daniel, and Peter Jakobsson, 'The Magic Is Gone: A Critical Examination of the Gaming Situation' in Manthos Santorineos, *Gaming realities: A challenge for digital culture*, Athens: Fournos, 2006, pp. 15-22.

Perkins, Chris, 'Mapping golf: A contextual study', *Cartographic Journal* 43, no. 3 (2006): 208-223.

Perkins, Chris, 'Playing with Maps' in Martin Dodge, Rob Kitchin and Chris Perkins, *Rethinking Maps*, London: Taylor and Francis, 2009, pp. 167-188.

Perkins, Chris, 'Performative and Embodied Mapping' in Rob Kitchin, *International Encyclopedia of Human Geography*, Oxford: Elsevier, 2009, pp. 126-132.

Perkins, Chris, 'Plotting Practices and politics: (Im)mutable Narratives in OpenStreetMap', *Transactions of the Institute of British Geographers* 39, no. 2 (2014): 304-17.

Raessens, Joost, 'Playful Identities, or the Ludification of Culture', *Games and Culture* 1, no. 1 (2006): 52-57.

Perkins, Chris, 'The Ludification of Culture' in Mathias Fuchs, Sonia Fizek, Paolo Ruffino and Niklas Schrape, in *Rethinking Gamification*, Lüneburg: Meson Press, 2014, pp. 91-114.

Sicart, Miguel, *Play Matters*, Cambridge, Massachusetts: The Massachusetts Institute of Technology Press, 2014.

Stacey, Jackie, *Star-Gazing: Hollywood Cinema and Female Spectatorship*, London: Routledge, 1994.

Stratford, Elaine, 'The Idea of the Archipelago: Contemplating Island Relations', *Island Studies Journal* 8, no. 1 (2013): 3-8.

Sutton-Smith, Brian, *The Ambiguity of Play*, Cambridge, Massachusetts: Harvard University Press, 2001.

Taylor, Laurie, 'When Seams Fall Apart: Video Game Space and the Player', *Game Studies: The International Journal of Computer Game Research* 3, no. 2 (2003).

Taylor, TL, 'The Assemblage of Play', *Games and Culture* 4, no. 4 (2009): 331-339.

Thrift, Nigel, *Non-Representational Theory: Space, Politics, Affect*, London: Routledge, 2008.

Wood, Denis, *The Power of Maps*, New York: The Guildford Press, 1992.

Wood, Denis, 'Cartography Is Dead (Thank God!)', *Cartographic Perspectives* 45 (2003): 4-7.

Wood, Denis, *Rethinking The Power of Maps,* New York: The Guildford Press, 2010.

Woodyer, Tara, 'Ludic geographies: not merely child's play', *Geography Compass* 6, no. 6 (2012): 313-326.