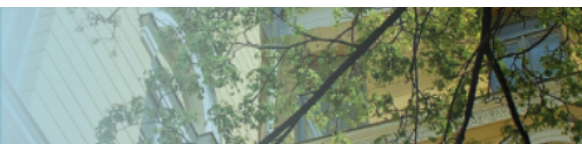


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Landmarks: Navigating Spacetime and Digital Mobility

In this essay we will examine how we can conceptualize digital mobility as spatial navigation. Digital mobility occurs in media where the user navigates through space and actually becomes, simultaneously, creator, performer, and navigator of a spatial story. In this sense, the on-screen navigator simultaneously makes and reads space.

We argue that in digital mobilities the user/player becomes simultaneously I-narrator, actor and agent of narrative. The user navigates through space and becomes, in fact, a digital pedestrian. Different from the (virtual) mobility of analogue moving-image media in that the interaction between user and space is much more fluid and the user becomes both actor and navigator, digital mobility is clearly central to the use of mobile screens, such as mobile phones, navigation devices, or portable game consoles in which case one carries the screen and interacts with it, while being *on the move*. Moreover, we also believe that digital mobility can be a central quality of certain digital practices during which users are not literally on the move but still have to navigate through, and control digital environments through spatial interaction. This can for example be the case when playing certain games or consulting Google Earth on a desktop computer.

What strikes us about such playful screens (pun intended) is that they create a particular sense of story, of narrative through movement, exploration, and spatial construction. We are dealing with a type of story in which classical ideas about narrativity in the visual media become problematic. In order to understand how such

mobilities work, we must shed the presumption that time is the backbone of narrative. Narrative is not necessarily the *other* of visual spectacle or of play (a presumption that also has been an obstacle for theorizing earlier media when they were new). As an alternative, we take the notion of spacetime or *chronotope* as our conceptual starting point. Instead of a linear and time-based conception of narrative, the concept of timespace allows us to analyze narrative as an integration of time and space. In the same vein, we also see digital mobility, as a spatial practice, as invested in completing spatial construction, and hence, in essence a form of navigation. In this respect navigating on-screen spaces and navigating physical space have become remarkably similar.

Although spatial stories are not new, nor essentially digital as the early cinema of attractions have shown us, digital mobility generates a particular kind of narrative in which the itineraries created are fluid and in which the user becomes a mapmaker, navigator, and enactor of a story instead of a reader or listener. To assess how stories move in mobile, digital spaces, we need a theoretical perspective that accounts for this interactive dimension. Michel de Certeau's writings on spatial stories can help us focus on such spatial interactivity, especially when one pays close attention to the dynamic relationship that he proposes between abstract and personal experiences of spatiality.

1. Haptic Screens of Navigation

Audiovisual screen-based media construct and re-mediate space, thus offering us spaces of fiction, immersion, connection and exploration. These screen spaces are provocative: they invite, present, reflect, attract, and entice. Here begins interactivity.

This has spatial consequences: whether movie screens, television screens, computer screens, or the small screens of hand-held gadgets, the screen itself is the threshold to a space “beyond.” Moreover, as interface between spaces it positions the viewer/user in relation to a mediated space. In both fixating and activating users, the screen situates them in a paradoxical, double bond to the screen. Digital screens, moreover, not only suggest this dialogic relationship between spatial domains, but for their operation require that these spaces can be touched. This touch has become direct, bodily, and literal in touch-screen technology, but other interfaces or screen extension or controls such as mice, keys, sticks or pads, also establish touch. Interactivity can, thus, be considered as spaces *touching*.¹

Contact is both spatial and temporal; it happens now, and here. This makes touch a minimal unit, or even paradigmatic instance, of a chronotope (Bakhtin). When we pursue this understanding of the screen as contact zone of different spaces, we can develop an understanding of spatial mobility as narrative chronotopicality. This is specific for media spaces. Mobility is a useful conceptualization of how we see, use, and explore screen spaces. The term evokes a sense of activity as well as a sense of space; of agency and of what we call spacetime. It is an often-used metaphor for what screens do: *mobilizing*, literally, figuratively, and metaphorically.

When trying to grasp the present-day meaning and functioning of how screens, make (new) space, we need to consider how media travel or mobility has changed along with the properties of the screen; from representing to constructing spaces. In early cinema, for example, phantom rides are exemplary for a mechanic, vehicular understanding of media mobility. In these ride films the screen is positioned as the

tool for a new mode of transport through vision. The ride film refers back to a ride that took place through a space that was there. It restores the ride: the result of the train's mobility that is captured on film restores the motion occurring at the moment of shooting. This canned mobility enables the viewer to vicariously travel back in time to that moment of mobility. This worked so well because the train stood as a model for cinema. Similarly, auto-mobility has been regarded as homologous to zapping television. Applications of digital technologies seem to lack such a model of vehicular transportation.²

This is not a lack. Instead, the medium itself is the model. In contemporary commercials for screen media we encounter multiple references to the specific mode of mobility that the “new and “improved” screen promises us. These commercials invoke the medium as the model. Digital mobility is sometimes visualized as *weightless* mobility. Or, in other instances digital mobility is conceptualized as dispensing with propelling machines, one where the body appears to suffice; a kind of “pedestrian” mobility. Unlike trains and cars that are spatially structured by tracks and roads, as well as temporally by time-tables, stop signs, and traffic jams, digital pedestrians can make space their own, on their own, in their own time. They compose individual trajectories – a freedom from the spatial and temporal constraints of vehicular mobility.

In line with this fantasy of freedom, surfing, skating, or (snow- or skate-) boarding figure as metaphors for the fluidity of digital mobility. More flexible, faster, more swiftly, and more anarchistic than walkers, these boarders can truly construct new spaces. In contrast to classical screens, the hand-held screen conflates the moments of

mobility and capture. The agency, physical activity and contact of the user redefine the screen not so much as tool, but as site for mobility – the construction of spacetime.

The pervasiveness of these popular metaphors of mobility asks what it really implies to be mobile in screen-based media space. It also requires a conceptualization of mobility on, by, and through screens that is specifically concerned with the spatial complexity of different screens. Digital screens complicate the spatial properties of the classical analogue screen, both in the technological sense, as well as in their applications and practices. An understanding of screen-based media as in essence, timespatial, includes reflection on the specificity of the digital screen; of the possibilities offered by the screen-based interface of being in touch with the realms beyond.³

Let us consider how spatial organization and timespatial mobility work together in digital screens. First, screen media are mobile in the sense that on-screen space is itself moving: the images move, and they imply a perceptual transport between on-looker and the (moving) image. Second, digital screens construct spaces in a less pre-determined way than analogue screens: users do not only touch, but change screen space. The use of multiple frames within the larger frame of the screen – a digital feature – fractures space and makes mobility more complex. The on-site use of screens in public spaces fundamentally alters this space, allowing for a continuous, simultaneous presence and blending of on-screen and off-screen space. Third, the mobility of (hand-held) mobile screens allows for a mobile screen use. The spatial attributes of these last two instances of screen mobilities, of on-site screens and mobile screens, establish hybrid spaces.⁴ As a term, hybridity helps us to clarify how

a clear-cut separation of the virtual and the physical domains is complicated, not only by the sheer ubiquity of screens, but also by the increasing physical and mental engagement with screens. Our lived and experienced spaces are increasingly composed of hybrid relationships between off- and on-screen spaces. Moreover, our mobilities are transformed, not simply increased, by digital screens.

The complex and dynamic relationships between spaces in the realities that surrounds us calls for a conceptualization of mobility that is less linear than the common-sense notion of “going from A to B”, a sense of transport or relocation if you will. A persistent understanding of the immersive potential of screen space is, for example, based on an understanding of mobility as moving from physical space “into” screen space. We immerse ourselves *in* fiction, when concentrating on, or letting ourselves be overwhelmed *by* the moving image; we *enter* the realm of fiction, or the spaces that media construct for us. Instead, we extend these notions of immersive mobility to investigate how *navigation*, as a *constructive* activity on part of the media user specifies what being digitally mobile implies. In this context, the term navigation means *being mobile in digital space*.

More generally, navigation refers to the freedom of movement, emphasizing the programmable nature of this space, the freedom and restrictions, and the personal creativity that this kind of space stimulates. Digital mobility is brought about by digital expressions in which the user navigates through space and becomes a digital pedestrian. Different from analogue mobility, the interaction between user and space creates a much more fluid navigation. As navigator the user becomes both reader and actor, thus completing the construction of space.

Semantically, “navigation” has a virtual as well as a physical aspect: it means moving through space, precisely by constructing that space: finding one’s way as well as taking that path. Both physical and virtual aspects of navigation characterize the use of portable navigation devices where one carries and interacts with the screen during movement, creating hybrid spaces that are composed of both physical and virtual attributes. It is therefore useful to interrogate navigation as a conceptualizing tool for how we make digital space into our own in a timespatial narrative, in comparison to the physical/virtual navigation of mobilized screening in hybrid space.

Mobility takes on specific significance in the case of navigation devices, which specifies what navigation is and how it is narrative in a spatiotemporal sense. Literally mobile, the user is on the move while generating stories and interacting with the interface. Body, technology and movement are interlocked. The navigation system embodies what Mark Poster has called a new mobile model in which “communication and people (...) travel together everywhere”⁵. This “traveling” together makes navigation devices prime examples of how digital mobility established hybrid spaces: by navigating the screen the user/traveler navigates physical space – and vice versa.

The NAVPIX™ navigation device by Navman, like the iPhone, has the feature of digitally photographed signposts. The device works mostly like any other GPS navigating system: the (touch)screen shows a 3D rendering of a slightly tilted, conventional roadmap, on which a centrally positioned arrow is the avatar of the viewer who is situated in the geographical space that is represented on the map. Moving the device around shows movement on screen, made intelligible by an arrow on different parts of the little map. NAVPIX™ includes the option of taking

photographs that are geo-tagged; they have global position coding (latitude and longitude information) attached to them. When you take a picture, you can later retrace your steps back to the object in the image. Or to be more precise, to the position from which the picture was taken, as the coding is of the position of the traveler, not of the object of his/her gaze. As a mnemonic tool, when selected, the image is translated to a map, which provides an itinerary for the arrow/avatar when the navigator moves around. The on-screen image changes from a simultaneous flash back *and* forward (the photographic image is our destination), to a simultaneous map and itinerary (the map shows where we can go), and tour (the avatar shows where we have moved). The screen shows where we went, where we can go, and how we are moving – all at once.

This example illustrates how images as tactile-iconic memories become on-screen translations and thereby are aids for constructing hybrid space by navigation. Spatial construction is in this case a process that involves stories. Previous travels become new travel destinations. These destinations are memories of future travels. When considering this principle of navigating hybrid spaces, spatial construction thus reveals a narrative tendency.

2. Moving Stories

Digital mobility is a spatial practice in which a user creates a spatial narrative *through* navigation. Yet, when spatiality becomes an important organizing principle, a presumption seems to sneak in that spatiality freezes time, undercuts narrative development. In this respect, there are striking similarities between discussions about early cinema and digital games. In both fields of research it is often assumed that

classical notions of narrative should be mistrusted as soon as the construction of and moving through space is the primary preoccupation of the medium. Be it in a phantom ride film or in a game like *Tetris*: when this aspect of mobility is analyzed scholars assume (implicitly) that space excludes narrative.

In the case of games, theorists have argued that games are different from classical narratives because they do not necessarily contain a narrator; they do not have to be told by someone. In his article “Ludologists love stories, too” Gonzales Frasca therefore calls for narratological definitions that are more specifically tailored to games for not necessarily including the figure of the narrator. (96-97)⁶

We follow Frasca in his relative, not absolute distinction, but pursue the narrativity of gamers further than he seems interested in doing. The two essential flaws in narratology that he points out are highly important when discussing both games, and other playful digital expressions of digital mobility. A definition of narrative as consisting of narrators addressing narratees then seems indeed pointless because the user enacts the position of narrator as well as of narratee. As categories they lose stable ground because they are not discernable as separate, pre-given and established entities. Instead, the result of the interactivity is narrative, but defined not as the product of a narrator: narrativity consists of moving through timespace, at the same time constructing that space.

This foregrounding of spatial construction often occurs in the cinema of *attractions*. Specifically, early cinema’s phantom-ride films concern the visual attraction of moving images that invoked a sense of mobility on part of the (immobile) spectator.

The first-person perspective shot from a moving vehicle appeals to a primary and powerful sense of mobility – a visual trope that has been absorbed by many – if not all – moving-image media and genres. As a trope, primarily, of the unfolding and exploration of space it is difficult to ascribe to this the classical, linear notions of narrative. In fact, as a primarily visual attraction spectacles like the phantom ride are often positioned as being non-narrative or even counter-narrative.⁷

Although not a case of interactivity and clearly of a different medium and a time, the case of the ride film is relevant for digital mobility. The capacity of the medium to construct space in a visually dynamic manner was the main attraction when cinema was new. Ride films enabled the spectator to make sense of moving space through identifying with a viewing position that is visually mobile. Similarly, we contend, digital games, but also navigation devices, explore the means of the medium to explore and construct space, and in doing so, hand over part of the process to the viewer/user, who becomes navigator, making his own moving story.

3. Space-time, Timespace, Spacetime

The main obstacle for thinking about digital mobility as narrative lies in its spatial inflections. As becomes clear in discussions on early cinema and games, narrative is often presumed to have time as its primary driving force because action is the key element. *What* has happened in the past is emphasized, and the question of *where* is secondary. However, in neither analogue nor digital mobility, spatiality is subordinate to time. Instead, time passes through spatial navigation.

This subordination of space to time becomes clearly untenable for digital mobility, since such trajectories are not narrated at all but enacted by the user or player who is inter-actively traveling through an environment. To solve this conceptual problem, the spatial dimensions of narrative as well as the temporal dimension need reconsideration. This implies that space and time should be analyzed, precisely, in their interdependency when we are dealing with movement and spatial change. The term spacetime, or timespace yields a better understanding of the relationship between digital mobility, navigation, and narrative.

In a broader discussion on the contemporary compression of time and space (Virilio; Soja; Harvey; May and Thrift), the term space-time (with hyphen) was coined by social geographer Doreen Massey to counter a western approach of time and space as if in binary opposition (Hubbard, Kitchin and Valentine) in which time is equated with change and space with the static. Massey has shown convincingly that such a divide is meaningless. As she writes in *Space, Place, and Gender*: “the spatial is integral to the production of history [...] just as the temporal is to geography.” (296) The term space-time stresses the relational quality of both dimensions and enables us to not think necessarily of narrative in a primarily temporal sense. As a term it can help us understand navigation as the *construction* of space, and by the same token, mobility as the *production* of narrative.⁸

However, as long as space and time, bound yet separated by a hyphen, are still presented as distinct categories, the sense of the inextricable blend between the two dimensions in real experience remains under-illuminated. And it is precisely this blend that makes digital mobility narrative. This is why we use the two neologisms

timespace and spacetime, interchangeable according to emphasis, without hyphen. As terms, both are translations of Mikhail Bakhtin's notion of *chronotope* who was interested in narrative and space.⁹

More recently, Henry Jenkins has acknowledged the spatial as an important dimension of (digital) narrative. In his reply to game theorist Jesper Juul's criticism that he was trying to narrativize games too much, Jenkins proclaims that even the most stable spatial arrangements, such as architecture, have a temporal dimension: so much so that he speaks of narrative architecture (Jenkins). Through this thought-provoking term Jenkins accounts for the particular form of narrative discernable in exploration games, allowing to investigate a "new" type of reading space: that of player navigation.

But the most renowned and successful founding theorist of spatiotemporal narrative is for us the French philosopher Michel de Certeau. He first put the interactive aspect, or rather, the agency of navigation forward in his writings about spatial stories. It can be applied to different kinds of spatial practices, be it physical or digital. The term "spatial story" helps to reach a better understanding of digital mobility as narrative and emphasizes the dynamics between the abstract and the concrete. As will become clear, such a spatial dynamic approach is needed to understand spatial interactivity in digital mobility as a new kind of narrative discourse.¹⁰

Unlike what some game theorists would claim, spatial stories are everywhere according to de Certeau. Even more, spatial stories are the main way in which people make sense of everyday life. They "take us places". Spatial stories are the main

organizing principle for all human activity and are especially important when it comes to trying to come to grips with spatial change. (115) Correspondingly, spatial stories are part strategy to make sense of our everyday life. And as such they are ubiquitous. To understand how they can be understood he makes a distinction between *space* and *place*, and *maps* and *tours*.

The most important difference between place and space is that the former possesses stability and an ordered configuration of elements while the latter implies mobility and is heterogeneous. Place refers to the “proper” order, to the way spatial positions are related in an objective account, while space concerns how we deal with such places, how we live them as *a practiced place*. De Certeau gives the example of walking the streets. The configuration of the streets he equates with place, while the act of traveling through these streets changes them into space. (117) Consequently, while place is set and univocal, spaces have as many meanings as there are pedestrians.

De Certeau speaks of both terms as constantly influencing each other. He identifies place as having the purpose to make static and lifeless objects. Space, on the other hand, presupposes a subjective purpose. It implies movement and change and can be associated with the passage of time, with history. In stories, these two determinations should be understood as in constant fluctuation, in which a lifeless, objective, abstract place can become an animated and changeable, concrete space. Conversely, space can be frozen into a place.

De Certeau introduces the difference between the map and the tour as analytical categories to distinguish the different modes of this interplay in one of the most basic travel stories, that of a spatial description. From a study of how residents describe their apartments, he learned that participants described their dwellings predominantly in terms of *going*, and that only a small minority used terms of *seeing* to explain what their apartments looked like. The *telling* mode of *seeing* he links to the notion of the map. A map can then be described as a static representation of the world we live in. It objectifies spatial relations. The *going* mode he links to the notion of the tour which is a dynamic and subjective principle since the point of view of the traveler is central. These two conceptions of spatiality are incongruous dimensions of contemporary culture: we are confronted with static representation of the world we live in, while at the same time sensing our space in a dynamic and more personal way.

As place and space, maps and tours necessitate one another and come into being through a two-way movement. Even more so, a map always presupposes a tour, since one needs to go somewhere to give an objective spatial account of it. Although as terms intertwined, maps have become more and more separated from the experience of a tour in western cultures. After the middle ages, maps gradually lost the traces of the touring that permitted their making. They became less personal and situated. Hence we are now in our daily life both confronted with such “isolated [...] system of geographical places” (121) while simultaneously experiencing space as an ongoing and mobile practice. According to de Certeau everyday stories are ways to make sense of such frictions.

It is precisely this tension and oscillation between the abstract and concrete experience of spatiality that is for us a defining quality of digital mobility. Static spatial representations such as maps and statistics reflect and frame the activity of the user or player who is simultaneously engaged in touring through and exploring new territory in a highly personal endeavor. In her touring through environments unknown abstract place gives way to space that is identified by the changes she makes to the environment. In digital mobility the exploration of landscape and location is closely and explicitly knit in with the player/user's efforts to construct their own narrative.

This dynamic is at work even in cases where digital mobility seems less prominent. Navigation as we have so far evoked it can be explored not only in a mobile GPS navigation device such as NAVPIX™, but also for example, in a desktop game like *Age of Empires* (AOE). To be sure: the mobilities of the two cases are very different, since the player of the game (mostly) sits in front of a screen to navigate through a magical landscape and is physically not very mobile. In fact, that difference further illuminates the specificity of navigation. What is at stake in navigation is the completion of the construction of space as a temporal process. This is the case in both examples. The player of AOE is mobile in the sense that she can move virtually through an environment that constantly changes during her navigation through the game and due to her intervention. Hence, she is digitally mobile even though she may be physically restricted in her movements. Furthermore, the computer screen and mini-screens on screen (containing maps, player statistics, buttons) function as membranes that hybridize on- and off-screen space and intertwine our physical space with other realms (Taylor). On more than one level, then, playing is thus an exercise of digital mobility.

4. Building Empires

The strategy/adventure game *Age of Empires* (AOE) belongs to a genre of computer games in which the player is invited on a virtual voyage through unknown colonial worlds. The gamer turns into a traveler who surveys and masters unknown domains and learns to control techno-scientific principles (including the military and economy) along the way. The fantasies of the nineteenth century come to life again.

Writing about a similar computer game called *Civilization*, Ted Friedman contends that such games invite the player to *become* a mapmaker. During the playing of the game one identifies with the landscape (a spatial practice) in a more abstract sense because one constantly sees the landscape from above. Because simulation games fix the player in a depersonalized frame of mind, they can tell their story in the abstract, without ever bringing it to the level of individual experience. The map is not merely the environment for the story; it is its hero. Thus, because the environment is the main focus of such games, the player has less of a subjective identification with the visited landscape and space is experienced as mapping.

Yet de Certeau argues that stories tend to oscillate between space and place, map and tour. In AOE this oscillation is clearly at work. As in many other games, AOE combines different spatial representations on screen, showing both the landscape with which the player directly interacts on a main screen, as well as a mini-map in the left corner of the screen, which shows an overview of the known territories. The player constantly moves through territory, which is translated into an expansion of the mini-map. Conversely, one can click on the mini-map to move to an area on the big screen. One can even click on an explorer on the main screen, go back to the mini-map, click

on the area you want to send him to and he will go to that spot. Hence mapping and touring entertain a highly dynamic relationship, which somewhat disqualifies Friedman's claim that the player simply becomes a cartographer as opposed to a tour-maker. She indeed becomes a mapmaker, but this cannot be described as a depersonalized endeavor. It would be more precise to call the player a cartographer on a tour.

With Friedman, we do think that such computer games are indeed spatial stories, precisely because spatial exploration and navigation are so central to them and are not limited by plot or avatar (character). But not because they give the player the opportunity of understanding space as a map, but because of the constant interplay that is allowed between the static and the mobile, the objective and the subjective, the abstract and the concrete.

As we stated before, de Certeau links mapping to the act of *looking* and touring to the act of *going*. In the case of AOE, looking and going are enmeshed. Looking and exploring are constantly feeding into each other. The mini-map that you see at the left corner of the game may at first glance look like a static entity; it is something to look at. Yet, it is the map that changes. Firstly, every movement the player lets the explorer make, an act of going, fills it in. While the black recedes on the main screen, the map expands as well. So the touring of the explorer feeds directly back into the map. Secondly, when the cursor is pointed at the map with a click of the mouse, the player is transported to that point on the main screen. Again, this is an act of going. Hence it is a map with touring qualities. This oscillation between looking and going is a crucial activity when playing the game. This draws attention to a powerful cultural

function of such games: maps become more fluid and transformable, hence less framed in dominant ideologies in which they can play a central role as means of solidification.

For all its modesty as “just” a game, then, AOE does three things of theoretical relevance. It demonstrates de Certeau’s oscillation in practice; it shows that spatiotemporal narratives– the narrative of the tour – are being produced; and it limits the colonizing power and agency of the player, instilling in her some of its own modesty.

5. Thresholds, Bridges and Landmarks

Both of our cases – navigation devices and desktop adventure games – foreground the interplay between map and tour. In doing so, they also accentuate two other figures of importance to de Certeau’s definition of spatial story: the frontier and the bridge.

De Certeau argues that stories perform the important function in everyday life of setting limitations. Describing space, they arrange and order cultural domains. As such they not only set limits but also alter boundaries: “[...] one can see that the primary function is to *authorize* the establishment, displacement or transcendence of limits (123).” To describe this paradoxical quality of boundaries, he distinguishes the frontier and the bridge as two narrative forms in every story that have the power to fix boundaries and to revise them.

To explain the figure of the frontier de Certeau takes his reader on an etymological tour in which he shows how the Roman ritual act of symbolically founding

boundaries precedes any military or political action. This act consists of determining a boundary. He claims that this tendency of putting frontiers down before the action takes place can still be discerned in contemporary western cultures and the way nationhood is perceived. Be it more scattered, the “primary role of stories” still holds that after their formation a space is formed that can function as a playground for actions (118). Such actions can nevertheless also transgress the limits that are first set by the story. When the frontier becomes a point of passage, de Certeau speaks of the figure of the bridge: “It turns the frontier into a crossing.” (128) Seen from this perspective every story concerns setting frontiers to be able to cross them.¹¹

In this process the figures of the frontier and the bridge entertain a paradoxical relationship. In de Certeau’s vocabulary the frontier should be equated with legal space. The bridge, on the other hand points to what is not part of that space, in other words to “its (alien) exteriority.” (126) As it happens, games like AOE foreground the bridging quality of borders. Given their constant transgression, borders have a semi-permeable quality. They are always crossings to other lands; borders are never presented as hard lines. Of course the map that has to be filled in has preset limits on what Jenkins calls the level of code. Also, demarcating your territory is a central activity in the game. Yet the way your own territory is shown on screen is rather fuzzy. In AOE it is presented by different colors for different nations and in *Civilization* by an opaque line that is drawn around your zone of influence. Players are involved in a constant process of defining and expanding their territory. Hence frontiers are points of passage, be it to another landscape or another level.

The fact that such games can foreground this bridging should again be understood in light of the interactive quality of games and other digital mobilities. Because players are able to be interactively involved in making their own space, the emphasis lies on the passing of borders. Much like the navigators of other hybrid spaces, they become the enactor as well as the narrator of a spatial story, and try to expand their story by pushing spatial limits. This occurs, of course, in time. In spacetime, indeed, stories, without being narrated, are in your own hands.

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¹ The spatial positioning and binding of the spectator is a central issue in the analysis of perspective, elaborately studied in the theory of art and visual culture. See, for example, Hubert Damisch, *The Origin of Perspective* (Cambridge, MA: MIT Press, 1994), Jonathan Crary, *Techniques of the Observer: On Vision and Modernity in the Nineteenth Century* (Cambridge, MA: MIT Press, 1990) and Anne Friedberg, *The Virtual Window: From Alberti to Microsoft* (Cambridge, MA: MIT Press, 2006). Margaret Morse conceptualizes the screen as threshold between spaces in "Body and Screen." *Wide Angle* 21.1 (1999): 63-75. About the haptics of screens and the physical "fit" of the (mobile) screen in the user's hand, see Heidi Ray Cooley's "It's All About the Fit: The Hand, the Mobile Screenic Device and Tactile Vision." *Journal of Visual Culture* 3.2 (2004): 133-55. Anna McCarthy employs Samuel

Weber's notion of "space-binding" in her essay about the site-specificity of on-site television screens. "From Screen to Site: Television's Material Culture, and Its Place." *October* 98 (2001): 93-111.

² See John Urry on the analogies between car-based automobily, and the "weightless," and virtual mobility of television culture, in "The "System" of Automobily." *Theory, Culture & Society* 21.4/5 (2004): 25-39. Anne Friedberg's "Urban Mobility And Cinematic Visuality: The Screens Of Los Angeles – Endless Cinema Or Private Telematics" concerns the movie screen's "negotiated the materiality and mobility of the driver and the immateriality and stasis of the spectatorial experience."

(183) On television screens in public places, specifically in places of transit, see Anna McCarthy's *Ambient Television: Visual Culture and Public Space*. (Durham: Duke University Press, 2001).

³ We do not structurally compare the analogue screen to the digital screen, since we do not think it useful to construct a clear-cut separation between analogue and digital. Conversely, a notion of *the* digital screen is too broad a category, comprising many different physical attributes, interfaces, and practices that are in a continuous state of transition and change.

⁴ See also Adriana de Souza Silva, "From Cyber to Hybrid: Mobile Technologies as Interfaces of Hybrid Space." *Space and Culture*. 9.3 (2006): 261-278

⁵ Mark Poster. "Digitally Local Communications: Technologies and Space." *The Global and the Local in Mobile Communication: Places, Images, People, Connections*. Budapest, June 10-12 2004: 2

⁶ The title is paradoxical since the article fuels this allegedly non-existent debate.

⁷ The concept of cinema of attractions is developed by Tom Gunning and has recently been probed, reconceptualized, and updated in Wanda Strauven (ed.). About early cinema's ride films, see Nanna Verhoeff *The West in Early Cinema: After the Beginning*. (Amsterdam: Amsterdam University Press, 2006). About the visual spectacle and narrative tendencies see Sean Cubbit's work on special effects: *The Cinema Effect* (Cambridge, MA: MIT Press, 2004).

⁸ See Doreen Massey, *Space, Place, and Gender* (Cambridge: Polity Press, 1994).

⁹ Bakhtin wrote his essay on chronotope in the 1930s. Ester Peeren has published a recent study about Bakhtin.

¹⁰ We are aware of Thrift's critique of de Certeau's approach, which mainly concern the fact that he sees every social practice as text or speech-based. See "Driving in the City." *Theory, Culture & Society* 21.4/5 (2004): 41-59. This objection has no consequences for our discussion.

¹¹ For an in-depth study of boundaries as territories of negotiation rather than demarcations, see Inge Boer's *Contested Territories: Boundaries in Cultural Analysis* (Amsterdam: Rodopi, 2006).