Destabilizing Playgrounds: Cartographical Interfaces, Mutability, Risk and Play

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Sybille Lammes

Abstract In this chapter I will examine the triadic relation between play, digital mapping and power. I look at how playing with cartographical interfaces is a central and never neutral activity to digital mapping that invites users to change cartographic landscapes in playful and subversive ways, and thus containing potential to changing the very nature of maps and the spatial relations they invite us to produce. Since the emergence of digital maps, cartography has changed drastically. Digital maps allow for a greater degree of two-way interaction between map and user than analogue maps. Users are not just reading maps but can constantly influence the shape and look of the map itself. Used on our mobile phones, on our computers or as satnavs in our cars, maps have become more personal—transforming while we navigate with and through them. Digital maps have thus altered our conception of maps as 'objectified' representations of space that has been a touchstone for centuries (Anderson 1991; de Certeau 1984; Crampton 2001; Harley et al. 1988). Instead, I will argue in this chapter, maps have become more open to playful, subjective and subversive practices. Play is understood here as a range of activities that go beyond ordinary life by taking on a playful attitude (Cermak-Sassenrath 2013) and as activities of pleasure (Fiske 1993) although not necessarily fun (cf. Malaby 2007). I will probe is where exactly this room to play resides in the particular case of digital mapping and to what extent this gives users agency. Certainly, the image of the map has become mutable and seems to be open to play, but that does not necessarily mean that the power lies solely in the hands of the player/user. How does power work in such ever-transforming neo-cartographies and what affordances does the user/player have to change power-relations?

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1 Digital Mapping

Digital mapping has developed over the last thirty years to become a pervasive and global technology, with powerful relational implications that have reshaped the understanding, production and approach of our spatial world (Thrift 2004). Indeed, a highly urgent question is how particular assemblages of digital mapping change our conception of agency—in other words, our possibilities to develop actions that affect the "outcomes of what the system produces" (Murray 2013). Digital maps—and other forms of data-visualization—allow users to leave traces, tag locations, to find and follow movements, and to trace and connect to others. Above all, digital mapping allows users to see themselves as an intricate part of the map: every move you make is absorbed by the mapping interface. Putting ourselves on the map, and to leave ever-evolving mutable traces of ourselves for others to see, permeates the map with personal visualizations of our movements that can be followed by other people. If we can speak of a shift from "Who am I?" to "Where am I" and "Where am I going" in our public profile, we may critically ask how much control we as users actually have over what traces we leave for others to see and how much say we have over the shape of the map overall.

In this chapter I will discuss how digital mapping interfaces can invite users to put themselves *in* and *on* the map and how this activity can be understood as playful. Play is an important principle in how we use digital maps as a means for socio-spatial networking and how we reconfigure, create and reflect on power relations in spatial terms. I will argue that digital maps should be conceived as specific kinds of navigational interfaces that can proscribe playful performative acts, especially when they entice us to leave traces of our whereabouts on the mapping interface. Being simultaneously signs and things (Latour 1990) they invite users to visually perform and play with their socio-spatial identities that are 'absorbed' by the map as GUI. This ludic quality of digital navigational interfaces needs to be further theorized to understand precisely how digital maps have the potential to proscribe play and how that changes the configuration of our contemporary spatial identities (where am I) in relation to power. So, the fact that digital maps can invite us to inscribe ourselves in the map in a playful manner is key for understanding how much agency players have in constructing such spatial networks. The point that I wish to make here is that digital mapping interfaces allow us to play with spatial identities in the map. This has implication for how we can understand play in relation to power.

The cartographical interfaces that I examine in this chapter are approached as *navigational interfaces*. I use this term to mark a shift in the public perception of maps from the mimetic to the navigational (Lammes 2011). Whilst a mimetic interpretation of maps relies on the belief that maps have a direct resemblance to, for example, a landscape or a battlefield (two points of reference), a navigational understanding approaches maps as outcomes of "chains of production" (Latour 1990) in which references are made depending on relevance. Playful maps underline what November, Camacho-Hübner and Latour have marked as a shift in

the public perception of maps since the digital turn (November et al. 2010). They consider risk as a key notion to allow us to move away from an understanding of maps as 'frozen' immutable objects. Yet, I will argue that 'play' is an important and compatible concept to account for this as well and may be even overlapping.

2 The Digital as Ludification

One could actually argue that not only digital maps, but that *all* digital technologies encourage playful attitudes through their interfaces. Computer use is intricately related to play, especially since the 1980 when computer technologies became so much part of our daily lives.

Media theorist Cermak-Sassenrath stresses the capacities of computer technologies in general to engage users in play (Cermak-Sassenrath 2013). As cultural studies scholars have argued before about television and film, media has always enticed users to play as a way for audiences to gain power over the production of meaning (Fiske 1993, 2011; Stacey 1994). Yet digital technologies mark a shift in how we play and engage with power relations through media. Here we can no longer speak of audiences or spectators. Neither can we speak of higher echelons or systems of surveillance that attempt to control media users and to influence their ideological views in covert ways. We have moved from systems that can be described as apparatuses of control (Foucault 1980; Baudry 1976) to what Galloway, following Deleuze, called 'networks of control' (Galloway 2004) that are far more dynamic and distribute power in a more democratic way. The metaphor of representation is no longer sufficient to think about and to understand the relation between power and play in contemporary digital media. Nowadays play refers far more to interactions within fluid networks of media technologies, in which users are embedded as participants. We play with and within these changeable networks.

Such networks are 'navigated' by the user via the interface, a highly important mediator for understanding the relation between power, play and the digital. As Alexander Galloway (REF) points out, interfaces are mediators through which networks come into being and we have to acknowledge their changeability to understand them properly in relation to power. Yet, while Galloway speaks of interfaces as effects, I prefer to speak of them as sign-things in order stress the materiality of interfaces as well as their transformable character (2012). At first glance, this may seem contrary to Galloway's interpretations of interfaces: he speaks of effect as a means to steer clear of an object orientated conceptualisation of the interface which hinders us to think about of interfaces as transformative mediators. Yet the term 'sign-thing' in a Latourian sense doesn't equate with how Galloway comprehends objects (hence the term thing). It goes beyond the object/subject opposition and perceives things as open to change and as having agency: the interface as sign-thing invites users to perform certain actions that are then inscribed in it and become mediated through it. Such a conceptualisation allows us to think of interfaces in terms of changeability whilst at the same time acknowledging their

materiality. Moreover, it points to the interface as having agency, an important feature for understanding the workings of power. The question still is, however, what they invite users to do and to what extent this gives users power to play with networks of control and to re-negotiate their shape.

3 Playing the Map: The Mutable Image

In the case of digital maps, this question is foremost related to the extent to which users are able to change assemblages that are mediated through the navigational interface. As navigational interfaces digital maps are mediators that prompt users to form ever shifting assemblages between themselves and other diverse things such as navigation satellite systems, GSM frequencies, base stations, unlocked SIM cards, speed cameras, WIFI signals, computer programs, car mechanics, dashboards, speedometers, roads and other navigators. The mapping interface gives all actants in this network 'signals' to do or perform things: for example, checking our location through a satnav interface prompts the software to seek a GPS signal by connecting to a satellite, which then translates into a refreshed image of the user as part of the Graphical User Interface. This network of humans and things is transformative because the translations between such actants are constantly shifting. The stability of this network is ensured by the immutability of the technologies that together make up this network. These technologies ask us and other actors to perform certain tasks and invite us to act accordingly. "Enter postcode" or "go left" is advice that the satnav offers, which we, in turn, are meant to follow. When we act upon such advise, this is fed 'back' into the network and gets translated into a refreshed image of the map. So our actions change the assemblage that is mediated through the interface.

What is important in terms of power is that the appearance of the interface changes through our spatial interactions with it. The image of the map has become mutable and has become open to play. This mutability seems to be at least discordant with how analogue maps work: here power relations are established through maps as 'frozen' representation that do not change shape easily when being moved around. Particular contexts of use can still make such maps processual in their use (Dodge and Kitchin 2011), but analogue maps as sign-things remain *immutable mobiles*, a term that is highly important for understanding how mapping technologies are produced through networks of asymmetrical power relations.

As a theoretical concept the term immutable mobile was coined by Bruno Latour to understand how power 'works' in producing techno-scientific 'artefacts'. Latour alludes to the story of French explorer La Pérouse to explain what he means by an immutable mobile. In the 18th century La Pérouse was appointed by Louis XVI to travel around the world in order to bring back new information about the explored areas. At one point during his expedition he wanted to establish whether a specific area of China was an island or not, and asked a local inhabitant to draw him a map:

> An older man stands up and draws a map of his island on the sand with the scale and the details needed by La Pérouse. Another, who is younger, sees that the rising tide will soon erase the map and picks up one of La Pérouse's notebooks to draw the map again with a pencil… (p.24)

According to Latour there is a crucial difference between the 'project' of the local inhabitants and that of La Pérouse. Arguably the Frenchman has no more knowledge of how to draw a map of this specific area than the old man has, but differently from him La Pérouse wants to be able to bring a map back to France for others to use. The locals have no need for that and can draw maps of their island anytime they want. For them it doesn't matter if maps drawn in the sand are being erased by water or wind. To be able to bring a map back to the king of France, La Pérouse has to make an inscription that is mobile, but also an inscription that keeps its shape when being transported: an immutable mobile. An immutable mobile is a *flat inscription* that can vary in *scale*, can be *reproduced*, is *re-combinable* and is *super-imposable* with other inscriptions (37–38). When maps become immutable and mobile, they acquire a certain authority and it becomes more difficult for users to undo or change them. In the case of La Pérouse the map becomes an immutable mobile so the King of France can use it as a powerful representation in his quest for world domination.

One could argue that maps have become even more mobile in the digital age. They emerge in "flux" (Hayles 2002) with people becoming increasingly hyper-mobile. Yet through this spatio-temporal acceleration also acquired a certain degree of adaptability or mutability. This mutability manifest itself most clearly in the image of the digital map, which changes its visual appearance according to where we go and what we want to see. Now the map-user has a certain say in how scales vary (zooming in) and which images are combined and superimposed (layers, mash-ups): we can play with the image of the map that has become mutable.

In spite of this, digital maps still depend on the practice of inscription. This is most notably the case with Google Earth. It is actually a 3D digital globe on which a multitude of inscriptions are superimposed. Perfectly in line with Labour's definition, the globe itself and its basic cartographical features are immutable, yet super-imposable and re-combinable. The views and degree of zooming in and out has spectacularly increased in the case of Google Earth, but as a tool and toy it actually still heavily depends on reproducible inscriptions. It is in that sense—in concordance with Latour's claim (1997)—that the term immutable mobile has not been made redundant since the digital turn, although velocity may have been increased tremendously and other connections may be privileged:

> (I)n the long history of immutable mobiles, the byte conversion is adding a little speed, which favours certain connections more than others, than this seems a reasonable statement. To say that we are living in a cyberworld, on the other hand, is a complete absurdity. (n.p)

Indeed, one could state that in Google Earth the practice of hybridization, which has always existed according to Latour, is sped up and augmented to a far greater extent and also made more apparent than in the case of analogue maps. New kinds of connections can be established (e.g. webcams, photographs) and the rate at

which images can be added and re-combined has accelerated. Yet, in essence, the images that are re-combined via the interface are still re-producible inscriptions and thus curtail the possibilities to renegotiate asymmetries.

An open source mapping application like OpenStreetMap (OSM) also depends on a multitude of visible and re-combinable inscriptions. Users can zoom in and out and can enrich the map with existing layers for walking, cycling or driving. Like in Google Earth or Google Maps the image of the map is also arranged according to certain pre-determined gridlines that cannot be changed. Yet, in OSM, the mapping interface is definitely more mutable than in Google Earth because the user is now actively encouraged to contribute in-depth inscriptions to the map. Or as the opening webpage puts it: "OpenStreetMap is a free worldwide map, created by people like you." This suggests an input of users that goes much further than the activity of layering, such as being used in the Google Earth project "Save the Elephants" in which the mobile GPS traces of Elephants are overlaid on the Google Earth globe surface, to be removed by users at their wish. OSM users are invited to add immutable map inscriptions instead of only adding layers. They can make updates that change how the map looks as an inscription and have therefor more power in how 'the world' is viewed. Another good example of this is WikiProject Gaza where OSM mappers changed the map of the Gaza strip to improve humanitarian relief (OpenStreetMapWiki). Users thus have possibilities to become explorers and cartographers who can alter the map by inscribing changes. The traces they leave cannot be easily removed. This position of OSM mapper actually somewhat evokes that of the young Chinese men in Latour's story that makes a drawing of the island in La Pérouse's notebook for him to take back to France. Similar to this young man, OSM users that are not necessarily map experts are encouraged to make map inscriptions and to become mediators or translators. Since contributors of to the map make these alterations in the surface instead of on it, cartographical images become less asymmetrical inscriptions and regain at least a taste of mutability.

4 50 Shades of Play

Play is an important feature in how users can engage with OSM as mappers, both in the sense that they are asked to make use of the play in the map (its mutability), as in how such inscriptive endeavours are shown to others. In addition to having possibilities to play games to help with developing map inscriptions (e.g. Address Hunter), OSM mappers also engage in "performative play" (Sutton-Smith 2001) through their direct cartographical engagement with the mapping project (an activity that is compatible with what Nitsche (in this volume) describes as crafting). Furthermore, diaries, blogs and efforts to help the OSM community are rewarded with badges and scores. Mappers can earn bonuses for "auto-biography", "citizen patrol", "clean up" and "editor". So play is an important activity in how mappers show themselves to the OSM community as cartographers, explorers, travellers,

climbers, walkers, runners and artist. Most importantly, though, OSM mappers leave traces of what they have changed *in* the map for others to see. This is done through the option of "GPS traces" and by looking up the name of a contributor to see what she exactly did for the map and which inscriptions were left when and where. Unlike a conventional analogue map where such inscriptions are 'depersonalised' and we cannot easily know which assemblages of actants established it as a thing, upward chains of production are partly traceable and even celebrated in OSM.

When it comes to understanding the triad relation between power, play and the mapping interface, the potential of leaving traces in the digital map is crucial. OSM makes these traces part of the inscription of the map, but most digital maps invite us to put play in the map as well as to putting ourselves as players in the map (Lammes 2013). Mapping devices may come in many shapes and forms and their functions may be highly diverse, yet one thing most of these maps share, and which makes them ontologically and epistemological profoundly different from analogue maps, it is that the user can put herself *in* the map for others to be seen.

In particular maps that are used in mobile settings and/or are part of a social networks such as Facebook or Foursquare, persuade users to put themselves in the map and play with their spatio-public image. This changes how we are in, how we shape and how we know the 'world.' So instead of looking at a map and maybe even putting markers on it to *represent* your movements, the map now *simulates* your movements in a procession manner. It does no longer, as Gekker and Hind puts it, "relegate the map to a secondary level underneath the real (…) world" (Gekker and Hind 2013). You have become part of the map, and the map constantly 'absorbs' your material whereabouts (Lammes 2011). Surely a digital map used when driving has a different and 'lower' playful function than a mini-map in a computer game or mapping as part of a locative artwork. Yet all digital maps, so also satnavs, invite us to play to a certain degree, be it in a more subtle or overt ways. Satellite navigation interfaces may at first seem to be rather remote from play in their purpose, but in more subtle ways play is part of our navigational experience through celeb voices (Patsy or John Cleese, for instance), racing flags to indicate that you have reached your destination, and through the sheer similarity between the look of the screen of your satellite navigation devices and a game such as Grand Theft Auto (Chesher 2012). But play is foremost present in how we interact with the navigational interface: the conversation we can have with the satnav ("No, Katie you're wrong, we have to go right here"), the way we can be amused to see ourselves end up in unexpected places on the screen, and, last but not least, how we can race against the satnav while looking at ourselves on the screen. According to a UK survey, 7 million car drivers tried to beat the time of the arrival estimated by their satnavs, a rather dangerous game that shows how closely related risk and play are, and how we love to play the system.

5 Putting Players in the Map: Risk, Power, and Play

In their article "Entering a risky territory: Space in the age of digital navigation" November et al. (REF) assert that digital maps accentuate that risk is *in* the map. It can only be conceived as part of the map when we conceive maps as navigational instead of mimetic 'mirrors' of reality. In the case of digital maps users are invited to be navigators and are encouraged to approach maps in terms of the risk assessment. The example of racing against the satnav illustrates this perfectly: we interact with the interface, and by taking the risk to go against its advice we become aware of how this technological assemblage makes certain references prevail over others. Furthermore, an obstacle on the map, such as a traffic jam, is estimated in terms of risk. The same holds when we end up in the wrong place, which points to the risk of being too late, or more specifically, the incalculable and unpredictable outcomes of this chain of production that is translated via the navigational interface (or what the authors call a "dashboard"). This makes the map user aware, as November et al. argue, that (digital) maps don't depend on one singular indexical relationship. It also makes it possible for users to get some understanding of how chains of production are set in motion, hence revealing how they are networks of connectivity, rather than fixed structures. Yet, when we are using technologies in mundane settings, risk seems to be a rather heavy term. Yes, we may take the risk of getting a fine when speeding or running through a red light, but the physical risk is most often limited, especially when safety rules aren't being broken. Play may be a complementary term to risk, since it also points to the fact that digital maps are outcomes of processes of translation that are by no means mimetic and pre-calculable, but it also includes interactions with digital mapping interfaces that are not necessarily dangerous or 'deep play' (Geertz 1972). It acknowledges that digital mapping interfaces invites us to put play in the map, both in more or less dangerous settings. Furthermore, it also acknowledges the ritualistic side of this navigational mode of being.

6 Deep Play, Open Play and the Power of Tinkering

Maybe we can conclude that deep play correlates with a higher degree of power of the user over the shape of the network than more safe kinds of play. When an interface actively invites users to intervene in the system, such as OSM does, it makes play more dangerous. To become an active mapper, as the Gaza contributors did, you may have to go exploring more hostile or remote areas through walking, climbing, or sailing than when engaged in more safe ways of playful navigation. With the mapping device in hand as play equipment, mappers put a higher degree of risk in the map for others to see. The news item of the satnav racers makes users aware that they are part of this fluid network, but also of where their agency in shaping this network stops. The more play leans towards deep play, and puts risk in

the map, the more possibilities it gives us to play as a means for appropriating and shaping power.

However, the main rules of OSM are more difficult to change. The base map still functions according a dominant Western cartography, a "Cartesian-Newtonian epistemology informed/transformed within both historical and current (…) colonial projects of the West" (Johnson et al. 2006). What is up and down, what are borders, what are distances: such structures remain more difficult to challenge, even in OSM. Thus, the degree of play is reduced by the fixed basic structure of the map that is very much ideologically informed and shapes our understanding of spatio-temporal relations.

The wide range of contemporary mapping interfaces may entice us to put play in the map in more-or-less perilous ways, but they all lack the openness to change the basic map itself. Contemporary digital maps do not entice users to engage in activities that combine deep play with *open* play. Although digital maps may hybridize mapping and touring (de Certeau 1984) the navigational interface leans heavily on an ideologically informed 'rational' base-map that limits the agency of users in making mapping a practice of their own, in tune with how they may want to produce and understand spatial relations. A navigational interface that enables users to play the system to its full potential, should both invite users to engage in deep play by making inscriptions in the map, as well as to adapt the relational structures on which that map is based. This may be in the shape of digital counter-mapping or "vernacular mapping" projects (Gerlach 2010), which go further than some current participatory mapping projects based on a fixed map structure which is then layered or sometimes inscribed with geo-narratives (Pyne and Taylor 2012). But one could also envisage a game with a different kind of mapping interface—one that would stimulate another kind of involvement that is, for example, far more in tune with how people cognitively draw maps in their heads while moving or how indigenous people dream landscapes (Hirt 2012). Such digital interfaces would go one step further in encouraging users to take agency in thinking and producing their 'Umwelt'. (Thrift 2005; see also Khaled in this volume)

As I have shown in this chapter, digital mapping technologies open up several possibilities for playing with spatial relations. Computer technologies made maps into interactive interfaces that are far more susceptible to play than analogue maps are. Although critical geographer Chris Perkins (2009) rightly argues that mapping interfaces have always been open to playful conduct (of which many board games testify) digital mapping interfaces are significantly more playful than analogue maps because of the high degree of transformative spatial interaction between actants that they mediate (Perkins 2009). This spatial interaction is even more pronounced when it results in moving and mutable simulations of the users in the map. Navigational interfaces that invite users to go beyond layering the mapping image and in addition encourage them to engage in deep play, have the potential to subvert the networks of control that are mediated through the navigational interface. Yet digital maps should even become more open to counter-play to really take control of such networks.

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