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Locative Media and Mediated Localities:

An Introduction to Media Geography

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ABSTRACT

At present, nearly every media-related subject field appears to be “locative”, or with the prefix “geo” attached, be it the discussion on geoart, geosurveillance, or geocaching. Within this context, recent geographical and phenomenological studies on mobile media practices, in particular, reveal a trend toward a revaluation of place and placiality. While social sciences, media and cultural studies label this re-materialization of place “spatial turn,” a cultural, humanistic and media turn is acknowledged in geography. Currently, the two converging developments are still marked by differing conceptual formations: locative media and mediated localities. This paper as well as this issue are concerned with both sides—the spatial turn in media studies and the media turn in geographical studies—and provides a sketch of the subject area “geomedia” from a phenomenological perspective and the field of “media geography” from a disciplinary perspective.

As a theoretical framework for media geography in general and geomedia in particular, this article favors the actor-network theory for three reasons: a) The actor-network theory tends to conceptualize places prior to the network of heterogeneous agents; b) it reveals itself to be a suitable heuristic for locative media as through the geotagging of objects instead of people, the actor-media theory permits a manifestation of what Bruno Latour means by the “Internet of Things” and, c) on the other hand, the actor-network theory puts us in a position whereby mediated localities can be described as if there is nothing more in the territory than what is in the map. Based on this argument, the conclusion can be drawn that media geography therefore also constitutes a new discipline for overcoming the very distinction between physical and human geography.

"Everything is related to everything else, but closer things are more closely related."

(Waldo Tobler's *First Law of Geography*, 1970)

INTRODUCTION

NOWADAYS EVERYTHING IN THE MEDIA WORLD gets tracked, tagged, and mapped. Cell phones have become location-aware, computer games have moved outside, the Web is tagged with geospatial information, and geobrowsers like Google Earth are regarded as an entirely new genre of media (Parks 2009). Spatial representations have been inflected by electronic technologies (radar, sonar, gps, Wi-Fi, Bluetooth, rfid, etc.) traditionally used in mapping, navigation, wayfinding, or location and proximity sensing. We are seeing the rise of a new, location-aware generation. "This generation is becoming familiar with the fact that wherever we are on the planet corresponds with a latitude/longitude coordinate" (Varco 2004).

The term "locative media," initially coined by Karlis Kalnins in 2003 (see Hemment 2006b; Tuters and Varnelis 2006), seems to be appropriate for digital media applying to real places, for communication media bound to a location and thus triggering real social interactions (Varnelis and Friedberg 2008). Locative media works on locations and yet many of its applications are still location-independent in a technical sense. As in the case of digital media, where the medium itself is not digital but the content is digital, with locative media, the medium itself might not be location-oriented, but the content is location-oriented.

The unusual location-based nature of communication in the electronic media, in particular, is currently leading to a renaissance of cartographic representations, as maps are often indispensable to "locative media" in producing an index for the illustration of spatial relationships. Mapping as the process of creating maps and the transformation of geographical data opens new perspectives for local search operations on the Internet, as well as the physical exploration of space. The superpositioning of virtual and real space in "augmented reality" (Crang and Graham 2007) or trend games like "geocaching" (Willis 2010) serve as an example of this.

Can we say that the numerous distributed geotagging platforms and applications like Flickr or Google Latitude unleashed by this trend have given rise to a new genre of collaborative "geocommunities," or what Crampton (2009) calls "Maps 2.0"? The increasing quality and clarity of visualizations of the Earth can be seen to be the common attribute shared by the rise of mobile communities using ubiquitous geolocation methodologies, on the one hand, and the rise of less-mobile geocommunities who are sharing mapped information and taking layered visualization to new heights.

This issue of *Aether* has therefore been split into two sections, one on "locative media" and one on "mediated localities." The reason for this is that the subject area can be categorized into two types of mapping: annotative (virtually tagging the world) and phenomenological (tracing the action of the subject in the world). Where annotative

projects seek to demystify (see all the Google Earth hacks), tracing-based projects typically seek to use high-tech methods to revalue dying everyday practices, such as walking and occupying public space, or to make mediation and globalization processes transparent. The Japanese mobile phone culture, in particular, embraces location-dependent information and context-awareness (Ito, Okabe, and Matsuda 2005). In this culture, GPS technologies appear in mobile, location-aware computing games such as “Mogi,” which utilize GPS to enable players to see each other’s locations (see Drakopoulou 2010). Most of the location-based games nowadays seem to emphasize collecting, trading, and meeting over combat. Does this indicate a social trend in mobile entertainment? This issue will attempt to give an overview of actual research on this topic, focusing especially on the ways in which locative media and mediated localities tackle social and political contexts of production by focusing on social networking, access, and participatory media content, including storytelling and spatial annotation.

MEDIA GEOGRAPHY: MORE THAN JUST ANOTHER DISCIPLINE

In the past, stock market crashes like the Asian economic crisis of 1997 appear to have led to frequent predictions by media theoreticians of “the end of geography,” whether by Jean Baudrillard (cited in Smith 1997)¹, Vilém Flusser (cited in Werlen 1997, 218)², or Paul Virilio (2000 [1998])³; however, it is ironic that this phrase is used more frequently by geographers who use the apocalyptic “end of geography” to describe the threat (to their own discipline) posed by media technologies (Graham 1998; Dicken 2000) and media studies (Smith 1997; Miggelbrink 2009).

To date, the current crises, whether the “economic crisis” or the “climate catastrophe,” have resulted in a contrasting effect—in a renaissance, or, more accurately, a remediation of geography in the form of media geography (Graham 2004, 2005). Prime examples of this are the Internet platforms **Google Maps** and **Google Earth**. While fictional propositions like Google Lively (a Second Life clone) are being discontinued, “virtual globes” (Dodge, McDerby, and Turner 2008), “digital earths” (Roush 2007; Goodchild 2008), and “geobrowsers” (Peuquet/Kraak 2002), which are bound to territoriality based in reality, are experiencing an unprecedented boom.⁴ For example, based on Google’s data, the number of medially annotated georeferenced locations on the World Wide Web more than tripled during the year from May 2007 to May 2008 (Hanke 2008), which is why one can already refer to a **www** as the successor to the **www**—in other words, an expansion of the Web-based question, “who, what, when?” to “who, what, when, and where?”

From a historical perspective, the appearance of new media applications has always initially resulted in “individual media ontologies,” which have then been extended to “general media ontologies” through the synopsis of several media and the formation of an independent mediality (Leschke 2003). It is exactly this genealogy that can now also be applied to media geography, which, since the millennium (Thrift 2000), has

formed from the individual media geographies of “art geography” (DaCosta Kaufmann 2004), “literary geography” (Moretti 1998; Crang 2008; Piatti et al. 2009), “music geography” (Krimms 2007; Johansson and Bell 2009), “psychogeography” (Coverley 2006; Self 2007), “film geography” (Lukinbeal 1995; Bruno 2002; Aitken and Dixon 2006), “television geography” (Morley 1996; Rain and Brooker-Gross 2004; Bollhöfer 2007), “telegeography” (Staple 1997; TeleGeography 1992 et seq.), “cybergeography” (Dodge and Kitchin 2001a, 2001b), “Internet geography” (Budke, Kanwischer, and Pott 2004), and, finally, “Wi-Fi geography” (Torrens 2008).

To date, however, media geography has become established not as a “general media ontology,” but as a subdiscipline of human and cultural geography, with a media geography session at the *Annual Conference of American Geographers* (AAG) and, since 2007, through its own publication, *Aether. The Journal of Media Geography*. In this case “media geography” acts as a relatively broad term for a “geography of [...] cinema, television, the Internet, music, art, advertising, newspapers and magazines, video and animation”; however, media geography can be understood as an overall term that not only includes different individual media geographies, but also simultaneously characterizes media studies that is changing through the “spatial turn,” which is rediscovering spatial- and location-related questions (Döring and Thielmann 2009).

The foundations for such media geography go back a long way. In addition to “media geography,” the term “communication geography” has existed for some time (Abler 1974; Hillis 1998; Jansson 2007). Communication geography is also to be understood not only as a subdiscipline of geography, but also as a residual category within communication studies (Thielmann 2006). The aims of gathering knowledge in communication geography are to create an inventory of communication infrastructures and spatial and social disparities. Given this transport-scientific tradition, the geography of communication can therefore be traced back as far as Friedrich Ratzel (1899, 169 et seq.), according to Abler (1974, 328); however, closer inspection reveals that media geographical considerations have an even longer tradition, dating back to 1833. They go as far back as the founding father of scientific geography, Carl Ritter, who was already thinking about the spatial effects of telegraphy very early on:

It is not only the distances from below to above, but also the spatial differences in all directions that are transformed by [...] advances in a universal telegraphy; whether these are newly discovered organs [...], or scientific advances, or cultural developments, through which peoples learn to migrate to other areas [...]. What did not appear to exist at an early point in time, thus comes into being; what used to be at a great distance and was not accessible, now comes closer, even moving into the realms of daily travel. (Ritter (1852 [1833], 160, own translation)

Ritter derives from this, among other things, the requirement for medial changes to cartographic spatial descriptions, “for example, through several transparent globular

disks that slide across each other and can be moved back and forth" (ibid., 180, own translation). Media geography, such as it is more than 150 years later, seems to have moved substantially closer to this research aim. The time is certainly ripe for a disciplinary programmatic approach to a media geographical research agenda and not just a general theoretical locational and spatial observational approach, even though the subject of research—and this characterizes all the individual media geographies—is distinguished by a "renewal of the significance of place" (Hardy 2000).

LOCATIVE MEDIA + MEDIATED LOCALITIES = GEOMEDIA

Pursuant to a critical understanding of media technology, new media have been associated with a growing sense of dislocation over a long period of time; however, contrary to the assumption of an erosion of a "sense of place" (Massey 1993), more recent geographical and phenomenological studies on mobile media practices show a trend toward "re-enacting the importance of place and home as both a geo-imaginary and socio-cultural precept. Thus, to talk about global mobile media today necessitates the discussion of locality" (Hjorth 2007; see also Yoon 2003; Butt, Bywater, and Paul 2008; Varnelis and Friedberg 2008).

While social sciences, media and cultural studies label this re-materialization of place "spatial turn," a cultural, humanistic and media turn is acknowledged in geography (see Jansson 2007; Monmonier 2007). Currently, the two converging developments are still marked by differing conceptual formations: while geography tries to characterize the mixing of code, data, and physical place as "DigiPlace" (Zook and Graham 2007a, 2007b) or "cyber place" (Wellman 2001), cultural and media studies refer to "location-based media" or "locative media" (Hemment 2006a; Tuters and Varnelis 2006); however, the interweaving of both "location-based/locative media" and "cyber/digital places" is underway—unfortunately often in such a manner that the geographical contributions to the understanding of these keywords are no longer noticed. Thus, this issue concerns both sides—the spatial turn in media studies and the media turn in geographical studies. A suitable umbrella term for both areas—locative media and mediated localities—is "geomedia" (Thielmann 2007; Manovich and Thielmann 2009). This gives due consideration to the now broad differentiation into individual media phenomena to which the prefix "geo" has been attached, be it *geoart*, *geoads*, *geoweb*, *geosurveillance* (Sui 2007), *geocaching*, or *geotainment*.

These parallel developments of a spatial turn in media studies and a media turn in geography are exemplified, amongst others, in the discussion on Geographic Information Systems (GIS) in general (Knowles 2000), and historical, temporal and collaborative GIS in particular (Gregory and Healey 2007; Dunn 2007). Is GIS returning geography to its roots in mapping, description, and empirical science, or are the effects of geovisualizations and the mass mediatization of online mapping tools and mobile navigation systems turning geography and media studies into media geography? The

following papers try to answer this question by positioning geography and media as mutually constituted, as has been formulated as the aim of a media geography by Lukinbeal, Craine, and Dittmer (2007, 2).

During this process, both sections—one on “locative media” and the other on “mediated localities”—demonstrate that media geography is characterized by a revaluation of “placality” (Casey 2001): “In short, the global telecommunications network has not led to the end of geography as much as to the rebirth of place” (Staple 1997, 219). Furthermore, “we are moving into a new ‘a-where-ness,’” in the words of the British geographer Nigel Thrift (2008a, 166).

This is demonstrated, in particular, by the essays under the umbrella term “locative media” in Section 1. Through the options of tagging and tracking with GPS, Wi-Fi, and RFID (see Rosol 2010), media become independent from an “absolute co-ordinate grid” (Thrift 2008a, 164), with the result that geomedia sociotechnically reorganize our handling of space and place (see Drakopoulou 2010; Galloway 2010; Salmond 2010; Willis 2010; Yoshida 2010).

In the process, as the essays in Section 2 on “mediated localities” attempt to show, the methodological and theoretical interest in “re-animating the place of thought” (Thrift 2008b) can be attributed essentially to three developments:

1. The mass spread of mapping and geocoding in all areas, from local drawing work (Lommel 2010) to geotagged messages (Bedö 2010).
2. The rise of “locative harnessed networks” (Elmer 2010) and geographic information systems, which not only represent sociospatial statistical distributions through their geodemographic classifications, but also are means by which people sort themselves and thus contribute towards pushing forward a new class system (Burrows and Gane 2006), a “class of amateurs” (Crampton 2010).
3. Places themselves have changed their characters (Shepard 2010). Instead of a set of fixed points, we are now dealing with places in form of a network of relations and connections. Places are subject to more and more logistical modeling concepts, which, for example, establish an understanding of “City as Stage, City as Process” or describe urban places in the tension between “control space and ludic space” (McQuire 2010).

Geomedia seeks to marry the interests of the online community networking “geotaggers” with those of the psychogeographer. The separation between locative media and mediated localities, between annotative and phenomenological geomedia, will therefore presumably be almost impossible to maintain in the future. This will certainly be the case when objects of all types fitted with RFID radio tags are incorporated into the Internet. “RFID forms part of the Google strategy,” pronounced Google’s “Chief Internet Evangelist” Vint Cerf, who simultaneously introduced one of his favorite topics: IPv6, the Next Generation Internet Protocol (Boulton 2008). The main feature of IPv6

driving adoption today is the larger address space that allows any object to be given an Internet address. Will geomedia therefore emerge in the near future as the next great wave of modern digital technology? There are several indications that this is happening:

1. Free data

Like the early Internet, which relied on public funding and open standards to foster innovation, there exists a vast untapped reservoir of geo-located content referring to every part of the world that has been publicly funded through taxation, in the form of GIS data. Geomedia that function on the basis of these data therefore appear to be a harbinger of the next Internet development: Web 3.0.

2. Scarcity of information

The second argument in favor of this, is the scarcity of information that only appears to contradict—at least on paper—the free availability of geodata. Just as the music economy only blossomed once music was available as a “thing” to be bought on records, an image economy might blossom once images can be allocated to temporal and locally limited spatial resources and events. Scarcity plays a very central role in this, as is the case with all economic processes. Even if digital data can themselves never be scarce, which is the basis of the current crisis in the media economy, the spatial and temporal coordinates still create a region of scarcity within digital information.

3. Geosemantics

Linking geo-references with images creates the possibility of accessing the ever-increasing quantities of visual information. It is obvious that an increasing number of images are being produced, transmitted, and stored on the Internet. This results in a situation known from the earliest days of the Web, even though at that point it was text-based data at the fore. When information is present in excess, accessing it determines whether it actually becomes available. The history of protocols and formats on the Internet demonstrates how a series of different types of orders were drafted to this end, before the www standard finally became established (Haigh 2008). In the next step in development, these vast quantities of data were made available by text-based search engines. Metadata fulfill an important task in the search for images and in the indexing of visual information, as the so-called “content” of the image is limited in its ability to aid in a search through large numbers of images in a constructive manner—it’s a problem of the “semantic gap” (Smeulders et al. 2000). This is where location coordinates can help in the archiving and sourcing of images; after all, increasing numbers of appliances are now capable of linking image data with GPS coordinates. Image formats, such as the EXIF standard used by most digital cameras, already contain corresponding metadata fields. At present, more and more cameras utilize GPS technology to automatically geotag digital images, recording the latitude and longitude of the location where each

photo was taken. Photo-sharing Web sites such as Picasa provide options for **sharing images on a map of the world** and can utilize the information stored in the image's EXIF file to pinpoint the spot where the photo was taken.

Dan Catt, senior engineer for Flickr, who says about himself that he introduced geotagging into the Web sphere in March 2005, announced at the 2008 *Where 2.0 Conference* that Flickr will georeference their complete image stock (a sample is visualized in **Crandell et al. 2009**); thus in the near future one will probably not find any picture and any video on the Web that is not georeferenced. At the same year, Google announced a fundamental change in their product policy: the change from "Google and Maps" to "Google on Maps" (Ron 2008), which means that Google Maps and Google Earth are to become the platform or basic layer for any kind of information we are looking for. Maps may thus become a dominant way of interacting with networks. This may, however, constitute only a first step toward the vision that one day it might be possible to establish 3-D spaces as a medial interface (Manovich and Thielmann 2009). "Physical space, when rendered a tool, becomes a metaphor for the network" (Gordon 2009, 397). While such a tool continues to provide instructions for navigating physical reality, at the same time, it also always provides a platform on which all data can be plotted.

The combination of mobile devices with positioning technologies is opening manifold ways in which geographical space can be encountered and drawn. It thereby represents a frame through which a wide range of spatial practices that have emerged since Walter Benjamin's urban flâneur may be looked upon anew (Kingsbury and Jones 2009). Or are locative media and mediated localities only a new site for old discussions about the relationship of consciousness to place and other people? In the early days of sea travel, it was only the navigator who held such awareness of his exact position on Earth. What would it mean for us to have as accurate an awareness of space as we have of time? In order to answer that question, let us have a brief look at how the nature of humankind's relationship to the environment is changing with developments in technology such as geomedial.

GEOMEDIA AS CULTURAL TECHNIQUES

Media technology and apocalyptic thinking have always had a close relationship. For instance, the invention of the printing press was a key factor in the spread of the reformation. In addition, the stock market crash of 1929 was the starting point for Hollywood’s Golden Years in the 1930s.

ESTABLISHMENT OF	CRISIS RESOLVED/INDUCED
PRINTING PRESS	REFORMATION
PHOTOGRAPHY, SILENT FILM	FIRST WORLD WAR
CINEMA	WALL STREET CRASH
RADIO	SECOND WORLD WAR
SATELLITE TECHNOLOGY	COLD WAR
VIDEO TECHNOLOGY	SEXUAL REVOLUTION
GEOMEDIA TECHNOLOGY	GLOBAL WARMING

Based on these interactions between media evolution and political/social/ecological revolution, one could now draw the conclusion that geomedia provide an adequate answer, a suitable media setting for climate change. Right now, it seems that locative media and mediated localities are the cultural “afterimages” of human-induced natural hazards. On one hand, in this case, the technological deterministic argumentation states that the rise of new mapping and tracking technologies provides the possibility that anyone can generate data and link it to map-making software in order to create alternative versions (countermappings) of the world. On the other hand, however, the argument can also be made that the “democratization” of GIS must be understood as a consequence of cultural requirements.

In general, the history of geographic information technologies shows that these technologies are commonly accepted for the production of knowledge of human populations only if there are fears of risks that can be “exploited” to justify deployment of mass geosurveillance and data mining (see Crampton 2008). It is therefore no coincidence that Google’s entry into the realm of spatial information coincided with Hurricane Katrina in 2005 (see Crutcher and Zook 2009). This is when map mashups started appearing in vast numbers, when Google and other major Web companies offered public API, and this is what made it possible for others, for instance, to use Google Maps as part of a mashup or to create and share placemarks in Google Earth by posting them to a broader geocommunity via online message boards.

Google’s strategy has been to react to such contexts by using them, incorporating them as a layer into their products, as occurred, for example, with the introduction of “My Maps” in 2006. It is interesting that the relevance of geomedia to society has gained in importance in the wake of human-induced catastrophes that are difficult to grasp. This also reveals itself in the increased focus of locative media art projects on

the cultural context of climate change (see Himmelsbach and Volkart 2007; see the *Environment 2.0 Exhibition at the Futuresonic Festival 2009*). Geomedia obviously have the potential to support us in our understanding and management of natural phenomena like climate change. Above all, this is due to the fact that geomedia, as is the case with all indexical media, function as socio-technical graphs, through

1. supporting a relativistic instead of a functionalist moral position
2. taking a local instead of a global perspective
3. conceptualizing users as individualized actors instead of mass-mediatized recipients
4. visualizing the logistics of artifacts
5. making mediation processes transparent
6. tracing the actions of actants

In the following, these points will briefly be entered into. Let me start with the first point. Whether or not climate change can be viewed as real is very much a question of graphic representation (see Womack 2006). Consider, for instance, the famous example from Al Gore's *An Inconvenient Truth* showing a **broad-scale correlation between CO₂ levels and temperature**, then compare it to a **fine-scale zoom-in of the correlation** as seen by a climate-change denier who argues, "When you look in detail, change in temperature precedes the change in carbon dioxide" (Carter 2008). Both climate change supporters and deniers use the same data, but they come to completely different conclusions depending on the scale of their mediation.

What can we learn from this? Since there is no way science and technology can tell us *a priori* which accounts are meaningful and which are meaningless, it is essential to be able to compare contradictory accounts. "It is also the only way to repair the danger of giving a functionalist account of programmes and antiprogrammes" (Latour, Mauguin, and Teil 1992, 42). Most people are doing that right now by saying, "Whatever is really going on, it cannot be wrong to support the 'good guys' who are worried about the future of our children."

What is dangerous in a functionalist argument is not the function per se, but the essentialism that goes with it, and the avoidance of controversies about what counts as a function. In other words, relativism should redeem the sins of functionalism. This is why it is so essential to be able easily to shift points of view. (ibid.)

The same moral relativism is perpetuated by the definition of the actants. "We don't know what an actant is, apart from the fact that it is mobilized in one version of one narrative viewed from the point of view of one observer" (ibid., 43). The general public is thus aware of global warming only in the form of the long tail of translation processes mediated by satellite sensors, analogue-to-digital-converters, code, paper, TV stations, etc. In contrast, geomedia put us in a position where we can say something about our

personal climate change story (see *The EcoMap Lab at PICNIC '09* and *The Jungfrau Climate Guide* application).⁵

It seems strange at first to claim that climate, or to put it in more general terms, space and time, can be constructed locally, but these are the most common of all constructions. The mapping of science as well as of GPS traces is observer-dependent. This is important for any socio-technical graph, any “logistics of immutable mobiles” (Latour 1991, 237). Tracing-based locative media suggest that we can re-embody ourselves as individuals in an anonymous world (Tuters and Varnelis 2006, 359), and media art (e.g., demonstrated at the last two International Symposia on Electronic Art) makes the abstraction process visible: how we know what we know about our changing climate, the transition of graphs from things into signs that come to represent natural objects. This is, in fact, exactly what locative media art does: tracing the action of an actant in the world. This is thus the sixth and final indication of the way indexical media function (and therefore also how geomedial function).

This interweaving of indexical and geographical media comes to the fore if you look at the cultural analytics research environment running on *HIPerWall*, currently the highest-resolution displays in the world. “If slides made possible art history, and if a movie projector and video recorder enabled film studies, what new cultural disciplines may emerge out of the use of interactive visualization and data analysis of large cultural data sets?” asks Lev Manovich. “Media geography” might be one answer, as within this discipline metadata and digital traces were used “to create dynamic (i.e., changing in time) maps of global cultural developments that reflect activities, aspirations, and cultural preferences of millions of creators” (Manovich 2009), or, to get to the point, to create visual landscapes of large areas within media culture (see Manovich and Douglass 2009).

CONCLUSION: THE TERRITORY IS THE MAP

Along the lines of Bruno Latour’s thoughts on the consequences of digital traces on social and cultural studies, mobile locating techniques are giving software artists the power to make measurements that are as precise as those in the hard sciences (Anon. 2008). Thus, GPS mapping allows us to show the irrelevance of externalist explanations of science and the relevance of internalist explanations, where a statement, like climate change or financial crisis, is said to be accepted because of its own internal value.

The actor-network theory therefore constitutes a theoretical framework for media geography (see also Döring/Thielmann 2009), as it tends to conceptualize places prior to the network of heterogeneous agents (Hetherington 1997; Law and Hetherington 2000). It reveals itself to be a suitable heuristic for this subject area (see Galloway 2010) as, on one hand, the actor-media theory permits the sketching of locative media as a kind of manifestation of what Bruno Latour means by the “Internet of Things” (Tuters and Varnelis 2006, 362): by geotagging objects instead of people and having these objects

tell us their stories, locative media create an awareness of the genealogy of actants and agencies. On the other hand, the actor-network theory puts us in a position whereby mediated localities can be described as if there were nothing more in the territory than what is on the map—or, more concisely, using the words of November, Camacho-Hübner, and Latour (2010): “The territory is the map.” This provocative title of Latour’s most recent paper, which even had to be changed for publication, nevertheless follows, as does this volume, the virulent media-geographical analysis that “digital technologies have reconfigured the experience of mapping into something else that we wish to call a *navigational platform*” (November, Camacho-Hübner, and Latour 2010). In addition, media geography also accounts for a new discipline that helps to overcome the very distinction between physical and human geographies by “taking a map navigationally (in which case there is no relevant difference between human and non-human)” (November, Camacho-Hübner, and Latour 2010). Media geography therefore faces a glorious future packed full of conflict, which may change the scientific landscape. Let us hope that this volume will contribute a first step toward promoting upheaval in the thought processes in disciplinary camps.

This volume is based on presentations and discussions at the Locative Media Conference, organized by the junior research group “Media Topographies” of the Collaborative Research Center “Media Upheavals” at the University of Siegen. The research group would like to thank the German Research Foundation (DFG) for its generous financial support of this international symposium, held September 3-5, 2007, at the Museum of Contemporary Art, Siegen, Germany. Our special thanks go to Keith McLennan for putting the necessary finishing touches to most of the papers. We are also indebted to Philipp Petzinger for completing the essential task of unifying quotations and bibliographic information. Finally, we would like to thank the Aether editors, Chris Lukinbeal, James Craine, and Jason Dittmer, for making this volume possible.

ENDNOTES

¹Smith (1997) has yet to provide a concrete reference for the Baudrillard citation.

²Instead of referring to “the end of geography,” however, Flusser (1992: 92, own translation) simply states, “We must expel geography from the center of our visual field in order to understand the ‘hermeneutic’ quality of telematics.”

³When Virilio (2000 [1998]) refers to “the end of geography,” one rarely considers that this frequently cited hypothesis was formulated within the context of satellite technology, in particular Earth observation satellites, that lead to a “loss of the horizon-line,” geographical a-perspectives, and thus a “meta-geophysical reality.” Virilio’s concept of “metageophysics” was featured in his essay “The morphological irruption” (Virilio 1991 [1984]), thus preempting the discussion on “metageography” (Gordon 2009) and Google Earth.

⁴Google Lively was a 3-D virtual world social networking site that contained numerous small spaces, in contrast to Second Life, which contains a coherent virtual world. This Google stand-alone product made no innate connection to Google Earth or Maps; however, it is interesting to note that only a few days after the launch of Lively, numerous Google Maps mashups were created to localize the Lively spaces and connect them to each other (Clarke 2008; Taylor 2008).

After only six months, the Internet portal Google Lively was shut down on 31 December 2008, probably not least because Lively did not constitute any substantial added value when compared with Google Earth: "But the surprise virtual world entry is the one that arrived before Google Lively [...] and that's Google Earth itself, which is about as comprehensive a virtual world as you can imagine" (Writer 2008).

⁵Although not yet realized on a personal basis, it seems to be the common accepted aim of geoart and ecomedia that, if locative media artists want to create effective cultural and political changes when it comes to human environmental interactions, they need to change the way evidence is gathered (Jeremijenko and Gertz 2004; Himmelsbach 2007): "Artistic explorations should not be restricted to illustrating our scientific discoveries, as is done in contemporary climate-change showcases. Art could instead help us to experience and reveal our inner participation with weather and climate, the rupture of their balance and its meaning for our inner world, in the same way that landscape artists reframed the relationship of humans to their environment." (Leonardo "Lovely Weather" call for publications 2008)

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