Geomedia: Manifestations of Power as Mediatized Communication Practices – A Foucauldian Approach GI_Forum 2018, Issue 2 Page: 103 - 118 Full Paper Corresponding Author: helena.atteneder@sbg.ac.at DOI: 10.1553/giscience2018_02_s103

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Abstract

The pervasive integration of geomedia in urban societies changes the perception and appropriation of space by influencing everyday modes of connectivity while also changing manifestations of power. Geomedia and the resulting datasets thus enable new types of platform capitalism and surveillance, but also possible empowerment. At the current level of 'permanent spatial connectivity', power becomes relational and liquid, and manifests within structures ((machine learning) algorithms and codes) rather than people. (Geo)mediatization theory addresses underlying power relations critically; in this paper, it is complemented by Foucault's theories of power. His conception of power as 'fluid', diffused and disembodied is adopted as a fruitful concept in the analysis of geomedia and spatial practices within digital networks.

Keywords:

geomedia, geomediatization, power structures, Foucault, communication practices

1 Introduction

Geolocation has become an integral part of network technologies and fundamentally changes social (inter)action, communication practices, decision-making processes and information flows – and therefore power relations. Against the argument that space 'vanishes' in light of new network technologies, space in fact remains an important factor in structuring society and has increased significance in times of big data, (machine learning) algorithms and codes. Since personal devices are frequently equipped with a GNSS sensor, incorporating locational and temporal accuracy, numerous social-media platforms and location-based services collect and evaluate geocoded user-data in relation to other kinds of personally identifying information (PII). 'The integration of the one-way GPS signal transmission into a two-way mobile communication system' (Abernathy, 2017, p. 24) seems a small technological advance, but in fact it heralds a new era of mapping, connecting, navigating, searching for friends in places nearby, 'checking in', observing and communicating. Location-awareness has infiltrated a broad range of sectors and industries (healthcare, automobile, transport, education, banking, entertainment, tourism, government, etc.), and according to Wilken (2018) we now experience the seamless integration (if one unintended by users) of location

to services and to (social) networks. Within the fabric of society, power arises from the interactions of the economy, politics, social relations, technology, time and, I would argue, physical position / space. Depending on specific societal systems, the impact of one or another factor shifts, and one factor may become dominant. Currently, in westernized societies the economics of advanced capitalism, especially in the field of digital technologies, can be seen as a driving force, and trading with users' data is the heart of business models (Murdock, 2017, p. 123).

If we take into consideration these economic and socio-technical transformation processes, manifestations of power are changing and analysis of power is becoming more relevant. Geo- and other technologies are inclined towards forward-thinking; they are rarely retrospective. Consequently, critical questions about the constitution of our 'GISociety' need to be posed: What power structures arise through geomediatized communication practices/social actions, and how are these (re-)produced between individuals and society? Who has the power to set the dominant point of view? In this paper, power in that sense will be assumed to be dialectical – i.e. imply thesis and antithesis – and will be analysed according to its manifestations using a Foucauldian approach. I would argue that a social-science perspective critically analysing implications of technology and possible common-weal-oriented futures is crucial. The concept of geomedia meets these requirements and constitutes an interdisciplinary concept to bridge a communication-science perspective with GIScience/social geography for analysis at the intersection of social action and technology. These theoretical considerations will be a useful framework for further research.

2 Manifestations of power

Foucault argues that it would be naïve to put an end to power relations: his aim was not to create a utopian society or anarchy, or perfect freedom. Indeed, the existence of an ideal human society itself would be a product of power. He did not intend to create a theory of power that was frozen into a timeless essence, as philosophy often aims to do. Rather, he wanted to make the different shapes of power discussable, visible, and to show their relational structures. This actually makes his work helpful and applicable to research about geomedia. His main concept, the 'dispositive' (or apparatus), as described by him as a network of mechanisms and knowledge structures to exert power, is defined as:

a thoroughly heterogeneous ensemble consisting of discourses, institutions, architectural forms, regulatory decisions, laws, administrative measures, scientific statements, philosophical, moral and philanthropic propositions – in short, the said as much as the unsaid. Such are the elements of the apparatus. The apparatus itself is the system of relations that can be established between these elements. (Foucault, 1980, p. 194)

To visually illustrate the argument of this paper and clarify the role of geomedia, I want to introduce a model of power manifestations. Each type of manifestation (1. centralized to internalized power, 2. networked power, 3. liquid power) encompasses certain technical preconditions and epistemological / theoretical positions regarding space and media(ted) social actions. Although a timeline can be drawn from manifestation 1 to manifestation 3, they do not supersede but rather complement each other.

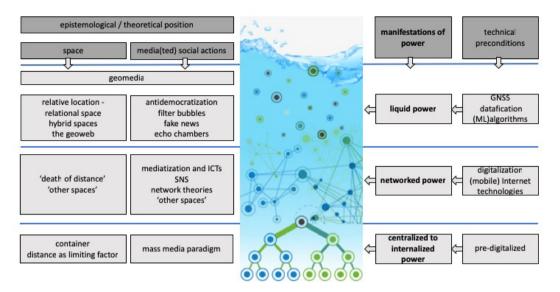


Figure 1: Model of power manifestations

Manifestation 1: from centralized to internalized power

The first manifestation describes the transition from top-down to internalized power. As in medieval feudalism, power was bound to (physical) possession (and therefore physical location); it was often executed in a centralized, top-down way. Modernization and processes of industrialization institutionalized power and supplemented centralized power by individual internalization. In 'discipline and punish' Foucault (1995) explains how the cost- and timeeffective methods of punishment like torture and execution (as practised in medieval feudalism) were replaced by institutions (e.g. prisons). Referring to Bentham's (1791) architectural sketch of a prison (the Panopticon), where inmates believed that they were under continual surveillance from a watchtower situated in the middle of the prison compound regardless of the actual presence of a warder or not, Foucault describes how power (under the guise of self-discipline) becomes automatized and internalized by the surveilled objects. Discipline in this sense is not inherent in institutions, or in a state apparatus: it is 'a type of power, a modality for its exercise, comprising a whole set of instruments, techniques, procedures, levels of application, targets; it is a "physics" or an "anatomy" of power, a technology (Foucault, 1995, p. 215). In the Foucauldian sense, it is not only prisons that take over the procedures of power. Schools, hospitals or 'pre-existing authorities that find in it means of reinforcing or reorganizing their internal mechanisms of power' (intra-familial relations, education, the military, psychiatrists, etc.) may also take over the procedures. On the whole, therefore, one can speak of the formation of a disciplinary society in this movement that stretches from the enclosed disciplines, a sort of social "quarantine", to an indefinitely generalizable mechanism of "panopticism" (Foucault, 1995, p. 216). According to Foucault, institutions accumulate extensive knowledge about their main target group and discursively identify what is normal or abnormal in 'discourses of truth'. The body becomes an object of constant observation, and the mechanisms of internalized power create 'docile bodies'. Even if 'the effects of these institutions are the individual's exclusion, their primary aim is to insert individuals into an apparatus of normalization of people. The factory, the school, the prison, or the hospitals have the object of binding the individual to a process of production, training [formation], or correction of the producers' (Foucault, 2000b, p. 78).

Alongside an internalized manifestation of power, the epistemological and theoretical positions regarding space and media(ted) social actions refer to physical position as assumed to be 'the absolute reality', and power is expressed as distance that signifies limits, reflected in, for example, the fight for raw materials or access to infrastructure. Mobility in the form of migration, tourism and commuting distances, among other things, constantly changes one's physical position and therefore one's preconditions. Here, power manifests according to a traditional notion of space as an abstract, passive, unchangeable container in which people and things are placed, with clear borders, separating inside and outside (Werlen, 2008). But conceptualizations of space have progressed towards analysing the position of material structures in relation to each other (space as a system of relative positions), while the notion of 'absolute reality' is still maintained (Wardenga, 2002, 2006). Furthermore, this type of manifestation can be described as a mass media age, with one-to-many power relations and unidirectional lines between consumer and producer.

Manifestation 2: networked power

Digital technologies as well as innovations of the (mobile) internet have given rise to manifestations of power that have complemented previous ones. Today, mobile devices incorporate numerous sensors (e.g. GPS, WLAN, Bluetooth), connecting users to cloud services and (social media) platforms. Within these technological preconditions, power is exercised through networks and can be subdivided into 'networking power' (the power to decide about inclusion or exclusion of collectives and individuals within these global networks), 'network power' (the power to set the rules of inclusion), 'networked power' (the power over social actors within the network) and 'network-making power' (the power to programme networks and to switch between different ones, according to dominant interests) (Castells, 2011, p. 773). The status of permanent connectivity via mobile and individualized technologies is not only widespread in society but is also setting new preconditions, routines and norms for social interaction and communication practices on a broad scale.

Within this environment, there has arisen a new dominant 'dispositive' of communication, which Steinmaurer (2014, 2016) calls 'mediatized connectivity'. Steinmaurer (2014) argues from a mediatization-theory point of view to describe the increasing pervasion of society by media technologies, from printing to new and ubiquitous forms of networked connectivity, and to analyse certain aspects of power structures.

Mediatization is understood as a concept that is used 'to carry out a critical analysis of the interrelation between the change of media and communication, on the one hand, and the change of culture and society on the other' (Hepp & Krotz, 2014). Mediatization research is characterized by different epistemological concepts and aims. Whereas Krotz (2007, 2017) describes mediatization as a metaprocess alongside other processes such as globalization, individualization and commercialization, and as a conceptual frame for explaining long-term

social developments (Krotz, 2007, p. 256), Hjarvard (2008, 2013) describes an institutional perspective, in which media are seen as social institutions that 'colonialize' other social fields (such as politics or religion) and have their own sets of rules, called 'media logic'(Altheide & Snow, 1979).

The social-constructivist tradition aims to 'investigate the interrelation between the change of media communication and sociocultural change as part of everyday communication practices, and how the change of these practices is related to a changing communicative construction of reality' (Hepp, 2013, p. 618). On the level of networked power, we find epistemological / theoretical positions that proclaim space as a 'category of sensory perception' (Wardenga, 2002, 2006). Within these approaches, it is assumed that both individuals and institutions have subjective perceptions of space that reach beyond mere materiality and the illusion of objectivity.

Against the arguments of the 'death of distance' (Cairncross, 1997) or 'time-space compression' (Harvey, 1989), to cite just two arguments that predict a decreased influence of physical space, other arguments arose that saw new communication worlds emerging through ICTs. These so-called 'other-spaces' or discursive spheres as media-constructed identity-forming spaces are seen as continuously (re-)constructed (Lefebvre, 1974; Soja, 1990). Following Soja's work (which is based on Lefebvre's), several scholars proclaim the spatial turn in the social sciences (Döring & Thielmann, 2009) as a new paradigm of a social construction of space. On this level, we see the first link between communication science theories and social geography. By framing space as socially constructed, questions of power structures arise, concerning notably the ambivalences between exploitation and empowerment determined through ICTs.

The idea of Foucault's panopticon and its applicability to the digital world is often highlighted by scholars of Surveillance Studies (Bart, 2005; Caluya, 2010; Murakami Wood, 2008). Whether from a mediatization or a spatial-constructivist perspective, in a digital panopticon, power becomes not only internalized but also decentralized and networked.

Manifestation 3: liquid power

Manifestation 3, 'liquid power', refers to the power of geolocation. The current technical solutions to incorporate positioning with increased accuracy via a GNSS (Global Navigation Satellite System, such as GPS, GLONASS, Galileo) have led to an amalgamation of people and things within a geotagged environment: this is the so-called 'geoweb', defined as 'a distributed digital network of geolocated nodes that capture, produce, and communicate data that include an explicitly spatial component' (Abernathy, 2017, pp. 2–3). This marks the 'third generation' of geodata services and platforms, where location has become vital for operation and service at all levels. This analysis not only applies to 'native' third-generation services (like Uber), but also to established search and social media companies (such as Google and Facebook) that have effectively become 'third-generation', location-based service platforms, insofar as they have reshaped their operations by ubiquitous geodata capture (Wilken, 2018, p. 26). These services and platforms capture and circulate geodata 'at a scale, speed and level of complexity that is markedly different from earlier incarnations of similar services' (Wilken, 2018, p. 29).

Nodes of the geoweb can be people and things, or even institutions and platforms. The connections between them, the exchange of information, are dual. First there is human communication (e.g. in the form of a telephone call or text message) – the contents layer, which is then forwarded, sorted or accompanied by machine-learning algorithms and codes. Phenomena of datafication and artificial intelligence (especially machine-learning algorithms) determine human decision-making and action in (for the user) an unpredicted, invisible way. At this stage, we can speak of 'liquid power' as a relational concept of space that provides us with an understanding of proximity which is often time-bound, 'in order to identify how close something or someone is to us at a particular time' (Abernathy, 2017, p. 68). The concept of 'movement' or 'trend' (measuring the combination of the space and time of an action or event, with predictive aims) is of interest to political or financial institutions.

The so-called 'other spaces' that arose with the extensive use of ICTs (as part of manifestation 2) become once more spatial: geotagged. Liquid power means that a clear distinction between 'cyberspace' and 'the real world' has vanished, and that an integrated entity, conceptualized as 'Digital Earth' (Craglia et al., 2012), the 'geospatial revolution' (Bednarz & Bednarz, 2015) or 'Hybrid Space' (Kluitenberg, 2006), has arisen. This integrated entity could be called 'permanent spatial connectivity' (in communication science terms). Classical causal-linear models of mass communication no longer apply to these phenomena, media and communication science theories that differentiated producer/consumer, channel/content, interpersonal/mediated communication, world/cyberspace, private/public no longer seem to fit as these binary oppositions become blurred. Considering recent developments of datafication, the prominence of algorithms and codes, Couldry and Hepp (2017) and Hepp (2017) introduce the term 'deep mediatisation'. This term, however, is criticized by Krotz (2017, p. 107) for being 'not helpful, because [...] mediatisation will always go deeper and deeper'. Mediatization is questioned in general by Deacon and Stanyer (2014, 2015); it is criticized mainly for its lack of critical momentum (Jansson, 2018) and its tendency to neglect the rise of capitalism as part of the transformation (Krotz, 2017, p. 107; Murdock, 2017; Wojtkowski, 2017). Nevertheless, mediatization approaches remain useful for indicating the broader significance of media (technologies) in social and cultural change (Jansson, 2018, p. 2). Advancing an epistemological mediatization approach, built around 'immanent critique', Jansson (2018, p. 3), reveals a dialectical relationship between liberating forces and increasing sociotechnological dependences. Mediatization in this respect should reveal tensions, ambiguities and contradictions in a society pervaded by media technologies (to different degrees in different interest and sociodemographic groups). Based on the work of Raymond Williams and Pierre Bourdieu, Jansson (2018, p. 4) presents a cultural-materialist perspective of mediatization that sees media as 'thoroughly and commonly incorporated as cultural forms and it becomes difficult to imagine a life without them'. Mediatization in that sense can be characterized as 'qualitative transformations of socio-material relations - driven by social, cultural, economic and technological forces' (ibid., p. 7), taking into account 'how social power relations of different kinds are formed and negotiated in practical consciousness and thus have tended to evolve without much overt resistance' (ibid., p. 41).

Epistemological and theoretical positions on space point to its social constructed character and problematize that applications based on geologation refer to 'absolute' Euclidian space, and may therefore 'naturalize constructions of space [...], displaying one of a multiplicity of constructions, and hiding the variability of the attachment of meaning' (Gryl & Jekel, 2012, p. 22). The role of GIS as a tool for controlling individuals, shaping agendas and supporting specific interests is discussed critically by Gryl & Jekel (2012). This discussion was seen already in the first wave of criticism on GIS and its role in society (Goodchild, 1995; Pickles, 1995; Schuurman, 2000). It becomes obvious that a broader, critical, non-technology-centred approach is needed. Gryl and Jekel, as social geographers building on Lefebvre's work, have stated that 'the appropriation of space takes place within the framework of everyday social action. The phrase "appropriation of space" here denotes the process of putting space to use to achieve individual or collective aims' (2012, p. 22). Earlier social geographers thinking along similar lines include Massey (1999), Paasi (1986) and Werlen (2008).

These developments have culminated in the concept of geomedia put forward by several authors (Fast, Jansson, Lindell, Ryan Bengtsson, & Tesfahuney, 2018; Gryl & Jekel, 2012; Gryl, Jekel, & Donert, 2010; Lapenta, 2011; McQuire, 2016; Thielmann, 2010), which can be particularly useful in analysing technological developments *and* social behaviour. Geomedia are characterized by 'convergence, ubiquity, location-awareness and real-time feedback' (McQuire, 2016, p. 2) and stand out against an uncritical, unreflective acceptance of space as 'naturally' given.

Geomedia are more broadly defined by Gryl and Jekel (2012) as media that 'use the spatial localization of information', and that 'set the stage for the appropriation of space by contextualizing communication'. This geography-biased definition includes all 'representations of space, covering a wide range of outputs from verbal description to visualization' (Gryl & Jekel, 2012, p. 22). Initially, then, geomedia were not focused so narrowly on the digital, but new geomedia take digital developments into account. Nevertheless, the approach refers to a constructivist perspective of space (space as being (re-)constructed in a discursive process through communication and social behaviour) – an approach which requires the use of power to make sense of space. Gryl and Jekel (2012) foster a critical, reflective/reflexive prosumption of geomedia and an emancipated appropriation of space through education.

Fast, Jansson, Tesfahuney, Ryan Bengtsson, and Lindell (2018) draw up an inclusive understanding of geomedia that takes into consideration the growing societal influence of spatial (re)mediations and spatialized media: 'geomedia should be taken as a relational concept that captures the fundamental role of media in organizing and giving meaning to processes and activities in space,' an analysis of historical as well as present structures of digital-network technologies. This approach clearly refers to mediatization research 'to capture the complexity of what it means – for citizens, governments, businesses, societies, etc. – to live with media' and is extended to 'geomediatization' (ibid.).

3 Power: from centralized to liquid

At this point, I want to emphasize that the manifestations of power, although there is a timeline, do not replace each other but coexist. They can be understood as relational and liquid structurations that shift through social actions (voluntary or involuntary) and find

different manifestations in society. Power, therefore, is influenced by communication practices and dominant constructions of reality, and in the Foucauldian sense is singular: there are not contending powers – some empowering, some suppressing. This leads to mutual adaptation and changing perceptions, as well as to an appropriation of space reinforced by mechanisms of power producing different types of knowledge alongside the collection of data about everyday activities and existence. In Foucault's words:

Let us come back to the definition of the exercise of power as a way in which certain actions may structure the field of other possible actions. What would be proper to a relationship of power, then, is that it be a mode of action on actions. That is, power relations are rooted deep in the social nexus, not a supplementary structure over and above 'society' whose radical effacement one could perhaps dream of. To live in society is, in any event, to live in such a way that some can act on the actions of others. A society without power relations can only be an abstraction. (Foucault, 2000a, p. 343)

In conclusion, if we assume that power is exercised through everyday action on actions, it can manifest as internalized power (manifestation 1) which is executed, deindividualized, by a 'panoptic machine', is spatially 'placed' in institutions and 'containers', and can therefore be described as being cumulated around physical objects. Mediated power in that sense is uni-directional and dependent on structures of mass media. Manifestation 2 additionally includes modes of power that are networked and decentralized. Former notions of location are modified as mobile internet technologies change social (inter)action and open up new communication spaces. Manifestation 3 describes power in the form of a liquid, multirelational and multi-directional fabric. Algorithms and codes increasingly *take decisions* for people about their physical position or actions in 'other spaces', decisions which depend on the (social and locational) relationships of people and things. The phenomena of filter bubbles and echo chambers are based on algorithmic decision-making. The 'apparatus' as a system of relations therefore becomes structurally algorithmized and non-human. Power in that sense can at the same time flow both *to* and *away from* a power-hub – one can be at the same time object and actor of power.

As in a neural network, where neurons that fire together wire together, power structures are reinforced by frequent use. Again, I want to stress the fact that these different manifestations of power co-exist and reinforce each other mutually. For example, surveillance by secret services can be executed more efficiently with forms of liquid power that allow an increasing number of individuals to be controlled by a decreasing number of 'specialists'. Voting and consumer behaviour are deeply controlled by geospatial data, credit ratings, spatial profiling and sorting (Murakami Wood, 2017), while predictive policing is based on GIS-analysis, and hybrids of geomedia with military platforms are able to realize global power flows from a military drone operated in 'cyberspace' to 'targets' in 'the real world'. We can also find positive – empowering – manifestations of power, for example resistance, cultural commons and sousveillance.

In the following section, various manifestations of power, at micro to macro levels, will be exemplified.

4 Applications of a model of power manifestations

Power on an individual level

Mediatization, globalization, mobility and technological developments have led to new modes of subjectivity. The ideological idea of equal opportunities shifts the responsibility for a successful life to the individual. The quantified self (or lifelogging) and interminable self-optimization reach ever-higher levels with technological support in the unending quest for perfection that seems to be voluntary but is actually bound to social pressure. Foucault uses the term 'to govern':

governing people is not a way to force people to do what the governor wants; it is always a versatile equilibrium, with complementarity and conflicts between techniques which assure coercion and processes through which the self is constructed or modified by himself. (Foucault, 1993, pp. 203–04.)

The body in this respect is seen as an object on which discursive pressure is enacted and contested. The Foucauldian term 'biopower' refers to the 'increasing organisation of population and welfare for the sake of increased force and productivity' (Mills, 2003, p. 82). Foucault distinguishes between 'techniques of domination but also techniques of the self' and the interaction between the two:

[One] has to take into account the points where the technologies of domination of individuals over one another have recourse to processes by which the individual acts upon himself. And conversely, [...] the points where the techniques of the self are integrated into structures of coercion or domination. (Foucault, 1993, p. 203)

Power in this sense should not be equated with forms of violence or strict coercion, but 'consists in complex relations: these relations involve a set of rational techniques, and the efficiency of those techniques is due to a subtle integration of coercion technologies and self-technologies'(Foucault, 1988, p. 18). Regulating our bodies and thoughts, and a transformation into a certain mode of being in order to 'attain a certain state of happiness, purity, perfection, or immortality' (ibid.), would describe technologies of the self.

Regarding the individualized use of geomedia, new forms of (location-based) identity performance (Schwartz & Halegoua, 2014) and identity-management arise through power-structures of self-surveillance, competition with others, and forms of 'watching one another' (lateral surveillance; (Andrejevic, 2005)), 'controlling one another' (interveillance; (Jansson, 2015)) or 'looking at one's own content through other people's eyes' (social surveillance; (Marwick, 2012)). The challenge of locating oneself (physically, structurally and in terms of a social system) requires different modes and strategies of coping with digital network technologies – from unthinking, full adoption of power structures to modes of rejection and resistance (Steinmaurer & Atteneder, 2018).

Geomedia Empowerment / Counterpower

According to the tradition of critical thinking, critique should complement descriptive analysis with possible alternatives to existing power structures (Adorno, 1998). Elements of counterpower are found in Foucault's later work, where he focused on productive elements of power, considered as a 'productive network that runs through the whole social body, much more than as a negative instance whose function is repression' (Foucault, 2000c, p. 120). Additionally, Foucault points out that:

Power is exercised only over free subjects, and only insofar as they are 'free'. By this we mean individual or collective subjects who are faced with a field of possibilities in which several kinds of conduct, several ways of reacting and modes of behavior are available (Foucault, 2000a, p. 341f.).

In a commons culture, we often find elements of counterpower in digital networks that include public-welfare-oriented projects and goods, or within hacker communities. 'Counterpower is exercised in the network society by fighting to change the programs of specific networks and by the effort to disrupt the switches that reflect dominant interests and replace them with alternative switches between networks' (Castells, 2011). Concepts of Linked (open) Data as a 'powerful "glue" to integrate information across domains' (Kuhn, Kauppinen, & Janowicz, 2014) could function as positive counterparts in network structures as well as society. The concept of sousveillant geomedia, where individuals 'come to know themselves and other individuals, space and their society' (Thatcher, 2017, p. 58), is set as a direct counter to surveilled objects. Sousveillant geomedia are seen as a means to turn the tools and media (or sensors) of dominant culture back on itself and clearly has social and political aims (Thatcher, 2017).

Geomedia and forms of volunteered geographic information, geosocial networks or citizen science projects may be instruments for the negotiation of power (Haklay, 2017). Blurred boundaries between consumer and producer, experts and lay-users (so-called Neogeography) and easy-to-use open-source tools could lead to greater participation and strengthen structures of democracy. Criticizing this 'delusion', revealing the instrumentalist interpretation of location-aware technologies that would claim technology as value-free, Haklay (2013, p. 55) points out the 'separation between a technological elite and a wider group of uninformed, labouring participants who are not empowered through the use of the technology'. Additionally, power imbalances in terms of a gender gap in the construction of reality through the prosumption of digital maps are discussed by several authors (Ferber, Atteneder, Jekel, & Stieger, 2016; Steinmann, Häusler, Klettner, Schmidt, & Lin, 2013).

The power of platforms

The inter-relationships in society between the economy, technology and geolocation data have become dominant forces. The rising interest in geocoded data and their use for mainstream market applications is reflected in the steady growth of the geospatial industry, which is projected to grow by 13.6% by 2020 (Geospatial Media and Communications, 2018, p. 4). Geolocation has become not only an integral part of everyday smartphone experience and of changing appropriations and perceptions of space (Thielmann, van der Velden,

Fischer, & Vogler, 2012) but also 'a necessary part of the technological developments and corporate arrangements that underpin them (the business deals, monetization strategies, platform-specific data extraction methods, algorithmic sorting, etc.)' (Wilken, 2018, p. 21).

Power structures arising through the constant monitoring of oneself and others - individual control relations – are collected and monetized by platforms. The locational and behavioural data collected can further be merged to worldwide virtual groups of people with similar profiles and can be resold to third parties. These forms of data extraction and analysis for more detailed monitoring to offer personalized, customized 'services' (also called 'surveillance capitalism') produce 'a distributed and largely uncontested new expression of power', which is 'constituted by unexpected and often illegible mechanisms of extraction, commodification, and control that effectively exile persons from their own behavior while producing new markets of behavioral prediction and modification' (Zuboff, 2015, p. 75). But corporate surveillance is no longer just about targeted marketing. Furthermore, the creation of ever-more precise virtual groups can be used for risk-evaluation of citizens. These evaluations can be sold, for example to financial institutions to support decisions for awarding loans (O'Neil, 2016), to health insurance companies to determine insurance premiums, to employers' associations to inform decisions regarding employment (such as salary and working hours), or to predict ex-criminals' reoffending rates. Most importantly of all, political decisions and knowledge of political opinions, which can be revealed easily, could, depending on the type of political regime in power, be misused.

Corporate surveillance in that sense, I would argue, has replaced the impact of institutions like prisons or hospitals regarding mechanisms of power, as digital technologies generally and geomedia especially perform a wide range of functions. Lovink (2016), criticizing the Californian (Silicon Valley) way as ideology, shows the developments from a 'sharing economy' to platform capitalism, which we know since Snowden not only resells user-data but supports the agenda of secret services. Recognizing these developments of power shifts, we have to address the impacts of geomedia processes on different fields of the fabric of society more and more critically.

5 Conclusion

The aim of this paper was to analyse manifestations of power that arise out of (geo)mediatized communication practices. Introducing the model of power manifestation revealed the technical preconditions and epistemological / theoretical positions regarding space and media(ted) social actions for each manifestation. In the context of ubiquitous geodata capture, permanent spatial connectivity and (ML)algorithms, we can see the usefulness of a bridge between communication science theories that capture mediated social actions (especially mediatization theory) on the one hand, and theories of socially constructed, relational spaces. Such a bridge is especially useful in analysing the 'liquid' manifestation of power that arises through geomedia and adds a new quality to former notions of power.

With reference to the arguments in this paper, I want to draw particular attention to the multi-faceted nature of power manifestations within mediatized communication practices,

especially the intertwined character of the manifestations of geomedia power, and the effects of social action taken by individuals, groups and platforms on the fabric of society. New technologies like geomedia have inherent 'dispositive' structures, and institutions like schools, prisons and the church lose their impact. To return to the factors that influence arrangements of power (the economy, politics, social relations, technology, time and physical position / space), we can state that technology and the economy have created a strong alliance as driving forces in many fields.

We see this power structure implemented perfectly in geomedia platforms promising freedom, convenience and transparency, but which act on profit, control and surveillance. Politics in its role as an institution of regulation is currently in a defensive position, doing the economy's groundwork, unable to regulate or keep up with the pace of innovation. Geomedia transform the manifestations of traditional power into a liquid, multi-relational and multi-directional fabric, as the technological 'apparatus' is becoming algorithmized and 'non-human'. The knowledge accumulated from data as 'regimes of truth' can lead to the exposure of subjects, and their social and spatial behaviour become systematically predictable and controllable. "Truth" is linked in a circular relation with systems of power which produce and sustain it, and to effects of power which it induces and which extend it' (Foucault, 2000c, p. 133). Because, today, most of this knowledge is transferred and captured in algorithms, we have to raise the ethical question about the conception of the human being behind the collection of georeferenced data. Is this conception shifting from 'people as subjects', as moral beings with free will and the freedom of decision-making, to 'humans as objects of determined knowledge' who tend to be afraid of sanctions caused by actions of nonconformity?

Fluid geomedial power structures can be existent and non-existent at the same time. Therein lies the potential of geomedia, as diversified media sources, as a tool of surveillance with implications for power and governance, identity and personal autonomy. The expectation, once, that geomedia would strengthen democracy and participation may only partly have become true. Today the question is: what comes next, after geomedia platform capitalism threatening democratic values and human rights? After post-democracy (Crouch, 2008), are we just simulating democracy (Blühdorn, 2013)? And is this democracy worth fighting for?

I see potentials in meso-level collectives to shape agendas and support common-weal-oriented interests – collectives which should be supported by educational approaches promoting reflective spatial citizens (Gryl & Jekel, 2012; Gryl et al., 2010). Moreover, I see a responsibility to increase and strengthen certain competences of digital resilience (Atteneder, Peil, Maier-Rabler, & Steinmaurer, 2017) as a critical, forward-looking means to counter the idea of efficient, high-performing individuals (as promoted in neoliberal narratives of self-optimization). I also see the need to embrace a normative perspective on societal structures and social responsibility within the geomedia environments of digital networks.

References:

- Abernathy, D. (2017). Using geodata & geolocation in the social sciences. Los Angeles, London, New Delhi: SAGE.
- Adorno, T. W. (1998). Soziologie und empirische Forschung. In R. Tiedermann (Ed.), Gesammelte Werke (pp. 196-216). Darmstadt: Wissenschaftliche Buchgesellschaft.
- Altheide, D. L., & Snow, R. P. (1979). Media Logic. New York: Sage Publications.
- Andrejevic, M. (2005). The Work of Watching One Another: Lateral Surveillance, Risk, and Governance. Surveillance & Society, 2(4), 479-497.
- Atteneder, H., Peil, C., Maier-Rabler, U., & Steinmaurer, T. (2017). Digitale Resilienz und soziale Verantwortung. Überlegungen zur Entwicklung eines Konzepts. *Medien Journal*, 41(1), 48-55.
- Bart, S. (2005). The Return of Panopticism: Supervision, Subjection and the New Surveillance. Surveillance & Society, 3(1), 1-20.
- Bednarz, S. W., & Bednarz, R. S. (2015). Brave New World: Citizenship in Geospatially Enriched Environments. GI_Forum Journal for Geographic Information Science, 2015(1), 230-240.
- Bentham, J. (1791). Panopticon. Or, the Inspection-House. Containing the idea of a new principle of construction applicable to any Sort of Establishment, in which Persons of any Description are to be kept under Inspection. (Reprint. ed.). London: Payne.
- Blühdorn, I. (2013). Simulative Demokratie (Orig.-Ausg., 1. Aufl. ed.). Berlin: Suhrkamp.
- Cairncross, F. (1997). The Death of Distance: How the Communications Revolution Will Change Our Lives. Boston, Mass.: Harvard Business School Press.
- Caluya, G. (2010). The post-panoptic society? Reassessing Foucault in surveillance studies. *Social Identities*, 16(5), 621-633.
- Castells, M. (2011). A Network Theory of Power. International Journal of Communication, 5, 773-787.
- Couldry, N., & Hepp, A. (2017). The continuing lure of the mediated centre in times of deep mediatization: Media Events and its enduring legacy. *Media, Culture & Society, 40*(1), 114-117. doi:10.1177/0163443717726009
- Craglia, M., de Bie, K., Jackson, D., Pesaresi, M., Remetey-Fülöpp, G., Wang, C., . . . Woodgate, P. (2012). Digital Earth 2020: Towards the Vision for the Next Decade. *International Journal of Digital Earth*, 5(1), 4-21. doi:10.1080/17538947.2011.638500
- Crouch, C. (2008). Postdemokratie. Frankfurt am Main: Suhrkamp.
- Deacon, D., & Stanyer, J. (2014). Mediatization: key concept or conceptual bandwagon? *Media, Culture & Society, 36*(7), 1032-1044. doi:10.1177/0163443714542218
- Deacon, D., & Stanyer, J. (2015). 'Mediatization and' or 'Mediatization of'? A response to Hepp et al. Media, Culture & Society, 37(4), 655-657. doi:10.1177/0163443715580761
- Döring, J., & Thielmann, T. (Eds.). (2009). Spatial Turn. Das Raumparadigma in den Kultur- und Sozialwissenschaften (2., unveränd. Aufl. ed.). Bielefeld: Transcript Verl.
- Fast, K., Jansson, A., Lindell, J., Ryan Bengtsson, L., & Tesfahuney, M. (Eds.). (2018). *Geomedia Studies. Spaces and Mobilities in Mediatized Worlds*. New York: Routledge.
- Fast, K., Jansson, A., Tesfahuney, M., Ryan Bengtsson, L., & Lindell, J. (2018). Introduction to Geomedia Studies. In K. Fast, A. Jansson, J. Lindell, L. Ryan Bengtsson, & M. Tesfahuney (Eds.), *Geomedia Studies. Spaces and Mobilities in Mediatized Worlds.* (pp. *pending*). New York: Routledge.
- Ferber, N., Atteneder, H., Jekel, T., & Stieger, S. (2016). Teacher-Training and School Co-operation. A Practical Approach for Diversity Informed Geomedia Education. *GI_Forum Journal for Geographic Information Science*, 1, 269-281. doi:DOI: 10.1553/giscience2016_01_s269
- Foucault, M. (1980). Truth and Power. In C. Gordon (Ed.), *Power/Knowledge Selected Interviews and Other Writings* (pp. 109-133). New York: Pantheon Books.
- Foucault, M. (1988). Technologies of the Self: a Seminar with Michel Foucault. Amherst: University of Massachusetts Press.

- Foucault, M. (1993). About the Beginning of the Hermeneutics of the Self: Two Lectures at Dartmouth. *Political Theory*, 21(2), 198-227.
- Foucault, M. (1995). Discipline and Punish. The Birth of the Prison. New York: Random House Inc.
- Foucault, M. (2000a). The Subject and Power. In J. D. Faubion (Ed.), *Michel Foucault. Power. Essential Works of Foucault (1954-1984). Volume Three* (pp. 326-348). New York: The New Press.
- Foucault, M. (2000b). Truth and Juridical Forms. In J. D. Faubion (Ed.), *Michel Foucault. Power. Essential Works of Foucault (1954-1984). Volume Three* (pp. 1-89). New York: The New Press.
- Foucault, M. (2000c). Truth and Power. In J. D. Faubion (Ed.), Michel Foucault. Power. Essential Works of Foucault (1954-1984). Volume Three (pp. 111-153). New York: The New Press.
- Geospatial Media and Communications. (2018). GEOBUIZ. Geospatial Industry Outlook & Readiness Index. Retrieved from http://www.geobuiz.com/geobuiz-2018-report.html
- Goodchild, M. (1995). GIS and geographic research. In J. Pickles (Ed.), *Ground Truth: The Social Implications of Geographic Information Systems* (pp. 31-50). New York: The Guilford Press.
- Gryl, I., & Jekel, T. (2012). Re-centring Geoinformation in Secondary Education: Toward a Spatial Citizenship Approach. *Cartographica*, 47(1), 18-28.
- Gryl, I., Jekel, T., & Donert, K. (2010). GI and Spatial Citizenship. In T. Jekel, A. Koller, K. Donert, & R. Vogler (Eds.), Learning with Geoinformation V Lernen mit Geoinformation V (pp. 2-11). Berlin: Wichmann.
- Haklay, M. (2013). Neogeography and the Delusion of Democratisation. *Environment and Planning A: Economy and Space*, 45(1), 55-69. doi:10.1068/a45184
- Haklay, M. (2017). Volunteered Geographic Information and Citizen Science. In R. Kitchin, T. P. Lauriault, & M. W. Wilson (Eds.), *Understanding spatial media* (pp. 127-135). Los Angeles: Sage.
- Harvey, D. (1989). The condition of postmodernity: an enquiry into the origins of cultural change. Oxford: Blackwell.
- Hepp, A. (2013). The communicative figurations of mediatized worlds: Mediatization research in times of the 'mediation of everything'. European Journal of Communication, 28(6), 615-629. doi:10.1177/0267323113501148
- Hepp, A. (2017). Transforming Communications. Media-related Changes in Times of Deep Mediatization. Communicative Figurations - Working Paper No. 16. Bremen: ZeMKI, Zentrum für Medien-, Kommunikations- und Informationsforschung.
- Hepp, A., & Krotz, F. (2014). Mediatized Worlds Understanding Everyday Mediatization. In A. Hepp & F. Krotz (Eds.), *Mediatized Worlds: Culture and Society in Media Age* (pp. 1-15). Basingstoke: Palgrave Macmillan.
- Hjarvard, S. (2008). The Mediatization of Society. A Theory of the Media as Agentsof Social and Cultural Change. *Nordicom Review*, 29(2), 105-134.
- Hjarvard, S. (2013). The mediatization of culture and society (1. publ. ed.). London: Routledge.
- Jansson, A. (2015). Interveillance: A New Culture of Recognition and Mediatization. *Media and Communication*, 3(3), 81-90.
- Jansson, A. (2018). Mediatization and Mobile Lives. A Critical Approach. New York: Routledge.
- Kluitenberg, E. (2006). The Network of Waves. Living and Acting in a Hybrid Space. *Open Cahier on Art and the Public Domain, 11*(Hybrid Space), 6-16.
- Krotz, F. (2007). The meta-process of 'mediatization' as a conceptual frame. Global Media and Communication, 3(3), 256-260. doi:10.1177/17427665070030030103
- Krotz, F. (2017). Explaining the Mediatisation Approach. Javnost The Public, 24(2), 103-118. doi:10.1080/13183222.2017.1298556
- Kuhn, W., Kauppinen, T., & Janowicz, K. (2014, 2014//). *Linked Data A Paradigm Shift for Geographic Information Science*. Paper presented at the Geographic Information Science, Cham.
- Lapenta, F. (2011). Geomedia: on location-based media, the changing status of collective image production and the emergence of social navigation systems. *Visual Studies*, 26(1), 14-24. doi:10.1080/1472586X.2011.548485

- Lefebvre, H. (1974). La production de l'espace. L'Homme et la Société, 31/32(2), 15-32.
- Lovink, G. (2016). Im Bann der Plattformen: Die nächste Runde der Netzkritik. Bielefeld: transcript.
- Marwick, A. E. (2012). The Public Domain: Surveillance in Everyday Life. Surveillance & Society, 9(4), 378-393.
- Massey, D. (1999). Power-geometries and the Politics of Space-time. Heidelberg: Geograph. Inst. d. Univ.
- McQuire, S. (2016). Geomedia. Networked Cities and the Future of Public Space. Cambridge: Polity.
- Mills, S. (2003). Michel Foucault. New York: Routledge.
- Murakami Wood, D. (2008). Beyond the Panopticon? Foucault and Surveillance Studies. In J. W. Crampton & S. Elden (Eds.), *Space, knowledge and power: Foucault and geography* (pp. 245-263). Aldershot: Ashgate Repr.
- Murakami Wood, D. (2017). Spatial Profiling, Sorting and Prediction. In R. Kitchin, T. P. Lauriault, & M. W. Wilson (Eds.), *Understanding spatial media* (pp. 225-234). Los Angeles: Sage.
- Murdock, G. (2017). Mediatisation and the Transformation of Capitalism: The Elephant in the Room. *Javnost - The Public*, 24(2), 119-135. doi:10.1080/13183222.2017.1290745
- Paasi, A. (1986). The Institutionalization of Regions: a Theoretical Framework for Understanding the Emergence of Regions and the Constitution of Regional Identity. Fennia International Journal of Geography, 164(1), 105-146.
- Pickles, J. (1995). Representations in an Electronic Age. Geography, GIS, and Democracy. In J. Pickles (Ed.), *Ground Truth: The Social Implications of Geographic Information Systems* (pp. 1-30). New York: The Guilford Press.
- Schuurman, N. (2000). Trouble in the heartland: GIS and its critics in the 1990s. *Progress in Human Geography*, 24(4), 569-590. doi:10.1191/030913200100189111
- Schwartz, R., & Halegoua, G. R. (2014). The spatial self: Location-based identity performance on social media. New Media & Society, 17(10), 1643-1660. doi:10.1177/1461444814531364
- Soja, E. W. (1990). Postmodern Geographies: the Reassertion of Space in Critical Social Theory (2. impr. ed.). London: Verso.
- Steinmann, R., Häusler, E., Klettner, S., Schmidt, M., & Lin, Y. (2013). Gender Dimensions in UGC and VGI: A Desk-Based Study. GI_Forum Journal for Geographic Information Science, 2013(1), 355-364
- Steinmaurer, T. (2014). Mediatized Connectivity: Historical Traits of Telephony and Theoretical Considerations about a New Dispositive of Communication. In A. Hepp & F. Krotz (Eds.), *Mediatized Worlds: Culture and Society in a Media Age* (pp. 91-106). Houndmills: Palgrave Macmillan.
- Steinmaurer, T. (2016). Permanent vernetzt. Zur Theorie und Geschichte der Mediatisierung. Wiesbaden: Springer.
- Steinmaurer, T., & Atteneder, H. (2018). Permanent Connectivity: From Modes of Restrictions to Strategies of Resistance and Questions of Digital Ethics. In T. Eberwein, M. Karmasin, F. Krotz, & M. Rath (Eds.), Responsibility and Resistance: Ethics in Mediatized Worlds (pp. 101-117). Wiesbaden: Springer.
- Thatcher, J. (2017). Locative and Sousveillant Media. In R. Kitchin, T. P. Lauriault, & M. W. Wilson (Eds.), *Understanding spatial media* (pp. 56-65). Los Angeles: Sage.
- Thielmann, T. (2010). Locative Media and Mediated Localities: An Introduction to Media Geography. aether. the journal of media geography, 5 A(1), 1-17.
- Thielmann, T., van der Velden, L., Fischer, F., & Vogler, R. (2012). Dwelling in the Web: Towards a Googlization of Space. HIIG Discussion Paper Series No. 2012-03. SSRN: Social Science Research Network. http://ssrn.com/abstract=2151949 or http://dx.doi.org/10.2139/ssrn.2151949
- Wardenga, U. (2002). Räume der Geographie und zu Raumbegriffen im Geographieunterricht. Wirtschaftliche Nachrichten, 120, 47-52.
- Wardenga, U. (2006). Raum- und Kulturbegriffe in der Geographie. In M. Dickel & D. Kanwischer (Eds.), *TatOrte: neue Raumkonzepte didaktisch inszeniert* (pp. 21-47). Berlin: Lit-Verl.
- Werlen, B. (2008). Sozialgeographie. Eine Einführung (3. Aufl ed.).

- Wilken, R. (2018). The Necessity of Geomedia: Understanding the Significance of Location-Based Services and Data-Driven Platforms. In K. Fast, A. Jansson, J. Lindell, L. Ryan Bengtsson, & M. Tesfahuney (Eds.), Geomedia Studies. Spaces and Mobilities in Mediatized Worlds. (pp. 21-40). New York: Routledge.
- Wojtkowski, Ł. (2017). The Present Tense of Mediatization Studies. *Mediatization Studies, 1*(1), 9-22. doi:10.17951/ms/2017.1.1.9
- Zuboff, S. (2015). Big Other: Surveillance Capitalism and the Prospects of an Information Civilization. *Journal of Information Technology*, 30, 75-89. doi:doi:10.1057/jit.2015.5. Available at SSRN: https://ssrn.com/abstract=2594754