



„The (Post-)Digital City: Media, Technology and Architecture“

DIGISTA Final Conference

17th & 18th February 2022

Book of Abstracts

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Panel 1: Talking the city into existence

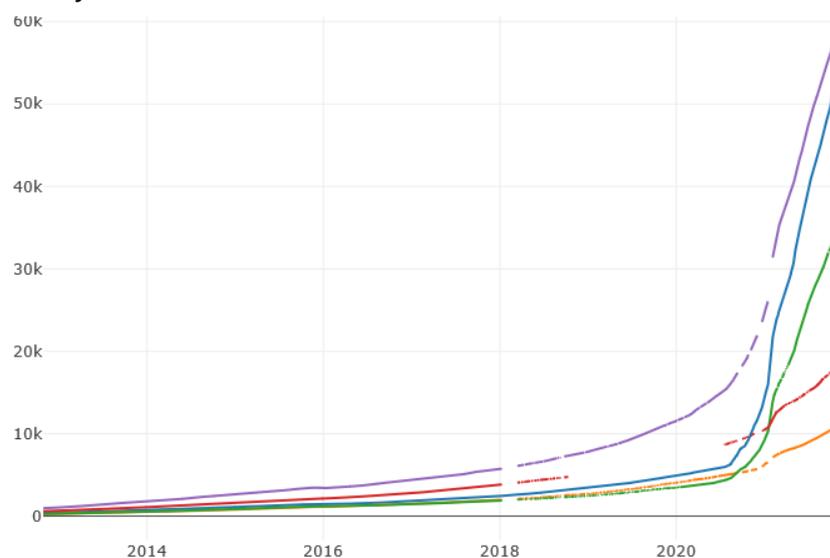
Cornerstones of the digital city? Consideration of local subreddits of major German cities

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The streets are empty. People are missing at the cafés, the squares, the churches and the sport stadiums. The corona pandemic temporarily held public life in check, and face-to-face encounters within urban society were widely absent. Life increasingly took place in the digital realm: Home office, online events and streaming concerts - Digital equivalents for social interaction were desperately sought and put into practice. The corona pandemic was thus an accelerator of social, cultural, and technological change for cities among other things, increasingly making our everyday lives *everyday media lives* (Heinze, 2019; Nitschke & Schweiger 2021).

This shift is particularly evident on one digital platform: so-called subreddits (subforums) of major German cities have experienced enormous growth on the platform *reddit* since March 2020. This is exemplified by the increase in the number of users of the subreddits of the five largest German cities¹, shown in figure 1.

Figure 1 (subredditstats.com, 2021): Increase in usage of local subreddits of the five largest German cities with the exception of Berlin. Purple=Munich, blue=Frankfurt, green=Stuttgart, red=Hamburg, orange=Cologne.



¹ We did not include Berlin because the number of users in this subforum significantly exceeds that of the other cities, which would distort the chart. A similar increase in the number of users can be observed for Berlin.

Smaller cities, such as Münster, Bonn or Bielefeld, are also experiencing a similar development. We therefore want to research on *the extent to which local subreddits of major German cities are a significant place of digital participation.*

Reddit is a social network that has been online since 2005. It is a forum in which there are subreddits on every possible topic. Users can set up own posts or comment on existing ones in the subreddit. There are subreddits about hobbies (e.g. fishing), celebrities (e.g. Billie Eilish), or even series (e.g. Game of Thrones). For almost every interest there is a matching subreddit and within it a community of interested people. There are also subreddits for people who are interested in a certain city or information concerning life in that city.

While research on reddit itself, its users, and the nature of its conversations (Amaya et al. 2021; Choi et al. 2015; Fiesler et al. 2018; Lyócsa et al. 2021) already exists, there is a lack of studies on digital *local* interaction on the platform. Existing research on digital local participation and interaction regarding Germany focuses mostly on neighborhood portals or facebook groups (e.g., Kappes & Vollmann 2020; Nitschke & Schweiger 2021; Schreiber, 2020).

Local subreddits in Germany are unexplored, although they are an important example of the "mediatization of urbanity" (Livingstone, 2009). Following Gentzel et al. (2020) and Nitschke & Schweiger (2021), we explore local subreddits as a place of intertwining locality, media, and social integration. In doing so, we ask which everyday practices of digital participation, expressed in forms of communalization and political participation (Nitschke & Schweiger 2021), are to be found in local subreddits.

We consider the relevance of researching local subreddits to be justified not only by their rapidly increasing usage figures, but also by their distinction from other platforms. Neighborhood portals hardly allow anonymity due to the presentation of official names, profile pictures and information about the place of residence. Therefore, they may contribute so well to community building (Nitschke & Schweiger 2021, p. 11). Reddit, in comparison, is a completely anonymous platform, not providing detailed profile information such as age, place of residence or profile pictures, thus offering hardly any information about the users. We want to give an overview of the local subreddits of the 20

largest cities in Germany. In addition to a descriptive presentation of the number of users and the volume of posts and comments, the study pursues the following research questions with regard to the aforementioned aspects of digital participation:

(1) Who are the users of local subreddits?

- Which age, gender or education structures can be found in the subreddits?

(2) What motives and forms of use exist in relation to local subreddits?

- What motivates the users to be active in these subreddits?
- To what extent do they use the platform for community building, i.e. for building (online and offline) relationships with other users?
- To what extent do they use the platform to participate in social and political processes in the local area?

(3) How do the active users evaluate the subreddits?

- How do users rate their prevailing anonymity?
- To what extent do the users value the subreddits as a suitable place for discussing local politics?

The increase in the number of users of local subreddits symptomatically embodies the currently perceived increase in the pace of digitalization of urban life. The study thus helps to understand which forms of digital interaction exist within a city, how these forms complement, change or even replace known forms of social interaction.

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Cluj – Napoca as a smart city: a discourse analysis

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My presentation will examine the construction of the smart city discourse in the case of Cluj-Napoca, Romania, a city often touted by the local and national media as a model of success in the implementation of the smart urbanism model. As detailed below, the presentation will begin with a brief profile of Cluj, highlighting the factors that have contributed to its economic success – particularly its fast growing digital sector -, and will then outline the main points of the *Smart City Strategy* developed by the local authorities.

After setting the context, I will synthesize the critics of the smart city model, with a focus of its exclusionary nature, and will emphasize how this characteristic is visible at a discourse level. The most significant part of my presentation will consist of a critical discourse analysis of how Cluj is framed as a smart city in the discourse of national media outlets. This analysis will investigate the different narratives that compound the local discourse of smartness, focusing on four themes: the points of concurrency between the local discourse on smartness and the global one; the role of culture/ cultural industries and the extent to which these tropes and those of digital entrepreneurship intersect; the tropes of competition between cities, with Cluj positioned as a role model to be emulated; and the references (if any) to the social and economic inequality generated by the smart city model.²

Cluj-Napoca (most often referred to as Cluj) is situated in the north-western part of Romania, in the historical province of Transylvania, and has a population of 420,000 people, including its metropolitan area. According to the 2020 European Commission *Report on the Quality of Life in European Cities*, over 90% of the persons surveyed were satisfied with living in Cluj (p. 12), with 61% of the respondents considering that the quality of life in Cluj has improved over the past five years (p. 18). With these rankings, Cluj scores

² The discourse of the Romanian authorities and the media discourse use the terms “smart city” and “smart urbanism” interchangeably.

higher than all Romanian cities including Bucharest, the capital city, and surpasses many other cities from Eastern Europe.

Cluj has a prosperous economy, thanks to a fast growing digital sector. Between 2011 and 2018 the number of IT companies here increased by over 75% and the number of start-ups doubled, well exceeding the national average. In 2018 Cluj was hosting over 1200 IT companies, with 8.7% of the total number of employees working in IT, second only to Bucharest. (Laza 2018).

Once berated for its “dearth of social interaction”, due to its inhabitants’ low interest in community matters (Mondak and Gearing 1998, p. 631), Cluj appears to have recuperated this gap, thanks to the public consultation processes initiated by the local authorities on matters ranging from budget planning to the (unsuccessful) candidacy to the 2021 European Capital of Culture role; to the activity of the not-for-profit sector; and to the corporate social responsibility projects developed by the corporate actors, many of whom are tech and innovation entrepreneurs.

In a search by the key words “Cluj smart city”, one of the first returns is an article with a suggestive title: “Cluj-Napoca: the “Silicon Valley” of Eastern Europe” (Smart Cities Council, 2018). “Siliconization” (Vanolo 2017, p. 128) and digital transformation represent the red thread of the local authorities’ discourse on urban smartness, connecting all the tiers mentioned in the 2017 *Cluj-Napoca Smart City* document: energy and environment, transportation and urban mobility, culture and entertainment, public health, and participatory budgeting. Structured in a deterministic fashion, this document builds on the same tropes as the smart city discourse at the global level, with technology, entrepreneurialism, innovation and competitiveness at its core.

The smart city model has often been criticized for its exclusionary nature (Engelbert, van Zoonen and Hirzalla 2019; p. 142; Vanolo 2017, p. 128; Thörn, 2011). Likewise, in Cluj the smart city is orientated towards the “creative class” (Florida 2002) of the entrepreneurs and employees from the digital sector but hardly ever caters to the people outside this cluster of prosperity. It represents a fertile soil for the ethos of individualism and neoliberal competitiveness, and it limits the “right to the city” to a “small political and economic elite” (Harvey 2008, p. 13). Following an intense process of gentrification, the central area

of Cluj has become inaccessible to the working class who is now “barely visiting or using the downtown [space]” (Petrovici 2007, p. 63).

Using the method of critical discourse analysis, the remainder of my presentation will study how Cluj is framed as a smart city in the discourse of national media outlets, including news websites and the web pages of publications ranging from daily newspapers to niche media publications. The social media pages of these outlets will not be included in my analysis, as in most cases their content is syndicated from the web pages. I will look at the content created in the past five years, from January 1st 2016 to December 31st 2021, in English. Starting from the assumption that media “serve[s] the goals of the powerful elites through the use of language tools and persuasive arguments” (Wodak and Meyer 2009), this analysis will investigate the different narratives that compound the discourse of smartness in the case of Cluj, focusing on the two main areas mentioned below:

(1) An analysis of the tropes that represent the core of the discourse on Cluj as a smart city, seeking to identify similarities and differences between the local discourse and the global one. How does Cluj define itself as a smart city: on what directions does it capitalize? What is the role of new technology digital entrepreneurship in the construction of discourse? Who will benefit from the implementation of the smart city model, and who will be left out?

(2) The representation of Cluj as a role model for other Romanian cities aspiring to become smart cities. As I will emphasize in my analysis, local media frames *smartness* as a matter of status or as a competition between cities, with little interest for the social and economic impact of shifting to a smart city model. Many of the articles included in my analysis could serve as examples of *churnalism* [recycling the public relation materials sent to press by various stakeholders], demonstrating more loyalty to the public and private actors involved in the implementation of the smart city model than to the audiences.

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Creating an “authentic” sense of place. Analysing narratives of the „Andräviertel“ in Salzburg – between insider's tip and commercial tourist attraction.

Helena Atteneder (University of Tübingen) & Christine Lohmeier
(University of Salzburg)

Places can be described as unique intersections of different trajectories, and the advent of digital technologies must be seen as crucial here (Massey 1994). With emphasis on digital media practices, place becomes something that “is continually enacted, negotiated and renegotiated across multiple levels of media engagement” (Wilken and Humphreys, 2021).

In this context, several scholars have referred to placemaking practices through digital technologies, specifically in relation to geomeia technologies. Digital placemaking is described as “cultivating a sense of place for oneself and others” (Halegoua, 2020: 16) or as the “interweaving of meaning-making in relation to place, occurring through social relations, communication, embodiment, and personal and shared experience enacted via a digitally mediated platform” (Norum and Polson, 2021: 3). Polson, for example, describes how this (coherent) sense of place and belonging emerges in the overlapping of online and offline practices in reference to professional networks of privileged expatriates (Polson, 2015, 2016). Farman (2015) as well as Frith and Richter (2021) focus on historical aspects of digital placemaking practices and the question of the extent to which places are shaped by their history, or by dominant narratives and thus consciously suppressed histories and stories. Halegoua coins the term of “re-placing the city” to describe “the subjective, habitual practice of assessing and combining physical, social, and digital contexts in order to more fully understand one’s embeddedness within urban places and to reproduce a unique sense of place through the use of digital media affordances.” (Halegoua 2020, p. 5). Conceptually, these approaches have in common that they are based on fundamental processes of the mutual or “the reciprocal shaping of technology, the social, and space/place” (Fast, Ljungberg, & Braunerhielm, 2019, p. 90).

Taking these conceptual starting points, our paper seeks to examine how place is re- and co-constructed in the case of the “Andräviertel” (English: Andrä quarter) in Salzburg,

Austria. Salzburg struggles with overtourism. The strong tourist industry lobby is in a state of permanent tension with needs and interests of local communities. On the one hand, tourism is a significant economic sector in Salzburg and provides job opportunities. On the other hand, the quality of life for residents is at risk. According to some representatives, the district is on the threshold of becoming the new "hip" and "trendy" area, with a small but growing creative industry, identity-forming neighbourhood events, alternative “special interest” stores, bars, cafés and restaurants. Placemaking – in digital and analogue forms – is an integral part of the grass-roots, local identity-forming processes in the Andräviertel. At the same time, these developments get entangled with processes of alternative “authentic” tourism, long-term processes of gentrification (Jansson, 2019), and overtourism. Employing an online ethnographic approach, our first aim is to map how concepts of digital placemaking or re-placemaking take form for the Andräviertel by analysing dominant narratives. In a second step, we will analyse how dimensions of power, privilege and precariousness intersect with the reproduction of unique senses of place and claims to physical-material spaces. We do so by examining the commercial platforms (e.g. Instagram, Airbnb) as well as small, alternative or specialized ones and set them in contrast to available statistical data to examine negotiation processes and place-making practices.

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Panel 2: Designing and coding the city

Who codes for whom? Social values and user imaginations of techworkers in the software sector of public transport companies.

Linda Siegel (Paris Lodron University of Salzburg)

Without software-based technologies, the world would not be as highly connected and information rich as it is today. Their benefits include personalised search results and sophisticated wayfinding services. Nowadays, almost all areas of our everyday lives are shaped and permeated by software and algorithms, including the public transport sector. For instance, the route-planning app of the public transport services in Berlin was used by more than 5 million people in 2020 (BVG Zahlenbericht 2020: 3). Thanks to digitized route-planning products, such as apps and websites, digital ticket purchasing or smart vending machines, people are able to move even in unknown surroundings and can plan routes spontaneously and efficiently using a diverse set of configuration options within one tool.

However, as more and more examples have emerged in recent years in which software-based technologies have been found to be sexist, racist or otherwise discriminatory (e.g. Myers West et al. 2019: 6), the question of who stands “behind the algorithm” (Svensson 2018), who creates it in the first place, is increasingly being asked.

By default, the design of technical artefacts promotes certain interests and impedes others (Winner 1980). Moreover, it is important to note that ultimately, all software products and algorithms are human-made (Rosales/Svensson 2021), created by techworkers (Vu et al. 2019: 1), who sometimes knowingly, sometimes unconsciously, inscribe their own beliefs and opinions into technologies (Oudshoorn et al. 2004: 31f.). Hence, techworkers (Vu et al. 2019: 1), such as software engineers, significantly shape our infrastructures, society and our perception of the world (Bialski 2019) and bear

a great social responsibility. As designers and administrators of data, knowledge and

technological systems, they have an influence on what is shown and what is not, what is highlighted and what remains hidden.

This study aims to shed a little light on who develops and designs the software and digital platforms for public transport and who therefore ultimately helps decide how countless public transport users get around (cf. Piétron et al. 2021). Public transport is a service that addresses very different groups of people: old and young people, locals and tourists, people who use wheelchairs or prams, who can see and hear or are blind and deaf. The techworkers of the public transport sector are thus an interesting field for the study of social values and inequalities in software and algorithms.

Therefore, I would like to present the first findings of this study that is guided by the following questions:

Which values, ideas and concepts guide the techworkers in their production of software for public transport companies?

Whose interests do techworkers have in mind in the production process considering the final product?

Guided by the principles of the Design Justice concept (Costanza-Chock 2020), this goes along with questions of whose and which criteria define the quality of the system or software product, who decides what is developed in the first place, and whom the techworkers imagine as the final users of their software product.

The data is collected through two-step semi-structured interviews in which several techworkers from German and Austrian cities give insights into their workplaces, decision hierarchies and speak about who collaborates with whom. In a next step, follow-up interviews begin with a creative research method (cf. Gauntlett 2007). The participants are asked to make a drawing depicting themselves as techworkers on one side and the (imagined) users of their software products on the other. This drawing serves as an introduction to the topics of values within the techworkers' work, ideas for future developments and their imaginations about potential users.

First findings confirm that the tech sector, also within the area of public transport, is a specifically male dominated area (see also Myers West et al. 2019: 5ff.) and indicate that

both the work structures and the software designs are highly standardised. There is little room for the reflection of decisions or the evaluation or inclusion of individual values or ideas. However, I could understand that there is an interest in more participatory designs, feedback loops and the collection of data on the needs of different social groups. Limited resources, especially financial, are mentioned as the main reason for limited efforts in this regard. At the same time, my findings indicate that there are fundamentally different opinions when it comes to equity and equality. While some techworkers are particularly committed to standards for accessibility or gender-sensitive product output and are highly conscious of this in their work, others find the discussions of these issues alone to be superfluous, wasteful and merely an additional burden to their work, to give just some examples.

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Cities of curiosity: Designing for serendipity in the smart city

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Technology is increasingly mediating our urban experiences, not only through how we connect to fellow city dwellers, but also in the way the urban environment is presented to us (Smets et al., 2021). In the last decade, this shift to so-called smart cities has resulted in a significant transformation of how we interact and engage with urban space. The dominant smart city discourse is, however, highly focused on efficiency and productivity (Haklay, 2013), which raises the question to what extent such “technocratic urban planning is eliminating the very features of spontaneity and social encounter” (McQuire, 2016, p. 33). In other words, the current dominant paradigm of urban system design is said to be one where urban serendipity is being traded off in favor of predictability. Indeed, cities are archetypical places of diversity, curiosity and meeting strangers (Jacobs, 1961; Sennett & Sendra, 2020). Even to the extent that they are called serendipity engines (Zuckerman, 2013) where unplanned yet interesting encounters are commonplace. But what happens to this serendipity in the smart city? Are our social encounters restricted to the capricious nature of the algorithm that is often built to provide safe and predictable experiences? Are we ending up in ‘urban filter bubbles’ (Smets et al., 2019)? What kind of future digital cities can (or cannot) be produced is a contentious question and the one I pose in this work is how can we design for serendipity in the smart city?

In this work, I argue that in order to formulate an answer to this question, we need to understand at least two main concerns. First, we need to understand how cities, and the technologies in it, can afford serendipity. It has been argued that designing for serendipity is an ultimate contradiction in terminis (Van Andel, 1994), but in this work I build on the premise that serendipity can be cultivated because it is not just simple luck. Rather, it is the combination of environmental affordances and individual capabilities (Björneborn, 2017; de Rond, 2014), which implies that environments (both digital and physical) can be designed to afford serendipity.

Second, there is the question of how technology comes about in the particular urban

context. In other words, we need to understand how technology (and its affordances) are the result of an interaction between multiple stakeholders involved (De Haes et al., 2020). More specifically, the question that should be addressed is why designers would be motivated to design for serendipity in the first place.

To answer these questions and formulate an answer to the overarching challenge of designing cities of curiosity, the theoretical foundations of this work build upon insights from urban planning, interaction design, science and technology studies, and media and communication studies.

Empirically, I report on case studies and interviews with developers from urban applications that explicitly set out to design for serendipity. The selection consists of case studies from Flanders (Belgium) in the field of culture and leisure activities, and personalized recommendations specifically. The results of this empirical work provide more insights in the different (strategic) motivations why the developers and administrators of these applications want to design for serendipity. Moreover, the results present the various operational implementations, which eventually contribute to first assembly of design strategies for affordances for urban serendipity, or what I will call a feature repository (Ro et al., 2015).

The main contribution of this work is that it positions the question of designing for urban serendipity in its broader socio-technological context. It does not solely focus on the algorithm as an affordance, but rather considers the entire feature repository that is at the disposal of the designers. Moreover, it considers both the question of how (the operational perspective) and why (the strategic perspective). This interplay is indispensable to understand smart cities in practice, and demonstrates that there might be tensions or conflicting concerns both at an operational and strategic level that impacts the eventual design. Taking this perspective allows to further enrich the conversations about our contemporary and future digital cities, and what are inhibiting and facilitating factors in turning them into cities of curiosity.

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Fractional Ownership. Bricks, blocks and (block)chains

Marija Marić (University of Luxembourg)

From the introduction of ‘fractional ownership’ to the emergence of entire markets for developing and trading digital land—real estate has become the latest frontier for start-ups and companies organised around the uses and promises of blockchain technologies. Since its first appearance in 2008, when a pseudonymously published paper introduced ‘Bitcoin’—a new model of digital currency generated and circulated through a peer-to-peer technology, that promised to revolutionise financial transfers by excluding third parties such as central banks—blockchain has received an almost mythical status of a system that could allow for decentralised, transparent and democratic transaction of information in all of its imaginable forms: from money to data, digital cats or real estate shares.

Here, platforms like Meridio, Slice or DOMA, to give just some examples, are popularising the usage of blockchain technology for owning and trading digital real estate shares instead of entire real estate ‘units’ such as an apartment, a building or a plot of land, thus effectively lowering the threshold for real estate investment and allowing for more fragmented property portfolios. Building upon the almost-universal problem of housing unaffordability, these platforms position themselves as actors whose goal is an equal distribution of urban value and ‘democratisation of real estate.’ In challenging the idea of traditional forms of homeownership, but still operating within the private property paradigm, the so-called ‘fractional ownership’ is propagated as the future model of real estate investment and speculation. Here, two opposing imaginaries stand next to each other: on one side, a dream of technology as a tool for fast trading and profit-making that is now accessible to all, and on the other the technology as an infrastructure and a possibility of modelling a ‘platform cooperative’ that would be owned and governed by its users.

This paper will start from the question—what happens when real estate speculation meets blockchain? Analysing several selected platforms that use blockchain technology to promote ‘fractional ownership’ and ‘tokenization of real estate,’ this contribution will

outline the impact of these technologies on commodification of housing and land on-the-ground. To do so, the paper will juxtapose, on one side, media strategies and narratives of democratisation these platforms heavily depend on, and on the other, the technological and financial infrastructures of investment and speculation they perform, aiming to offer a critical understanding of the impact of platforms that facilitate ‘fractional ownership’ on the already unstable values and unjust distribution of housing that permeates our societies.

Panel 3: Bodies and data in the city

Paper presentation: Vulnerable bodies: Relations of visibility In the speculative smart city

Film screening and discussion: “Frames” – The film is part of the screening surveillance project

Debra Mackinnon (University of Windsor) & Sava Saheli Singh
(University of Ottawa)

From wearables, IoT sensors, apps, platforms and cameras, we "shed" various forms of data as we navigate our increasingly networked and smart environments. Recent discussions of urban data have focused on post collection practices of translation and circulation – following data threads, journeys and exhaust as they enact urban life. We seek to further complicate these thick data accounts focusing on movement, bodies and embodiment. As our bodies become information, the accuracy and affordances of these data portraits remain critical sites of inquiry. How do surveillance technologies, map, render and perform human and non-human interactions; moreover, exacerbate injustice? In this paper, adding to the rich discussions of future-ing, anticipatory imaginaries and implications on the urbanite body, we offer a critical interrogation of the oligoptic gaze and the relations and politics of visibility. We do this through the narrative of Frames [<https://www.sscqueens.org/projects/screening-surveillance/frames>] – a speculative near future account of mapping a body through the various lenses of a smart city. Focused on what is included (and excluded) from the "frame", we navigate domains of aesthetics and politics in order to foreground the embodied experiences, decisions and interactions which are mapped by these surveillant spatial locative technologies. We contend these renderings or simulacra of a 'singular' knowledge politic serve to stabilize and normalize ways of seeing, knowing and control. Yet, these rationalities are irrational – potentially producing inefficient, inaccurate and unjust portraits.

Panel 4: Experiencing the city

Lokative Medien: Neue Raumwirklichkeiten zwischen Konflikt und Koexistenz

Eric Lettkemann & Ingo Schuelz-Schaeffer (TU Berlin)

Unser Beitrag untersucht die mit der Veralltäglichung lokativer Medien einhergehende Veränderung der Raumwirklichkeiten in post-digitalen Städten. Ausgehend von ersten empirischen Beobachtungen schlagen wir vor, die Erforschung der Handlungswirksamkeit digitaler Wirklichkeitskonstruktionen auf die Erforschung konflikthafter Konstellationen und auf Konstellationen der Koexistenz unterschiedlicher Raumwirklichkeiten zuzuspitzen. Unter Raumwirklichkeit verstehen wir dabei das im sozialen Handeln zur Wirksamkeit gebrachte Wissen über den Raum. Wir gehen davon aus, dass in den post-digitalen Städten unserer Gegenwart eine starke Vermehrung raumbezogener Wirklichkeitskonstruktionen stattfindet. Die einstige Alltagserfahrung, sich im öffentlichen Raum in einer allgemein geteilten und weitgehend einheitlichen Wirklichkeit zu bewegen, wird vor dem Hintergrund dieser Entwicklung zunehmend brüchig. Ursächlich für die Vermehrung räumlicher Wirklichkeitskonstruktionen ist, dass sich das Raumwissen vieler Stadtbewohner:innen zunehmend aus digitalen Informationen speist, die durch lokale Medien bereitgestellt werden. Lokative Medien ist ein Sammelbegriff für mobile Apps, die auf die Standortfunktionen von Smartphones zugreifen, um ihre Nutzer:innen im physischen Raum zu lokalisieren und ihnen Web-Inhalte anzuzeigen, die auf ihren aktuellen Standort zugeschnitten sind. Diese Apps ermöglichen einen stärker personalisierten Zuschnitt von Informationen und prägen so neue Praktiken der Raumwahrnehmung und -aneignung.

Die Veralltäglichung lokativer Medien ist stark mit dem gesellschaftlichen Siegeszug internet fähiger und standorterkennender Smartphones verknüpft. Lokative Medien

verwirklichen die alten Zukunftsvisionen der Augmented-Reality, indem sie die GPS-Koordinaten öffentlicher Orte mit allerlei digitalen Informationen überlagern und verkoppeln. Mittlerweile hat sich eine Reihe verschiedener Genres lokativer Medien etabliert, die sich danach unterscheiden lassen, welche spezifischen Inhalte diese Apps ihren Nutzer:innen anzeigen: Beispielsweise verwenden viele Nutzer:innen mobile Dating-Apps wie Tinder als Umgebungsradar, um Ausschau nach in der Nähe befindlichen Flirtpartnern zu halten. Navigationsdienste wie GoogleMaps lotsen sie in Echtzeit durch unbekannte Straßen. Empfehlungsdienste wie Foursquare zeigen digitale Hinweise an, die andere Nutzer:innen vor Ort hinterlassen haben, um etwa auf ein gutes Restaurant oder die Schönheit eines nahegelegenen Parks zu verweisen. Schließlich erweitern Spiele-Apps wie Pokémon Go den physischen Raum um digitale Geschöpfe und transformieren damit öffentliche Orte in Spielplätze. In der Wahrnehmung der Nutzer:innen verschmelzen so der digitale Cyberspace auf dem Smartphone-Bildschirm und der physische Raum zu einem cyber-physischen Wirklichkeitszusammenhang.

In den letzten Jahren formiert sich ein Forschungsfeld, das diese neuen Formen cyber-physischer Raumwirklichkeiten untersucht. Es umfasst verschiedene Konzepte, die etwa das Potenzial lokativer Medien zur „Verdopplung“ (Tomita, 2016), „Zersplitterung“ (Frith, 2017), „Kreuzung“ (Verhoeff & Dresscher, 2019) oder „Hybridisierung“ (de Souza e Silva 2006) von Raumwirklichkeiten betonen. Bei vielen Unterschieden im Detail sind sich diese Konzepte dahingehend einig, dass sie die vordigitalen Raumwirklichkeiten in zweifacher Weise transformieren.

Erstens beobachten wir, dass die Wirklichkeitskonstruktionen lokativer Medien häufig an den bestehenden Bedeutungen von Orten anknüpfen und sie (selektiv) verstärken. So spiegeln viele Empfehlungsdienste vor allem den Geschmack und die Anliegen ihrer Intensivnutzer:innen wider, die sich überdurchschnittlich stark aus der weißen und akademisch gebildeten Mittelklasse rekrutieren. Dagegen bleibt das Raumwissen anderer urbaner Lebenswelten, die etwa der Arbeiterklasse oder migrantischen Milieus zugehörig sind, auf lokativen Medien weitgehend unterrepräsentiert. Zweitens beobachten wir das Potenzial lokativer Medien zur Konstruktion alternativer Raumwirklichkeiten, wie es derzeit insbesondere im kollektiven Spielen von Augmented-Reality-Games Ausdruck findet.

Unsere bisherigen Forschungen weisen darauf hin, dass im Zusammenhang mit der Nutzung lokativer Medien einerseits konflikthafte Konstellationen konkurrierender Raumeignung entstehen, andererseits aber auch Konstellationen des relativ reibungslosen Nebeneinanders der unterschiedlichen Aneignungen desselben physischen Raums. Wir interpretieren diese unter verschiedenen Ausprägungen des Mit- bzw. Gegeneinanders von Raumwirklichkeiten vor dem Hintergrund der Theorie sozialer Welten. Soziale Welten sind sozialräumliche Wirklichkeitskonstruktionen, d.h. relativ unabhängige „Diskursuniversen“ (Strauss, 1978, S. 121), die durch spezifische, typischerweise ortsgebundene Kernaktivitäten zusammengehalten werden. Da soziale Welten durch die Bedeutungen konstituiert werden, die ihre Mitglieder den Dingen zuschreiben, „können Menschen Seite an Seite und doch in unterschiedlichen Welten leben“ (Blumer, 2013, S. 76). Als Konflikte zwischen Raumwirklichkeiten definieren wir demzufolge Konstellationen, in denen verschiedene soziale Welten ihrer physischen Umwelt unterschiedliche Bedeutungen zuschreiben, deren Handlungskonsequenzen von den beteiligten Akteuren als unvereinbar wahrgenommen werden. Letzteres ist beispielsweise gegeben, wenn die Besucher:innen eines Friedhofs ihr stilles Gedenken als gestört wahrnehmen, weil das Friedhofsgelände zugleich als Spielfeld eines Augmented-Reality-Games dient.

Die Frage, unter welchen Bedingungen mit einem Ausschlag in die eine oder andere Richtung zu rechnen ist, wollen wir anhand erster empirischer Daten entlang dreier Untersuchungsfälle diskutieren: Dating-Apps, Empfehlungsdienste und Augmented-Reality-Games. Diese Apps knüpfen auf jeweils unterschiedliche Art und Weise an die vorgängige Raumwirklichkeit an. Während Dating-Apps eine personenbezogene Repräsentation der Umgebung entwerfen, knüpfen die Wirklichkeitskonstruktionen mobiler Empfehlungsdienste bei ortsbezogenen Merkmalen an, und Augmented-Reality-Games stülpen dem Stadtraum gänzlich neue Bedeutungen über. In allen diesen Fällen können lokative Medien zum Anlass von Konflikten werden, etwa wenn die cyber-physische Raumwirklichkeit von etablierten Wirklichkeitswahrnehmungen abweicht und dies als Verzerrung thematisiert wird oder wenn sie mit Praktiken der Raumeignung einhergeht, die etablierten sozialräumlichen Verhaltensnormen widersprechen. In allen Fällen können lokative Medien aber auch neue

Formen der Koexistenz unterschiedliche Raumwirklichkeiten ermöglichen, etwa wenn die jeweiligen cyber-physischen Raumwirklichkeiten wechselseitig füreinander unsichtbar bleiben.

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Understanding the effects of mobile social media and augmentation on the affective-emotional experience of parks in the (post-)digital city

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By now, it is undisputed that the use of mobile social media is permeating and augmenting everyday life while also increasingly interfering with people's engagement with green spaces and nature. Yet, there are few approaches that seek to analyse the effects of this permeation while it unfolds in-situ. This paper argues that mobile and mixed methods are crucial to an understanding of the effects of mobile social media use on the perception of public places in the (post-)digital city. While currently mobile media are predominantly used on smartphone and smartwatches, mixed reality technologies will make the augmentation of public spaces ever more present in the near future.

Here, our research project DigitAS (The Digital, Affects and Space) comes in, posing the following questions: (1) What are the effects of mobile social media on the affective-emotional experience of public urban places, and (2) what does that mean for a future in which augmented reality becomes ever more present in the (post-)digital city?

The interdisciplinary project team, which unites geographers, communication scientists, and technology assessment scholars, has used a mixed-methods approach to investigate the effect of the in-situ use of mobile social media on study participants' perception of two public parks in the Austrian cities of Vienna and Innsbruck through a combination of:

- (1) a mixed discourse analysis (combining qualitative and quantitative approaches) of social media content on both parks,
- (2) narrative-biographical interviews with participants prior to the social media and park use and perception,
- (3) a quasi-experimental field study using mobile eye-tracking to analyse the perception of social media content on the parks in-situ while being in those parks,
- (4) retrospective think-alouds with the participants on their perception of the parks and social media content during the quasi-experimental field study, and
- (5) the 3D-visualization of the eye-tracking data by combining laser scanning with the mobile eye-tracking data.

As an additional transdisciplinary step, a Delphi-scenario process is currently being implemented in which the results are discussed with experts to develop future scenarios of how parks should be designed in times of an increased appropriation of augmented reality technologies.

The paper will introduce two cases of participants – one of each park – to highlight the advantages of the complex mobile and mixed-method research design, which allows a comparison of:

- (1) the actual social media content on parks (quantitative discourse analysis: frequency and coupling, qualitative discourse analysis: construction of meaning) with its in-situ perception and experience (retrospective think-alouds, eye-tracking),
- (2) the subjective evaluation and meaning-making of the parks and social media content by research subjects (retrospective think-alouds) with a quantitative measurement of their focus of attention and level of cognitive engagement (eye-tracking: areas of interest, fixations, duration of fixations, number of revisits).

The findings show that positive representations of the parks dominate in social media while the word coupling analysis indicates that constructions of otherness are combined with discourses of exclusion. When this social media content was experienced in-situ by

the study participants in the quasi-experiment, the negative content was reflected upon more, constructions of otherness and discourses of exclusion were reproduced and even strengthened through research subjects' imaginations. Furthermore, the otherwise more explorative experience of parks was channelled towards selected elements mentioned in social media content (e.g., people, park benches, waste, security cameras). For some participants the social media content was stressful and thereby detrimental to their otherwise positive experience of the natural and social environments of the parks.

In sum, our project shows the explanatory power of interdisciplinary mixed methods research for studying complex phenomena in the (post-)digital city.

Where do we go from here? - Using *Google Maps*

Christine Lohmeier & Lisa Schulze (Paris Lodron University of Salzburg)

The use of navigation devices and navigation apps is a widespread daily occurrence throughout the world. This submission highlights the role of navigation tools and apps, in particular *Google Maps*, for the way navigation takes place within everyday life. In a hyper-mobile world, navigation tools have become an essential part of people's media repertoire (Hasebrink/Hepp 2017). Especially with the smartphone so strongly embedded in daily routines, the significance of navigation apps goes beyond the mere content and information they provide, by impacting the most private element of our lives (Pink 2013: 678) as well as the very nature of how the environment is made sense of. Navigation tools can thus be conceptualized as a phenomenon of deep mediatization (Hepp/Hasebrink 2018: 19). Communication devices are no longer only a means of communication between different actors, but they are also a means of constructing social reality through processes of datafication (Hepp 2016: 230). There exists a substantial body of work that links the fields of communication and geography, for instance, geomedia studies (Fast et al. 2018) or locative media and mediated localities (Thielmann 2010). These concepts share the assumption of communication as the core of the production of spaces (Adams/Jansson 2012: 301), which applies to mediated communication, as well (ibid.).

While we consider these perspectives highly productive, we see few studies that analyse in detail how people employ navigation tools and apps, such as *Google Maps*, in everyday life. For this study, we examine navigation tools as part of users' media repertoires (Hasebrink/Domeyer 2012) while also acknowledging that navigation tools are an expression of the mediatization and datafication of space (Jansson 2019; Polson 2016). Our study aims to fill this gap by answering three main research questions:

1. How are navigation apps employed in everyday life?
2. How do users reflect upon their use of navigation devices?
3. How are technological advances regarding navigation and (future) mobility assessed?

Empirical data were gathered with a tool called 'MapRecorder' (Savino et al. 2020), which allowed us to trace the activities of users on *Google Maps*. In a second step, we interviewed selected users who had installed the MapRecorder on their mobile device and focused on six major topics: Personal background, map usage, perception of space, link/combination with other services, data security and views and opinions. Our results show that

- (1) The use of navigation tools goes well beyond actual navigation.
- (2) The process of locating a place is embedded in a wider use of the media repertoire.
- (3) The use of navigation tools and the future of mobility supported by AI causes a sense of ambivalence and overwhelm for users.

Our findings suggest that strategies of coping with digital privacy are “rational emotional response[s] in the face of undesirable situations that individuals believe they cannot combat” (Draper/Turow 2019: 3). We could extract two streams of coping: (A) Digital resignation (Draper/Turow 2019: 3): users who do not seem to care about their digital traces any longer. (B) Resistance: users who engage in some form of ‘minimal data’ strategy by activating services like geolocation as little as possible.

We could understand that the handling of personal data results in individual strategies on the users' side. The notion of privacy, whether in questioning privacy in the data that are stored by *Google Maps* or being private in where one is located, is an ambivalent topic in navigation, as our data show. Our findings suggest that strategies of coping with privacy are individual choices that for some users are influenced by a feeling of powerlessness towards Google's data policies that users “believe they cannot combat” (Draper/Turow 2019: 5).

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Panel 5: Building the city

The performance of exceptional public buildings on social media -The case of Depot Boijmans

Nadia Alaily-Mattar & Diane Arvanitakis & Hanna Krohberger & Lukas Legner & Alain Thierstein (Technical University of Munich)

The scope and speed of the digital circulation of photographs of exceptional buildings have increased exponentially with the advent of social media starting in the late 2000's. Exceptional buildings are buildings who are commissioned by actors with the deliberate and declared intention that they stand out amongst the crowd of buildings in cities. Particularly public buildings, such as museums, concert halls or libraries are commissioned by public actors to not only house certain functions, but also to act as exceptional objects in cities, which can become landmarks or even symbols of a city and play a role in a city's collective identity and its transmittal of cultural value to the next generation. Most landmarks in cities took decades and even centuries to be transformed from mere buildings, associated with certain functions, to icons of their cities. With the advent of social media, the speed for such potential transformation has accelerated, albeit with the paradox that the transformation might be short lived and not sustainable. In addition, control of this transformation is shifting from the producer/supply side to the demand/user side which participates through dissemination of photographs in the production of images and myths.

The textual and visual communication about exceptional public buildings by social media users affects the performance of such buildings. This new communicative behavior of users is generating data whose content is large, rapid and unstructured, otherwise known as Big Data. Yet because architecture scholars lack the necessary skills to collect and analyze such data, such data have remained largely inaccessible to architecture scholars and have thus evaded their scrutiny. Such data are a potential trove, their analysis is

relevant as it can enable scholars to understand how exceptional public buildings perform in the virtual domain.

In a pilot research project, a multi-disciplinary research team scraped Instagram to collect data that is associated with the hashtag of a case study, the Depot Boijmans, located in Rotterdam, Netherlands. As a collaboration between Museum Boijmans Van Beuningen, the Municipality of Rotterdam and the De Verre Bergen foundation, the Depot Boijmans was commissioned to architecture firm MVRDV following an architecture competition in 2013. The competition brief specifically requested “an imposing, spectacular and inviting building, which lies like an icon in the Museum Park and attracts attention from afar.” (Programma van Eisen Collectiegebouw Museum Boijmans Van Beuningen, 2013: 9, translation by authors) Advertised as the world’s first publicly accessible art storage facility, the depot is due to open its doors in November 2021.

The data which we collected included photographs and their associated meta-data, namely, account holder, upload date, comments, caption, hashtags. In a subsequent step we cleaned and organized this data to generate a dataset. By applying a machine-learning-based algorithm for landmark retrieval, we identified images of our case study in the dataset. The images and their associated comments were then examined, using sentiment analysis and qualitative analysis of the images. We wanted to find out what associated images and narratives of the Depot Boijmans different profiles of actors are pushing and circulating in the social media. What images are circulating, taken from which angles and which places? Which images are being reposted? What kind of narratives are being circulated and by whom? How do the official narratives diverge? Are official narratives and myths about such buildings reinforced in the virtual domain, or do rather new ones emerge? How has the intensity of circulation evolved over time? Answering such questions about quality, distribution and personalization of images and narratives as well as the temporal scope of circulation allows us to understand whether and if so how this building, which was commissioned to become an icon, is actually supported by social media to become an icon.

By describing how our case study performs on Instagram we provide empirical evidence about how the textual and visual communication about buildings by social media users affects the performance of such buildings and their potential transformation to icons. It is

likely that in the future for many users, the virtual experience of such buildings via social media will precede or even replace the physical experience.

Agora Virtuell: Kollektives Entwerfen von Diskursräumen in Virtual Reality

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Architektur umfasst heute nicht nur die ästhetische und materielle Manifestation gebauter Strukturen, sondern immer stärker auch ihre äußerst vielfältigen medialen Erscheinungsweisen. Idee, Entwurf, Gestaltung und Gebrauch von Architektur konkretisieren sich in medialen Formen, so wie auch ihre Repräsentation und Aneignung häufig medial bedingt erfolgt. Die Architektur nimmt in diesem Sinne heute soziokulturell und medientheoretisch eine konzeptionelle Schlüsselfunktion ein. Ihre zwischen Entwurf, Baulichkeit und Nutzung zum Einsatz kommenden Medien sind realphysische und virtuelle Instrumente, die sich immer stärker überlagern und durchdringen. Zwischen Entwurf und Entwurfsmedien besteht dabei ein starkes, wechselseitiges Bedingungsverhältnis: Die Methoden und Techniken gestalterischer Arbeit werden zunehmend als aktive Mitspieler, als Agenten verstanden, die den Verlauf und die Ergebnisse entwurflicher Arbeit maßgeblich mitbestimmen. Es entstehen hybride, real-virtuelle Räume, die analoge wie digitale Zustände kennen. Die Erforschung dieses hybriden Raums erschließt für das Nachdenken über Architektur neue, komplexe und herausfordernde Themenfelder. Dabei stellt sich die Frage, wie real-virtuell ineinandergreifende Architekturen konzeptionell gefasst, theoretisiert und praktisch weiterentwickelt werden können.

Die sprunghafte Steigerung der Virtualisierung zentraler Arbeitsbereiche des Lebens mit Beginn der Covid-Pandemie macht deutlich, dass eine gestalterische und konzeptionelle Auseinandersetzung mit den bild-räumlichen Eigenarten virtueller Begegnungsräume eine konkrete und dringliche Herausforderung für Architektinnen und Architekten darstellt. Neben der dimensional Verflachung beim Kommunizieren via Monitor, fehlt bei Videokonferenzen vor allem ein gemeinschaftlicher, übergreifender Raum der Begegnung – das Nebeneinander distinkter Raumbilder und Personen vermag diesen nicht zu ersetzen. Auch die schlichte Virtualisierung bestehender, realphysischer Räume und Architekturen erzeugt nicht automatisch gute Umgebungen für gemeinschaftliche

Ereignisse. Virtuelle Orte des kollektiven Austauschs und Diskurses bedürfen der Entwicklung anderer bild- und raumlogischer Prämissen als Orte realphysischer Zusammenkünfte. Weder klischeehaft in Szene gesetzte, hochglänzend gerenderte Besprechungsräume in sterilen Büroumgebungen sind geeignet der kategorialen und medialen Andersartigkeit solch „virtueller Agoren“ raumlogisch gerecht zu werden, noch futuristisch anmutende Dachterrassen auf Wolkenkratzern oder schwimmende Plattformen in tropischen Gewässern vor Sonnenuntergangskulisse. Dies zeigt sich umso dringlicher, seit Marc Zuckerberg seine Vorstellungen eines virtuell erweiterten Lebens im „Metavers“ bewirbt.

Ein großes Potenzial der praktischen Erkundung und des Entwurfs virtueller Räume des Austauschs liegt in der Möglichkeit mit Hilfe von Mehrbenutzer-VR-Modellierungsumgebungen die gestalterische Arbeit selbst in kollektive virtuelle Entwurfsräumen implementieren zu können. Die Fähigkeit mithilfe von Virtual-Reality-Systemen räumliche Gegebenheiten und Anordnungen dauerhaft, intuitiv und ohne Umstände variieren und transformieren zu können, macht diese Systeme zu idealen Arbeitsumfeldern für experimentelles entwurfliches Handeln. Dabei können die sichtbaren Ergebnisse der gestalterischen Arbeit direkt im Entstehen mit anderen Personen diskutiert und interaktiv fortentwickelt werden. Die Argumente einer dialogischen Auseinandersetzung können so unumwunden räumlich Ausdruck erhalten. Eine neuartige und äußerst aufregende Dynamisierung des Zusammenhangs zwischen kollektivem Handeln und darauf interaktiv bezogener bild-räumlicher Situierungen entsteht. Die strukturelle und ästhetische Ausgestaltung virtueller Räume des Austauschs kann sich während der Interaktionen ihrer Benutzer*innen entlang der jeweils diskutierten Themen dynamisch entwickeln. Gleichzeitig kommt auch den vielfachen, mitunter inkongruenten real-physischen Orten, die bei der Nutzung eines virtuellen Raums zwangsläufig parallel bestehen, eine wichtige Bedeutung zu. Denn wenn die virtuelle Realität direkt auf die anwesende, umgebende Wirklichkeit Bezug nimmt, dann entstehen interessante Wechselwirkungen zwischen realphysischer Realität und virtueller Welt. Dabei werden die Grenzen zwischen digitaler Virtualität und analoger Wirklichkeit geöffnet und ihr Verhältnis lässt sich, im Sinne entwurflicher Hybridisierungen, echtzeitlich verhandeln.

ECREA-Panel: Researching the city

(Trans)forming the (post-)digital city: Current issues, future visions

Scott Rodgers, Birkbeck (University of London), Marcos Dias (Dublin City University), Lou Brandner (University of Cagliari / Sapienza Università di Roma), Stefania Parisi (Sapienza Università di Roma)

Previous discourses on the mediated city tended to highlight how media texts and technologies were fundamental to framing or visualising the urban experience. The central problem for scholars of the post-digital city, however, is unpicking the deeper interdependencies and intersections of computational media, data processing and networked infrastructures with contemporary urban life. This roundtable, convened by the ECREA Media, Cities and Space Section, considers the post-digital interdependencies and intersections of four facets of contemporary cities: communication; aesthetics; protest; and labour. Through a range of theoretical and methodological lenses, the speakers will address both the continuities and more novel emergent qualities of digital urbanism, considering: 1) the role of social media in platformising urban communication; 2) the role of public art and artistic interventions in enabling reflection on our engagement with mediated urban spaces; 3) the emergence of cities as hybrid protest and activism spaces through an entanglement of the material and the digital; and 4) urban environments as contested sites of digital labour, as well as economic precarity. The roundtable will seek to bring these perspectives into dialogue, and provoke a discussion about the field of urban media and communication studies in post-digital cities. How do we advance our understandings of mediated urban life by combining insights and approaches across disciplines, to illuminate the key issues and complexities of such contexts of transformation?