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Spaces, Places, and Geographies of Public Spheres

Editors

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Editorial

Spaces, Places, and Geographies of Public Spheres: Exploring Dimensions of the Spatial Turn

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Abstract
For decades, scholars have been calling out a spatial turn in media and communication studies. Yet, in public sphere research, spatial concepts such as space and place have mainly been used metaphorically. In recent years, the abundance of digital trace data offers new opportunities to locate communicative interactions, sparking new interest in the spatial turn in media and communication and opening up new perspectives on spaces and places also within public sphere research. Digital location data enables one to: study the places and spaces in which (semi-)public communication is embedded; uncover geographical inequalities between countries, regions, cities, and peripheries; and highlight the local contexts of public spheres. This thematic issue gathers some of these endeavors in one place, bringing together conceptual, methodological, and empirical contributions that spell out the spatiality of public spheres in detail and combine the analysis of spaces, places, and geographies with long-standing concepts of public sphere research.

Keywords
communication geography; place; public communication; public sphere; space; spatial turn

Issue
This editorial is part of the issue "Spaces, Places, and Geographies of Public Spheres" edited by Annie Waldherr (University of Vienna, Austria), Ulrike Klinger (European University Viadrina, Germany) and Barbara Pfetsch (Freie Universität Berlin, Germany / Weizenbaum-Institute for the Networked Society, Germany).

1. Introduction

For decades, scholars have been calling out a spatial turn in media and communication studies (e.g., Couldry & McCarthy, 2004; Jansson & Falkheimer, 2006), highlighting spaces and places as relevant categories of analysis and acknowledging the spatial embeddedness of media and communication. This focus on the spatiality of communication has been particularly driven by the diffusion of mobile technologies (Sheller, 2017). In the early phase of the emergence of mobile devices, locations, and distances seemed to lose relevance for communication and the "end of geography" was announced (for a discussion see Graham, 1998). Scholars soon reasserted that "geography matters" (Morgan, 2004) and developed the idea that digital and physical spaces co-evolve and recombine, for example, in hybrid spaces (de Souza e Silva, 2006). To date, spatial investigations have been thriving mainly in cultural studies of media and communication devices, as well as more recently in journalism research. In the field of public spheres theories and research, however, the notions of space and place have mainly been used metaphorically and have yet to be spelled out in detail. With this thematic issue, we want to foster the spatial turn in public spheres research and offer a forum for scholars to spell out and explore the different spatial dimensions conceptually and empirically.

2. Spaces and Places in Communication Research

The distinction between place and space is essential for the study of communication geographies (Adams & Jansson, 2012). Yet, this distinction and the definitions of the terms space and place are contested (for a review, see Usher, 2019). Drawing on the works of Lefèbvre (1991) and Giddens (1984), Löw (2008) puts forward a relational understanding of space. *Spaces* are "relational orderings of people (living entities) and social goods" (p. 38) which are actively produced through the social processes of spacing (the placing of such entities) and synthesizing (connecting and arranging these placed entities in minds and memories): "In other words, space arises from the activity of experiencing objects as relating to one another" (p. 26). *Places* then are the specific geographic locations where entities are placed that can be named and which often bear symbolic meanings.

To date, scholars explicitly referring to the spatial turn mainly study how spaces and places give context to communication and mediated action, with a particular focus on mobile technologies (e.g., Humphreys & Liao, 2011; Waite, 2020). In recent years, there has been increasing interest in the study of how places and spaces are represented, negotiated, and constructed via media and communication. This new interest in geographical analyses of communication is certainly driven by the abundance of digital data facilitating geographical location and annotation of communicators and messages (Hoffmann & Heft, 2020) and enabling the geographical mapping of social media communication, such as on Twitter (e.g., Bastos et al., 2018; Takhteyev et al., 2012). Journalism scholars have also begun studying the relevance of place and space for news production (Schmitz Weiss, 2015; Usher, 2019). Lindell (2016) points out that communication plays an essential role in the process of constituting and maintaining space. We further argue that the specific interactions of *public* communication with spaces and places need much more scholarly emphasis and exploration.

3. Leveraging Spatial Theory and Methodology for Public Sphere Research

In public sphere research, spatial concepts have been mainly used metaphorically. Habermas, for example, describes the public sphere as a "social space generated in communicative action" (Habermas, 1996, p. 360). Another spatial metaphor is evoked by public arena models (e.g., Neidhardt, 1993), which conceive of public spheres as fora, in which speakers in the arena are competing for the attention of the audience. The theoretical contributions in this issue take these theories of the public sphere as their point of departure, yet criticize their inherent fixation on the nation-state as political space and reference of public deliberation. First, they claim, it is necessary in theory building on public spheres that the spatial dimensions are made explicit and that all aspects of public communication are reflected with respect to their spatiality—be it space, place, or geography. Second, the fundamental digitalization and resulting hybridity of the media infrastructure call for an essential re-conceptualization of public spheres.

The articles published in this thematic issue make central conceptual efforts to this end: They combine public sphere theory with approaches from the sociology of space (Lefèbvre, 1991; Löw, 2008); they emphasize the constructed nature of space through communicative and connected action; and they aim to understand forms of connection and communication across boundaries—mapping complex network environments and public discourse in their spatial constellations. Moreover, they maintain that making spatial dimensions visible in communication also allows one to reveal the power relations which underlie the construction of infrastructures.

Daniela Stoltenberg (2021) argues that in contemporary public spheres, and in digital public spheres, in particular, the actors and their networks are disembedded from fixed national territories. She claims that spatiality is an inherent dimension of all conversation about issues, and she develops the concept of "issue spatiality" as a macro-level pattern of public discourses which is enacted on the individual level as a practice of place-naming. Cornelia Brantner et al. (2021) take the socio-technical argument of increasing complexity and digitalization as a starting point for revising conventional notions of the public sphere. Expanding the "discourse-centered notion of public sphere" (p. 26), they envisage the public sphere as emerging at the interface of discursively structured communication and the assemblage of devices. Communicative spaces are relational, assembled environments in which people may plug in to engage in debate.

Alexa Keinert et al. (2021) carry the infrastructural argument further and emphasize the relational nature of public communication which emerges through human action in the boundedness of space, the fluidity of communication, and the relational character of space. In their view, space in public communication becomes visible through practices of communication within infrastructures of physical territories and at the same time in digital communication networks. Eric Lettkemann and Ingo Schulz-Schaeffer (2021) take the opposite angle and investigate how digital annotations in locative media such as Foursquare influence the perception of places. They distinguish three types of places (transit zones, locales, and locations) according to their perceived accessibility and the elaboration of knowledge one needs to participate.

Zooming out from the study of specific places, the next two contributions take a broader geographical perspective. Marco Bastos (2021) explores geographical metaphors (such as "global village") surrounding social media and the internet, and how they have changed to ideas of tribalism or liberated communities with the turn towards a more pessimistic view on digital communication. Morley J. Weston and Adrian Rauchfleisch (2021) empirically connect geography and media coverage by studying the quantity, topics, and sentiments of Chinese newspaper reports about various regions within China and foreign countries. Based on geoparsed text analysis, they show a surprisingly uniform regional coverage, but stark differences in the coverage of other countries.

The last two articles center on local public spheres. Jaana Hujanen et al. (2021) interviewed hyperlocal media producers in Finland, Sweden, and Russia on their roles as information providers, community builders, and civic mediators. They show that not all hyperlocal journalists and media practitioners have the same role conceptions, but that their self-perception depends on their cultural and interactional contexts. Finally, Fischer et al. (2021) develop a system of quantitative indicators to measure and compare the quality of local public spheres across cities and along the dimensions of information, participation, inclusion, and diversity. They argue that local public spheres encompass more than just the local media landscape, but, instead, vary even among similar cities in Germany.

4. Conclusion

Taken together, the articles gathered in this thematic issue provide a wealth of insight on spaces, places, and geographies in public spheres. Digital communication, social networks, transnational information flows, discourse dynamics that cross platforms, national borders, and social strata are not placeless or unbound. They touch down, they are anchored and shaped by local, hyperlocal contexts and conditions. Thus, it makes perfect sense to not only understand public sphere(s) as a macro concept, but as diverse, relational, scalable networks that traverse all levels of society and that constitute and are constituted by spaces and places. It is in this light that our thematic issue seeks to promote the spatial turn in public sphere research.

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Conflict of Interests

The authors declare no conflict of interest.

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Article

Issue Spatiality: A Conceptual Framework for the Role of Space in Public Discourses

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Abstract

Public spheres research has traditionally sidestepped questions of space by focusing on a priori delineated political territories, most prominently national public spheres. While this approach has always lacked nuance, it has become acutely insufficient nowadays, as digital communication technologies easily enable a host of heterogeneous actors to draw public attention to spaces and places at any scale, and communicatively connect places anywhere in the world. This conceptual article argues that communication scholars need to reconsider the spaces embedded in the content of public discourses. Drawing on the notion of issue publics, it understands the public definition of issues as inextricably linked to the places that are communicatively associated with them, causing issue spaces to emerge. The issue space is constructed through place-naming whenever public actors reference places in the context of issues. The article develops issue spatiality as an analytical framework to understand the role of place and space in public discourse. It discusses how issue spatiality enables a better understanding of the increasingly complex scales of public communication, and outlines several dimensions of issue spatiality. Drawing on communication infrastructure literature, it proposes socio-spatial inequalities of communicative resources as important predictors of issue spatiality, along with the habits of professional communicators, and local problem properties. Gazetteers and mapping techniques are introduced as methodological interventions required for the empirical use of issue spatiality.

Keywords

communication geography; issue space; issue spatiality; place-naming; public discourse; public sphere

Issue

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1. Introduction

Public communication, in traditional as well as digital media, abounds with spatial cues: Newspapers report on floods in Manila, the capital of the Philippines, or television crews are sent out to cover wildfires in Australia. The municipal government of Kiel, a medium-sized German city, declares a climate emergency and publishes the decision on its website. Climate activists organize a protest in front of the town hall in Lisbon, Portugal. A private individual's Twitter post—claiming that their child, living in Northern France, has never seen snow—gets shared a thousand times.

In each of these examples, through the conjunction of a topic or event and a place, an issue becomes localized—in this case, the issue of climate change. Instead of remaining a spatially amorphous 'global' issue, through "place-naming" (Wiard & Pereira, 2019, p. 652; see also Gutsche, 2014, p. 504), a more specific issue map emerges: A map with places of action and inaction; places which pollute and places which suffer the consequences; places where things are developing for the better, and others for the worse. Taken together, these instances of place-naming facilitate a collective understanding of the spatial dimension of issues, which in turn guides political attention and, in many cases, resources.

Yet, the spatiality embedded in the content of public communication has received limited attention. For journalistic coverage, news geography (Gasher & Klein, 2008; Wilke et al., 2012) and news values research (Galtung & Ruge, 1965; Ruhrmann et al., 2003) offer some guidance. In the case of *digital communication*, with its larger and more heterogeneous actor set, its diversity of voices, and its organization into networked "issue publics" (Bennett et al., 2015), however, the spaces of public communication have received very little attention. While some research has investigated the locations of actors and the spatiality of networks, the spaces embedded within the *content* of digital public communication are especially understudied.

Part of this omission can probably be attributed to a lack of theoretical concepts to guide empirical descriptions and explanations of these spaces. This article proposes the concept of *issue spatiality* as a framework for describing and understanding the spaces of issue publics.

Issues are socially constructed through the public utterance of conflicting understandings of a topic (Miller & Riechert, 2001, p. 109). Especially in digital public spheres, issues are often made public through the engagement of networks of topically focused actors, which are referred to as issue publics (Bennett et al., 2015). Such an understanding of issues as socially constructed through public communication can be brought together with the understanding of space put forward by spatial sociologists (e.g., Löw, 2008). They understand spaces as constructed through the perception of objects as relating to each other (Löw, 2008, p. 35), with communication being one crucial mechanism for creating this (collective) perception (Knoblauch & Steets, 2020, pp. 140–141). Bringing together issues and spaces, spatiality can be understood as a communicatively constructed dimension of any issue. Issue spatiality emerges because public communication is localized and tied to places, that is, named and geographically marked sites (Löw, 2008, p. 42). This public reference to locations is what Wiard and Pereira (2019, p. 652) call "place-naming.''

In Section 2, I will discuss how space is currently studied in public communication research and why a more explicit conceptual framework is necessary. Section 3 more thoroughly introduces the concept of issue spatiality and its dimensions. Also included is a discussion of the question of scale and probable predictors for issue spatiality. In Section 4, I discuss the necessary steps towards the concept's empirical application. Finally, Section 5 concludes the article, highlights connections to existing fields of public communication scholarship, and briefly lays out a research agenda.

2. The Spaces of Public Communication

Following Pfetsch et al. (2019), there are three ways in which space is inscribed in digital public spheres: the spatiality of actors, the spatiality of networks, and the spatiality of content. While space has overall not been a primary focus of public spheres research, comparatively more can be said about actor spatiality (where actors belonging to a public sphere are located) and network spatiality (how actors belonging to a public sphere form communicative networks in space).

Public spheres can be understood as intermediaries between different social systems, geared towards the public exchange of information and opinions, and their relay to the political system (Gerhards & Neidhardt, 1991, pp. 44–45). This process of information and opinion exchange, in which public issues are collectively interpreted, is commonly referred to as public discourse. The notion of public spheres is intimately linked to Jürgen Habermas's (1992) work on the emergence of the Bourgeois public sphere, although his insistence on rational deliberation as the sole communicative mode has been challenged (e.g., Fraser, 1990). I understand public spheres as systems of meaning-making about public issues, without putting a priori limits to acceptable communicative modes or types of contributions. Traditionally, public spheres have been understood to consist of a multitude of partly connected arenas (Gerhards & Neidhardt, 1991, p. 49; Habermas, 1996, p. 374). These arenas varied in size, including small encounter publics, larger assemblies, and the publics of mass media (Gerhards & Neidhardt, 1991, pp. 50–55), with the larger formats being more exclusive and harder for speakers to access.

Yet, the increasing importance of digital media in general, and social media in particular, has brought into question how much these characterizations apply to new digital public spheres (e.g., Benkler, 2006; Schäfer, 2016). Entrance thresholds to public discourses have lowered, allowing for a greater heterogeneity of speakers (Waldherr, 2017, pp. 540–541) which enables actors to organize around shared issues and to strive towards their definition (Bennett et al., 2015, p. 109). This increasing organization of public spheres into 'issue publics' revitalizes the question of how issues are constructed in public discourse. Following Miller and Riechert (2001, p. 108), issues are produced in public discourses, when stakeholders with competing interests choose what frames and terms to highlight in discussing social problems. I argue that the question of 'where?' has been underappreciated in the study of this process. This is where the concept of issue spatiality can help.

Perhaps unsurprisingly, given the intimate connection of public spheres with the political system and their historical emergence in conjunction with the territoriality of nation-states in the 18th century (Fraser, 2007, p. 10; Wallner & Adolf, 2014, pp. 87–88), public spheres theory has until recently been primarily concerned with national public spheres. Here, the territory of the nation-state, its political system, and the public sphere were seen as largely congruent. Over the past decades, the concurrent trends of digitalization and growing transnationalism of politics, commerce, and human mobility have de-naturalized this alignment of public spheres and nation-states. They have integrated actors into a multiplicity of spatial contexts (Lingenberg, 2014, p. 70), and sparked a new interest in the spatiality of public spheres.

Research has focused on how transnational issues engage actors from different countries, be it in global (Castells, 2008) or European public spheres (Risse, 2015). Such transnational public spheres pose some theoretical challenges, as they partially detach public discourses from territorially-bounded political communities. Yet, empirically, the emergence of transnational social challenges has undoubtedly brought together interlocutors who are not located within a single nation-state and who do not address state actors (Fraser, 2007, p. 14).

In terms of actor spatiality, actors from geographically dispersed locations now frequently form one public sphere, and new, transnational actors emerge. On the flipside, digital media enabled a rise of hyperlocal (neighborhood-level) journalism, allowing very local actors to gain publicity (Jangdal, 2021). This suggests growing flexibility in terms of actor locations and scales, with both hyperlocal and transnational actors gaining importance. At the same time, actors in digital spheres are strongly clustered in metropolitan areas (Takhteyev et al., 2012) and the resource-rich Global North (Leetaru et al., 2013), indicating a persistent inequality in access and visibility.

Public communication networks (i.e., the way actors connect with each other in their communication) are also increasingly disembedded from territories. This is visible, for instance, in the substantial audience share of digital local newspapers that are not located within the physical circulation area (Wehden & Stoltenberg, 2019) and in the way actors form geographically dispersed micro-networks of news sources (Volkmer, 2014, p. 3). Activist issue publics, mobilizing around transnational social justice issues, frequently form ties across national boundaries (Bennett et al., 2015). Still, space continues to be a meaningful structuring principle in digital communication networks, with many ties remaining in close spatial proximity, even within the same metropolitan area (Pfetsch et al., 2019; Takhteyev et al., 2012).

In terms of actor and network spatiality, research, therefore, suggests a de-centering of fixed national territories and simultaneous trends of upscaling and downscaling of public spheres. That is not to say that digital public spheres are automatically detached from national territories. Rather, while mass-mediated public spheres were strongly bound to these territories through political, language-based, and economic constraints, digital media afford and enable more flexible spatialities of public communication. Even mass media themselves are less deterministically tied to specific territories in digital contexts (Hess, 2013; Wehden & Stoltenberg, 2019). Yet, actors only come together in public spheres around objects of shared interest. Especially within digital media, which are less driven by the curation of journalistic institutions, issues are the glue holding public spheres together. This proposition is captured by the concept of online issue publics, which are "constituted by a communication and networking process in which various actors come together to define an issue and establish a configuration of actors connected to that issue" (Bennett et al., 2015, p. 111).

These issues have a spatial dimension, which is constructed when actors make relevant the question of 'where?' in public discourses. As digital public spheres are more strongly structured by issues and less aligned with (national) territories than mass-mediated public spheres, understanding the spatiality of public issues is a critical challenge. This requires a stronger theoretical framework for how public discourses shape a collective understanding of the geographical shape of social problems and more empirical inquiry into the spaces of communication about issues. Yet, scholarship in this area has been scarce, especially in relation to digital media.

Relevant contributions stem almost exclusively from journalism studies. News geography research is explicitly concerned with understanding how locations make events newsworthy and what the resulting journalistic map of the world looks like (Gasher & Klein, 2008, p. 194). Somewhat predictably, it suggests an overemphasis on events in geopolitical power centers (Gasher & Klein, 2008, p. 205; Wilke et al., 2012, p. 315) and a lack of coverage on sub-Saharan Africa (Wilke et al., 2012, p. 307). Beyond this, countries close to the medium's location receive more attention (Kwak & An, 2014, p. 303; Wilke et al., 2012, p. 309), as do conflict regions (Gasher & Klein, 2008, p. 205; Kwak & An, 2014, p. 306; Wilke et al., 2012, p. 315).

These patterns can be explicated by news values. Going back to the seminal work of Galtung and Ruge (1965, pp. 70–71), news values research has hypothesized media coverage to be driven partly by geography. They posited three news factors with a spatial dimension: cultural proximity (similarity between the place of events and the place of coverage), relevance (a relation between the two places), and reference to elite nations. Proximity has since been described in more detail, with more recent research differentiating between spatial, political, economic, and cultural proximity (Ruhrmann et al., 2003, pp. 54–55).

While most research in this area is concerned with international news events, there is also a small body of work focused on local news coverage. In many ways, these studies reproduce findings from news geography research at a smaller scale. In particular, in urban local news, places near the city center receive more media attention than those on the outskirts (Lindgren, 2009, p. 88; Oliver & Myers, 1999, p. 64). Moreover, neighborhoods with large shares of marginalized populations often garner attention, but it tends to be stereotypical, focused on crime and policing, and often does not cover relevant issues such as municipal politics or education (Lindgren, 2009, p. 91; Wiard & Pereira, 2019, p. 662).

These findings suggest that socially constructed spaces are embedded within the content of public communication. These do not merely mirror relatively neutral factors, such as landmass or population size, but carry ideas of how newsworthy events in different places are, and thereby spatially allocate public attention. This emphasizes the necessity of integrating the spatiality of content in the study of public discourses.

Still, these strands of research only allow limited conclusions about *digital* public discourses. First, as journalistic news media cover a broad range of issues, news geography research usually does not account for how different issues are spatialized, but instead studies media's "representational space" (Gasher & Klein, 2008, p. 196) at large. This is not well-suited for capturing online discourses, which are structured around specific issues. Second, news media attention is allocated by a comparatively small set of professional journalistic actors. The spatiality of news content will, therefore, be driven by news production routines (e.g., where a medium's headquarters are located or where it has foreign correspondents). By comparison, the allocation of attention in the digital public, especially on social media, is driven by a more heterogeneous actor set including local politicians, small civil society organizations, and private individuals. If local actors become more empowered to speak for themselves, it may cause a shift in the differentials between centers and peripheries, or proximate and distant places. Third, this may also bring in a greater heterogeneity in how places are talked about. On the one hand, spatial references may be used less formalistically. While in journalism, places are often demarcated by a dateline, they may be embedded in less predictable ways in digital communication. On the other hand, the spatial references themselves may differ. Smaller spatial units (e.g., individual addresses) or informal place-names (e.g., neighborhoods, which are recognized by residents, but not administratively designated) may become more visible.

All of these aspects call for a new and more explicit perspective for researching the spaces of public communication. Issue spatiality offers such a framework.

3. Issue Spatiality: A Conceptual Framework

The central proposition of this article is that spatiality should be understood as a dimension of any public issue. That is, public issues always carry a spatial dimension, which is constructed when interlocutors in the discourse address the question of 'where.' The idea of spaces as discursively constructed was highlighted by Richardson and Jensen in their proposition for a spatial policy discourse analysis: "Spaces and places do not present themselves, but are rather represented by means of power relations expressed in strategies, discourses, and institutional settings" (Richardson & Jensen, 2003, p. 18). Both issues (Miller & Riechert, 2001, p. 106) and spaces (Löw, 2008, p. 38) are understood as socially constructed through public communication.

The concepts of space and place deserve some further attention. My understanding of these categories is primarily informed by the notion of relational space put forward by Martina Löw. Following her sociology of space, "spaces do not simply exist but are created in (generally repetitive) action, and… as spatial structures embedded in institutions, they guide action" (Löw, 2008, p. 40). This means that space does not exist as an independent 'container' in which social processes take place, but it emerges from the act of perceiving objects in relation to each other (Löw, 2008, p. 35). Such an emphasis on the socially produced nature of space builds on earlier work by critical scholars like Henri Lefebvre (1991) and Edward Soja (1989). In Löw's (2008) understanding, two processes are important for the constitution of space: objects and goods are (1) positioned (spacing), and (2) perceived as relating to each other (synthesis). I understand synthesis as a social and communicative process (Knoblauch & Steets, 2020, pp. 140–141), with public communication playing a central role.

Place may be understood as a specific form of space. For Löw, 'localization' is critical for the constitution of space. Localization describes instances where *spaces* become anchored to localities on the earth's surface and thereby become *places*. Place, therefore, "denotes an area, a site, which can be specifically named, usually geographically marked….Naming intensifies the symbolic impact of places" (Löw, 2008, p. 42). Beyond being mere geographic markers, place-names are collectively recognized by communities and stakeholders and often carry ideas and ideologies about the character of particular localities (Gutsche, 2014, p. 504). Place-names, be it the names of countries, cities, or streets, are intersubjectively recognizable. Their use, therefore, enables a shared understanding of location.

I propose 'place-naming' (Gutsche, 2014; Wiard & Pereira, 2019) as the central practice in the formation of issue spatiality. That is, issue spatiality emerges through the localization of issues when public communication associates place-names and issues. We may imagine two intertwined processes: First, issues become associated with 'places'; second, through their discursive connection to the same issue, these places are synthesized as relating to each other and belonging to the same issue 'space.'

Issue spatiality should therefore be understood as a macro-level property of public issue discourses. No individual piece of communication, be it a news article, a statement by a politician, or a tweet, creates an issue space. Instead, it is the repeated invocation of places in conjunction with issues by a diverse set of actors that spatializes public issues. I differentiate between 'issue spatiality' (the analytical framework which focuses on the spatial dimension of issues) and 'issue space' (the spatial shape of any particular, empirically observable issue discourse). So, while issue spatiality provides the theoretical lens for investigating the spatial dimension of any issue discourse, such an analysis makes visible a specific issue space. This may be, for example, the totality of places associated with climate change, globally, or with the issue of affordable housing within a particular city.

3.1. The Question of Scale

Actors may publicly refer to cities, countries, continents, addresses, or streets. They are also not confined to administratively designated territories (Wiard & Pereira, 2019, p. 656). Instead, if a place-name is meaningful to the relevant public, nicknames or informal areas can equally shape issue spaces. Consequently, issue spatiality is not fixed to any particular scale, and which scales are most pertinent may shift depending on the focus of the debate.

Some issues may still be more closely associated with some scales than others. For instance, climate change—often understood as a global issue, even though it impacts different places in different ways—may be more naturally understood by focusing on a global scale and expecting place-naming to occur at the level of countries or regions. In contrast, a discourse around housing markets can be expected to be more closely tied to an individual metropolitan region, both due to political competencies and the constraints facing individual actors. That is, if people are priced out of one neighborhood, they may look for housing elsewhere in the city, but will not typically move somewhere else entirely. One may expect the issue space for such a debate to be focused on smaller-scale units, such as neighborhoods or even streets.

While this suggests that some scales will be more pertinent for particular issues, this relation is not determinative. Housing, for instance, may become spatialized at higher scales if a national debate makes comparisons with other cities relevant, or if transnational NGOs draw connections with the issue in other countries. Or climate change may be downscaled if local weather events are communicatively connected to it, or if activists link environmental protection in one town to climate protection broadly.

3.2. Dimensions of Issue Spatiality

The types of messages which shape issue spatiality are not monolithic. In digital public spheres, a multitude of actors, each with their own perspectives, interests, and positionalities, contribute to the formation of discourse (Waldherr, 2017, pp. 540–541). Issue spatiality is therefore shaped by both actors located in place (residents) and those located elsewhere (non-residents). While local communities use digital media to generate visibility for themselves, this does not remove outside voices from the equation. Media, political actors, or simply individuals who reside elsewhere will routinely engage in communication about places. Without self-disclosure by speakers, it will often be impossible for the audience to separate contributions by residents and non-residents. Moreover, there are intermediate forms if, for instance, residents share media coverage about their places on social media. Issue spatiality should therefore be understood as an amalgam of resident and non-resident communication.

Driven by this actor diversity, a diversity of message types can be expected. This includes messages which report events which occur in a place (e.g., a protest, a flood) or events which occur elsewhere but affect a place (e.g., a political decision). Moreover, messages may not merely inform about events in places, but express opinions about them, thereby creating places of action or inaction, hope or despair, desirable or undesirable outcomes. Furthermore, in line with Marwick and boyd's (2011) notion of context collapse, there are messages, which are not (exclusively) directed at a broad public, but address specific stakeholders (e.g., political actors), while also being publicly visible and searchable on the web. These may even include messages about primarily private concerns, which—by virtue of their visibility—can still shape public understanding of issues.

While this list of possible contexts of place-naming is not exhaustive, it illustrates that, in digital discourses, issue spatiality is the product of multiple, entangled types of communication. Consequently, there are several dimensions of issue spatiality.

3.2.1. Overall Distribution of Place-Naming Prevalence

At a basic level, issue spatiality is shaped by the distribution of how frequently different places are named within public communication about an issue. This is relatively close to the concept of news geography (Gasher & Klein, 2008), albeit applied to a specific issue, instead of public attention overall. This dimension simply asks how frequently different locations are invoked within a given issue discourse. How frequently, for instance, are different neighborhoods discussed in the discourse around housing in a city? Or how frequently are different countries or regions associated with climate change? And, on a more aggregate level, what is the attention allocation between, for instance, the city center and the outskirts, urban and rural areas, or the Global North and the Global South?

The answer to these questions about the overall (lack of) visibility for specific places can already shape public imagination of where an issue is relevant. Still, issue publics tend to cover relatively broad subject areas with several sub-issues, frames (Maier et al., 2017, pp. 6–7), and conflicting perspectives (Miller & Riechert, 2001, p. 108). Place-naming may occur in messages which emphasize or deny a problem or make relevant only a specific sub-issue. Therefore, only accounting for the overall place-naming distribution is under-complex.

3.2.2. Distribution of Place-Based Sub-Issues or Issue Narratives

Digital issue publics are shaped by the confluence of different sub-issues and conflicting perspectives. Moreover, they include a heterogeneous set of contributions, with a focus on narratives and personal stories, sometimes tied together into activist frames (Bennett & Segerberg, 2012, p. 2). Understanding the conjunction between message content and place-naming is therefore critical for grasping issue spatiality.

It is plausible that different sub-issues and narratives will be spatialized differently, depending on the local properties of social problems, the local actors organizing around them, or other actors' preconceived notions about places (see Lindgren, 2009, p. 88). In the climate change example, this may mean that the issue space for pollution is different from the one for wildfires. Or, in the case of housing, some neighborhoods may be associated primarily with gentrification, others with construction, and others may be discussed as still being affordable places to live. We may also see some places framed primarily as the locus of problems (Wiard & Pereira, 2019, p. 662–664), while others are discussed with a more positive valence. Moreover, some places may become much more associated with activist narratives, while others may become visible mostly through journalistic coverage.

3.2.3. Spatial Integration

Public discourses, in general, can also be understood as ranging between fragmented and integrated. While most frequently, these categories are used to describe the extent to which different ideological positions come into contact (e.g., Dahlberg, 2007), it is useful to also think of integration spatially. Following the notion that—rather than a unitary public sphere—we are increasingly seeing a multitude of smaller (counter-)publics (Fraser, 1990), we can imagine local settings as small publics. Resident discourse in individual neighborhoods in response to local changes in the housing markets, for instance, may be thought of as such a small, grassroots public, as might local organizing against deforestation as a climate threat. Many of these local publics may contribute to an issue space, and each public may consist of different actors (both residents and non-residents) voicing separate concerns.

However, to have an impact, publics need to be at least partially integrated into larger discourses (Fraser, 1990, p. 68). Spatial integration is therefore an important dimension of issue spatiality. We can investigate this by focusing on the interconnectedness of local debates (Kleinen-von Königslöw, 2010, p. 41), that is, the extent to which different arenas share speakers. For issue spatiality, research should ask to what extent the same actors discuss different places. Since much attention in digital spheres is allocated via routinized 'following' behavior, actors who discuss multiple places present them as related to the same audience. If the same actor—or, more importantly, still—the same message problematizes the impact of climate change in Brazil and the Netherlands, the two are related as belonging to the same issue space. If these localized discourses remain atomized, however, the issue space itself is fragmented.

3.2.4. Distribution of Resonance

Reactions to public communication play a critical role in digital public spheres, in particular. The degree to which others interact with messages by liking, sharing, or commenting on them increases their reach. This resonance, however, is extremely unequally distributed (Shirky, 2005). The spatial distribution of resonance, therefore, constitutes its own dimension of issue spatiality. It is conceivable that some places are talked about, without such messages receiving broader attention. This would limit their influence on the public perception of an issue space. On the flipside, even infrequent place references may have an outsized influence if they generate a great deal of resonance.

It is not clear whether the patterns of place-naming overall will resemble these distributions of resonance and amplification. One may be more unequal than the other or they may deviate in other ways. For example, if discussions of gentrification and housing shortages in one neighborhood are amplified more than similar discussions about another neighborhood, the former will become more closely associated with the issue, even if both were the subject of the same number of original messages in the beginning.

Altogether, there are several distinct dimensions of issue spatiality. These not only capture different aspects of the spatiality of public issues, but there may even be contradictions in their empirical expression. For example, a place may receive a great deal of attention, but most of it may deny that an issue is pertinent there. Or a large number of actors may discuss a local issue, without generating resonance. Understanding the qualitative interplay between the dimensions is therefore a critical challenge.

3.3. Predictors of Issue Spatiality

In line with results from news geography research and research on the allocation of attention in digital contexts broadly, we should expect issue spatiality to be characterized by an extremely unequal attention distribution, with some places becoming highly associated with an issue, while others remain invisible. The relation between places, events, and their public image is likely influenced by a number of "selective and distorting factors" (Galtung & Ruge, 1965, p. 64). The question of which properties can predict the shape of an issue space then presents itself. News values research has generated considerable knowledge of the properties which increase the likelihood that events become news. These news factors will not be rehashed here (for an overview, see Ruhrmann et al., 2003, pp. 53–59).

Yet, shifting the focus from events to *places*, and from exclusively journalistic coverage to the broader actor set of digital public spheres can enhance researchers' perspectives. Such a shift draws attention to the question of what local properties, specific to places, may predict public attention.

If actors more frequently speak for themselves and the issues of their local environment, questions of socio-spatial inequalities in communicative infrastructures and resources are pertinent. At the local level, communication is fostered or constrained by physical, psychological, sociocultural, economic, and technological factors. This may include the availability of community meeting places, time, and resources to engage in public communication, or the social composition of communities (Ball-Rokeach et al., 2001, pp. 396–397). Especially for global issues spaces, accounting for digital divides (e.g., Chen & Wellman, 2004) will be critical.

As professional communicators, such as media, NGOs, or politicians, continue to play an important role in public communication, their habits and logics also need to be considered. The availability and quality of local organizations can connect inhabitants and enable them to become publicly engaged. Moreover, these organizations may become communicators themselves (Ball-Rokeach et al., 2001, p. 397) and thereby enhance local visibility. Professional actors may also have spatial habits. For example, media and political actors may preferentially focus on urban centers, which tend to be closer to their workplaces (Oliver & Myers, 1999, p. 64), or media may be more likely to cover places where they have correspondents. In this way, location centrality may become its own factor in explaining issue spatiality.

The local properties of social problems should also be considered. Especially, "events that heighten salience and manifest an area as having its own identity (e.g., a shared threat or opportunity)" (Ball-Rokeach et al., 2001, p. 394) can trigger public communication. For a local housing discourse, this may mean accounting for the increase in rental costs. For a climate change discourse, it may be necessary to consider whether places have experienced extreme weather events. Accounting for such data can also aid in understanding the extent to which issue spatiality is actually driven by issues versus other socio-spatial properties of places.

4. Towards the Empirical Study of Issue Spatiality

I have argued that not considering the spatial dimension created through the content of issue discourses constitutes an omission in the study of issue publics, and laid out a conceptual framework for addressing this gap. The question remains, then, of how issue spatiality can be leveraged for empirical research. The dearth of attention for questions of space in public communication is mirrored in a sparsity in the use of geospatial data in communication research. Connecting these data and their analysis with more established methods of social-scientific empirical research is the central demand for studying issue spatiality. Within the field of public spheres research, this especially means integrating geospatial data into content analytical approaches. In particular, place-naming needs to be operationalized and geographic data visualization techniques need to be incorporated into analyses. To fully grasp the complexity of issue spaces, analyses should include quantitative, qualitative, as well as large-scale computational approaches.

The first concrete challenge in operationalizing issue spatiality is the measurement of place-naming. That is, how can one capture spatial references in a valid, reliable, and scalable fashion? The few studies which have investigated this type of question have relied on manual content analysis, with human coders reading texts and identifying geographic references (Lindgren, 2009, pp. 81–83; Wiard & Pereira, 2019, p. 660). Such an approach is valid and reliable, but limits the feasible size of the document corpus and, as spatial references tend to be sparse, is relatively inefficient. For small text collections, this remains a good approach, as human coders with context knowledge will be able to detect unexpected place references, misspellings, or nicknames. It may be seen as the gold standard in location detection (Takhteyev et al., 2012, p. 76).

For larger text collections, the use of gazetteers (geographical dictionaries), which has a tradition in neighboring disciplines, may be fruitfully adapted by communication studies. For some applications, there are tools available. In the area of computational methods, Named Entity Recognition (NER) tools are often capable of detecting units such as countries, cities, or states (e.g., Honnibal & Montani, n.d.). More specific purposes, such as the detection of every street within a city, will require researchers to construct their own gazetteers. The challenges, then, lie in determining which spatial references are of interest and creating comprehensive, valid, and unambiguous dictionaries. But once completed, such an approach is highly scalable and perfectly reliable. Thanks to the increasing availability and accessibility of computational methods toolkits, such as quanteda (Benoit et al., 2018), the application of these geographical dictionaries even to very large text collections has become relatively straightforward. Yet, the use of gazetteers is not without drawbacks. If research requires the inclusion of non-administrative spatial units, such as neighborhoods, the effort required in creating comprehensive gazetteers is high. Moreover, as place-names often exist more than once in the world, ambiguity is an important problem. Besides the effort of creating gazetteers, systematic validation is therefore necessary. Whether the use of manual coding or an automated approach is more appropriate must be decided primarily based on data volume and the degree of prior knowledge about what place-names may be relevant in the discourse.

Second, having detected instances of place-naming, communication scholars will have to strive for the integration of mapping techniques into their methodological toolkit to better understand the emerging spatial patterns related to different issues. As Lindgren and Wong (2012) explain, maps can be leveraged by communication scholars for exploring the construction of spatial knowledge. This requires acquainting oneself with methods for creating maps, either via special Geographic Information System (GIS) software or libraries geared towards geographic visualization in R or Python. Here, too, recent advances in computational social science approaches enhance the possibilities for studying issue spatiality. Yet, these tools require specialized methodological training, which is not currently part of the standard curriculum for communication scholars.

The detection of place-naming and spatial data visualization techniques are two necessary steps for using geospatial data in public spheres research. Integrating both, researchers can grasp the overall distribution of place-naming prevalence. Third, for understanding the other dimensions of issue spatiality, combining geospatial data and their analysis with more traditional methods of empirical social research will be critical. Content analysis can be connected to gazetteers and mapping approaches to understand how different sub-issues and narratives are spatialized. This may include quantitative coding, as carried out by Lindgren (2009) or Wiard and Pereira (2019). For larger text corpora, or if not enough is known about the discourse to deductively derive categories, inductive computational approaches such as topic modelling (Maier et al., 2018) are promising, especially in combination with more qualitative steps (Nelson, 2017). Bringing these approaches together will allow not only the mapping of overall attention distribution in space but will also enable researchers to see how different sub-issues are spatialized.

Spatial integration of a discourse can be understood as semantic co-occurrence of place names in the communication of the same actors. Here, semantic network analysis (e.g., Xiong et al., 2019), which connects places whenever they are referenced by the same actor or in the same message, is a promising avenue. Understanding the distribution of resonance means accounting for engagement markers (likes, shares) and mapping their distribution for different spatial references.

Taken together, these considerations highlight that, in principle, geospatial data can be combined with any method currently employed in the analysis of public discourses. By doing so, it is possible to add the question of spatiality as a new layer to the empirical analysis of public issue discourses.

5. Conclusions

I have introduced issue spatiality as a conceptual framework for investigating the spaces embedded in the content of public communication. Issue spatiality was defined as emerging through the localization of issues when acts of public communication associate place-names and issues. There are different dimensions to it, extending beyond the overall distribution of place-naming to include the spatiality of different sub-issues and narratives, the spatial integration of local discourses, and the distribution of resonance. The socio-spatial distribution of communicative resources and infrastructures, professional communicators and their spatial behavior, as well as local problem properties, were identified as likely predictors for the shape of issue spaces. For future empirical inquiries, the integration of gazetteers as well as mapping techniques into communication research were discussed as methodological interventions.

The primary goal of introducing issue spatiality was to enable a more focused and explicit understanding of how space is discursively constructed as a dimension of public issues. In line with broader conceptions of public spheres, this not only includes the allocation of attention but also enables a more nuanced look at the way issues and narratives become tied to places and the way some places may be more connected to broader issue discourses than others. Conceptualized like this, issue spatiality has clear precedents in the study of public communication, but it extends and shifts their focus. It shares the interest in the spatial allocation of visibility with news geography and news values research. Yet, by centering the connection between issues and space, it more clearly brings into view the differences and commonalities between different public discourses. It also has these concerns in common with the research of transnational or European public spheres, but unlike these concepts, it is not tied to any particular scale or narrowly focused on processes of border-crossing in public discourses. Finally, compared to the way space is currently conceptualized in much of communication research, it highlights the socially constructed nature of space, instead of treating it as a mere backdrop against which events take place.

The framework thus enables researchers to empirically address the research desideratum of how issue spaces are discursively constructed, especially in digital public spheres. Future research within this area has several tasks. It must study the degree to which the spaces of different issues vary. This will facilitate an understanding of the extent to which issue spatiality is specific to the nature of the issue versus driven by more universal underlying socio-spatial patterns. This also necessitates investigating the influence of different predictors on issue spatiality. Moreover, public spheres research needs to better grasp how issues of different scales are spatialized. To what extent, for instance, are translocal connections formed, even within local issue discourses? And how are global issues made specific through the attachment to localities? Finally, to comprehensively grasp the spatiality of public spheres, empirical research should study the connections between actor spatiality, network spatiality, and issue spatiality.

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Article

Structures of the Public Sphere: Contested Spaces as Assembled Interfaces

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Abstract
This article updates certain aspects of the normative notions of the public sphere. The complex ecosystem of social communications enhanced by mobile media platform activity has changed our perception of space. If the public sphere has to normatively assess the expected conditions for public debate and for democracy, the assemblage of devices, discourses, infrastructures, locations, and regulations must be considered together. The literature reviewed about the public sphere, spaces, and geographically-enabled mobile media leads this article to the formulation of a concept of the public sphere that considers such assemblage as an interface. As an empirically applicable update to the definition of the public sphere the text offers a model that helps analyze those factors considering how they shape the communicative space in four modes: representations, structures, textures, and connections. These modes consider the roles played by assemblages of devices, infrastructures, and content in delimiting the circulation of information. The second part of the article illustrates the model with examples from previous research, paying particular attention to the structures' mode. The dissection of qualitative, quantitative, and geodata generated by digital and (visual) (n)ethnographic tools reveals three subcategories for the analysis of structures of space: barriers, shifts, and flows. The structures effectively enable/disable communication and define centers and peripheries in the activity flows. The contribution of this article is, thus, conceptual—it challenges and updates the notion of the public sphere; and methodological—it offers tools and outputs that align with the previously developed theoretical framework.

Keywords
assemblage; geomedia; interface; mobile media; public space; public sphere; structures of space

Issue
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1. Introduction: Shaping Spaces of a Challenged Public Sphere

Mobile access to social media platforms has transformed the physical space of everyday communications, its representations, the understanding of it, and the conditions required to interact with and within it. This transformation significantly impacts the ways we 'connect' through media, and 'live' in places. The geography of those actions is relevant because mobile and social media have enabled "a new way to coordinate the movement of individuals in geographic space" (Abernathy, 2017, p. 2). For example, collaborative map production generates new geographies for political interaction that are erected in the physical and virtual worlds simultaneously (Rodriguez-Amat & Brantner, 2016). The impacts of such transformation also echo in the ways we live and govern ourselves. For example, social media-enhanced protests and public events stretch the communicative spaces of social communication and challenge the Habermasian normative concept of the public sphere.

And yet, the notion of the public sphere "remains a central analytical tool in modern society to help us make sense of the relationship between the media and democracy" (Iosifidis, 2011, p. 620). The concept still holds its heuristic and normative capacity even in complex environments of communicative interaction shaped by factors that condition the public debate. This article revisits the concept of the public sphere and suggests an update in the face of the rich, complex, and multilayered integrated-circuit of the geography of interactions online and offline as an assembled interface.

The second part of the article outlines a tool for the analysis of the configurations that shape such communicative spaces. That analysis is organized along four aspects: representations, structures, textures, and connections (Adams & Jansson, 2012) that highlight the political dimension of the spatial struggle while identifying the multiple forces and factors that intervene in its negotiation. The article considers particularly the structures of space (Brantner & Rodriguez-Amat, 2016; Rodriguez-Amat & Brantner, 2016): The analysis of the wiring and shape of the communicative space returns as a conceptual update of the idea of the public sphere, because it considers the location and infrastructure of the communication process as structural conditions for public debate. Such an update involves understanding the public sphere in three ways: The public sphere: (1) is a space of communicative (inter)action; (2) is an environment of political debate that integrates communication devices and content; and (3) challenges the conditions of legitimacy.

2. Public Sphere: The Heuristic Capacity of a Classic

Arendt coined the concept of the public sphere (*Öffentlichkeit*) in 1951, which was crystallized later in Habermas' (1974) work: "A realm of our social life in which something approaching public opinion can be formed. Access is guaranteed to all citizens" (p. 49). That realm of 'undistorted communication' is characterized by its utopian independence from any supranational corporate platforms and state bureaucratic bodies.

The Habermasian notion of a functioning democratic public sphere has been criticized for its class unawareness (Negt & Kluge, 1973), its focus on "the bourgeois public sphere as an ideal type" (Garnham, 2007, p. 207), and for other structural barriers based on multiculturality (Walzer, 1999), race (Jacobs, 1999), and gender (Fraser, 1996). Castells (2008) discussed the crisis of nation-state public spheres and argued that the new technological means could enable global civil society to organize itself properly.

As early as 20 years ago, the economic autonomy of the virtual public sphere was questioned, as was the commercialization of 'cyberspace' (Sparks, 2001; Thomas & Wyatt, 1999). Following Habermas (2006), Geiger (2009) stated that computer-mediated communication has "a 'parasitical' role to play in the public sphere, largely due to the way in which Internet-based discourse communities have fragmented the public" (p. 2). The fragmentation of the public, the overwhelming amount of information, and the existence of echo chambers (Colleoni et al., 2014) are ambiguous concepts that veil the dark side of digital politics (Treré, 2016). Identifying the features of this complex and politicized digital online environment is essential if the purpose is to update and conceptually challenge the fundamental normative approach while providing empirical opportunities for actual research. But below those limitations, the heuristic capacity of the public sphere concept as the area of contact between civil society and its regulation, the means that enable social-civic interaction, and the resulting public law binding debate, should not be underestimated.

This article intends to show that the public sphere is more than the arguments forming the debate on political issues. A proper conceptualization needs to take into consideration the debates *but also* the infrastructures that enable it. Mouffe (2005) points out that we need a broader notion of public sphere that goes beyond institutionalized politics, because defining politics in that narrow sense would miss the political dimension of the social; but, we add, we also need a notion of public sphere that incorporates the location and the extension of infrastructures that enable its activity. The public sphere, thus, must be understood as an inclusion of debates and spaces, devices and voices, access and content—as a complex integrated circuit. The research program developed here, around communicative spaces, expands that discourse-centered notion of public sphere (see, e.g., Ferree et al., 2002) towards the inclusion of all those conditions and their possibilities of transcending and achieving political relevance.

2.1. Hybridities and the Public Sphere

In the last decade, the culture of protests has grown and entwined with the development of mobile devices with Internet access. Social media platforms have become key spaces to expand, extend, and multiply the geographical range of the activity on the streets. Participants in urban actions interact virtually and physically, thus expanding the same notion of social interaction. Protests, indeed, are a good example of the redefinition of the public sphere because they challenge the established spatial order of cities, subverting the pattern of the urban ideology, and sustaining with it, symbolic struggles. The places projected through mobile, online, and material interactions embody a paradigmatic geographical shift represented by works on cities (Sassen, 2006), mediacities (Eckardt, 2008), platforms (Grech, 2015), networks (Castells, 2008), ubicomp infrastructure mess (Dourish & Bell, 2011), or mobile interfaces (de Souza e Silva, 2006; Farman, 2012).

The effort to grasp this fluidity of communicative action was fruitful: Chadwick (2013) referred to hybridity to study the assemblages of journalists, technologies, and political actors in the current media ecosystem. He applied this later to citizen movements to show "how even the most obviously 'digitally-native' political activism has now evolved to the point where much of the daily practice involves the integration of older and newer media, in a hybrid mix" (Chadwick & Dennis, 2017, p. 45). Hybridity was also an arrival point for Treré (2018) to crack open the complexity of media activism in contemporary culture. These are fertile attempts; they merge the augmented activity of social media and protests and open opportunities for refreshing thoughts about activism, but the geographic relevance of the events seems to pass unnoticed. Virtual interactivity, indeed, challenges the public sphere enabled and extended by mobile and online environments, enhancing a powerful sense of place.

This shared space results from hybrid collective communicative action. Social media interaction happens simultaneously to the actual political action of occupying urban space, forcing a whole new socio-organizational principle of self–other and world that carries consequences for social relations (Lapenta, 2011). Taking into consideration the further fragmentation and individualization of digital publics, Bennett and Segerberg (2012) juxtapose the logics of collective and connective action, endowing the latter with more individualized orientations, replacing old organizational mechanisms. The politicized communicative space is an area of interactivity, and the whole communicative action becomes a form of multilayered public sphere with a redefined sociality.

3. A Contested Notion of (Public) Space

If the notion of public sphere is contested, so is the notion of public space. The axis public–private is a common reference for the understanding of modern societies, but its fitting with space is problematic: "The conceptual and spatial senses of a public sphere are given to run together, but it is not always clear how—if at all—public spaces relate to notions of a public sphere" (Tonkiss, 2005, p. 66). Such spatial tension between the public and the private thus reaches the notion of the public sphere problematically.

For Tonkiss there are three ideal types of public space: the square as space of collective belonging and as an expression of citizenship; the café as a site of sociality, not taking into account the question of ownership but highlighting the café's role as a space of social interaction; and the street, as a mundane space of communal use, a landscape of marginal encounters. These three types differ in what they socially—interactively—enable. This is an inspiring first conceptual and analytical step that links public space and public sphere.

But the relationship is more complex and problematic. Inhabiting the city relates to an urban ideology connected to industrial capitalism, and urban layouts designed as architectures of privilege and authority (Harvey, 2010). Space is a social construct (Lefebvre, 1991) that renders the bidirectional spatial relations between power and politics (Tonkiss, 2005): Power is defined by space, and space is where politics and power are staged.

The infrastructures of telecommunications have wired the world and new policies have been put in place: Discontinuing GPS selective availability by the Clinton legislation in 2000 allowed anyone to extract the exact location coordinates and to link them to the Internet. That move, parallel to the extension of the Internet with Wi-Fi, made the Internet ubiquitous. The strong homogenizing drive led to extenuating market competition for digital mapping and the control of GPS-enabled devices, triggering debates in the political economy of locative media (Barreneche, 2012). These factors have also changed the nature of the politicized space.

Ubiquitous geolocated devices and access to networks have led to an unprecedented amount of location-based data. Access to participatory spaces has transferred to a system of passwords and codes (Adams & Jansson, 2012) and such participatory "projects amalgamate media content, data overlays and real-time location data with the aim of re-politicizing urban space and uncovering the hidden, layered subjectivity of urban spaces" (Jethani & Leorke, 2013, p. 488). Now, space is also transparent: CCTV circuits and surveillance cameras hold public space under siege, mobile devices are traceable, and users routinely checking in on social media enable permanent forms of corporate-, peer-, and self-surveillance (Humphreys, 2011). Such extensive observation of communication in public space renders public activity transparent and monitored at the same time. The intuitive distinctions between public, private, and transparent spaces set a new regime of publicness—a form of disowned tax-free publicness systematically ring-fenced by an expansive corporate gesture of platformization (Van Dijck et al., 2018). Such regime claims an update of the notion of public sphere.

3.1. Towards a Notion of Public Sphere in the Era of the Geoweb

The new spatial regime under the wired, interwoven world web also changes the conditions for knowledge. The confluence of mobile media movements, crowdmapping, and digital connectivity of devices (Massey & Snyder, 2012) changes the sense of place: Information flows accelerating across multiple territorial networks open new epistemic challenges. For example, protesters can communicate, share and publish violent, excluded, or occupied areas. The resulting spaces produced in those settings form a conglomerate of information that combines places with digital, collective, and GPS-enabled spaces (Brantner & Rodriguez-Amat, 2016). Also, digital maps and interfaces have multiplying effects: The increase in information that reifies spatial data turns the map into a live text that never ends, and "displaces the author's central position in social space with a multiplicity of author positions" (Adams & Jansson, 2012, p. 303). Mapping is a form of representing and is not a neutral practice: Mapping is political (Brantner & Rodriguez-Amat, 2016; Rodriguez-Amat & Brantner, 2016) and maps are social agents with political implications concerning the politics behind, within, and through them (Dodge, 2014).

The debates on the meaning of place, space, and mapping have entered media studies with the 'spatial turn' (Abernathy, 2017; Adams & Jansson, 2012) and its extension, 'mobility turn' (Urry, 2007). Moreover, these turns are also strongly linked to the 'material turn' (Adams & Jansson, 2012; Jansson, 2007; Morley, 2009), a "turn towards the conditions and practices (constellations and movements of people and objects) which put communication in (or out of) place, as well as towards the spatial materialities and sensibilities of communication" (Jansson, 2007, p. 186). These turns have made geographies imperative, and the broadened notion of communication embraces material conditions, bringing geoweb (Abernathy, 2017), locative media (Zeffiro, 2012), and geomedia (Lapenta, 2011) to the center of an emerging academic discussion.

Geolocated practices enable the examination of relationships between geolocated phenomena and other surrounding information defining a new knowledge politics, and transforming seeing and viewing (Elwood & Leszczynski, 2013) as, for instance, in the case of the Occupy movement in 2011. 'Neogeographers' (Goodchild, 2009) produce map mash-ups that not only link people and information to specific places by "constructing hypergeographies of action and potential," but also encourage "users to visualize themselves and local events as part of a process of #globalchange" (Massey & Snyder, 2012, para. 34).

The production and elaboration of mapping and data visualization carry and extend the abstract notion of space while building communicative spaces as complex integrated circuits. Political views are newly articulated together with the extension of a politicized space simultaneously virtual and physical, mediated, networked, and on the ground, as well as global and local. Massey and Snyder (2012) concluded that the collection of data from dispersed Occupy events happening in different time and space coordinates, integrated and united a counter-public contesting state and corporate control of urban places. Such an extended environment across the virtual–material online and physical space raises a relevant discussion about the integrated space that forms an area of contact—the interface, the medium, an environment—that invites an updated approach to the concept of public sphere.

3.2. The Public Sphere as an Interface

Following Habermas (1991), Schlesinger (1999) states that popular involvement in public affairs and parliamentary democracy demands discursively structured public networks and arenas: "To put it simply, a communicative space" (p. 266). Such communicative space includes the 'new social operating system' (Rainie & Wellman, 2012) and the notions of space and territory progressively defined by data collections, interfaces, and software as well as the physical, material, and geographic notion of space. Public spheres become spaces of communicative exchange, i.e., abstract interfaces that enable the approach to the idea of communicative space and its governance in a whole new manner.

Following Deleuze and Guattari, Chadwick et al. (2016, p. 10) referred to assemblage theory to stress that:

> The hybrid media system approach shows, for example, that political news making is now carried out in such assemblages, as digital technologies enable individuals and collectivities to plug themselves into the news making process, often in real time, and strategically, across and between older and newer media settings.

On the other hand, DeLanda (2006) updates the Deleuzian principle of assemblage bringing it closer to Giddens' regionalized 'locale.' DeLanda's assemblage explains his approach to cities that are composed of inhabitants, networks and organizations, and "can hardly be conceptualized without a physical infrastructure of buildings, streets and various conduits for the circulation of matter and energy, defined in part by the spatial relations to one another" (p. 94). The spatial grounding of DeLanda's theory on city combines with the hybrid media theory to scaffold and release a fruitfully analytical and conceptual approach to the complex assemblages that are the communicative spaces: Interactions, devices, and location form networks of debates around a topic or lead towards public action.

Scolari (2018) and de Waal (2014) have used the idea of interface to talk about urban spaces and smart cities: "Where collective practices take shape, and when these collective practices change, the shape and meaning of the physical environment changes with them" (de Waal, 2014, p. 21). Both principles—cities as interfaces, and cities and media as assemblages—open an opportunity for this current approach to the study of the public sphere. This can incorporate, among other areas, the analysis of social networks (Scott, 2017) towards an understanding of aspects of the communicative space as a relational assembled environment.

These approaches lay the basis for a model of analysis of the communicative space. The consideration of the public sphere as an interface opens new critical possibilities of theoretical and empirical research because it permits the inclusion of spatial, infrastructural, interactive, and discursive levels. Accordingly, Elwood and Leszczynski (2013) analyze the interface level of digital interactive collaborative mapping. The concept of the interface as an area of contact is an opportunity for understanding forms of connection and communication across boundaries and systems (Manovich, 2001). Here, the communicative space is a complex environment of interaction, of political debates and territory, of the stages and conditions of access. The concept of interface and the notion of assemblage also enable the formulation of questions about which connections and what affordances are defined by and within the overall communicative environment.

The governance of communicative spaces consists then of the identification of factors that configure the affordances that enable or disable communicative interaction within the interface in which political debates happen: at the spatial, infrastructural, interactive, and discursive levels. Its analysis includes processes of diversity, negotiation and resistance (Schlesinger, 1999). The integrative concept of the communicative space as an interface, built as a circuit of political interaction, helps to include the assemblage of the press, the protesters, and their claims and posts on online platforms, as well as the platforms themselves and the possibilities of access, connection, and ownership. The analysis also includes the network of mobile devices considered against the place(s) and the geography of the interactions as well as the physical structures and barriers set by security forces—the factors that shape the broad, complex, multilayered public sphere as an interface.

3.3. Shaping the Public Sphere: Governance of the Communicative Spaces

The public sphere is not neutral or spontaneous; instead, it is shaped by limitations and restrictions of access to debate, flows of information, and spatial (in)equalities, and is shaped with intentions, policies, and boundaries. The conditions that wire any communicative space through policies or decisions about the technological infrastructures, interaction by interface design, or discourses are relevant because they have political implications, because they are expressions of a certain *Weltanschauung* (worldview), but also because they determine directly the quality of the underlying conditions for democracy.

The public sphere, therefore, is not only about discourses. It includes access, infrastructure, engagement, and interaction: The relational conditions that work as apriorisms that have been too long unseen. It is necessary to shift from an understanding of the public sphere as an abstract entity towards a concrete specific set of conditions with materiality, with relationships, with structure, with symbolic relevance, and with possibility. Here the notions of network and assemblage, in combination with the discursive analysis of the actual interactions and the consideration of the infrastructural conditions that work as integrative interfaces, make sense. Only with this conceptual shift is it possible to return to the public sphere in its heuristic capacity and as a critical concept that helps to assess democracy.

4. The Model of Analysis

Methodologically, it is necessary to develop tools and approaches that respect the complexity of that circuit. Former works developed an empirical model for the analysis of the factors that shape the communicative spaces. That model originated in a discussion about the disciplinary bridges between geography and communication by Adams and Jansson (2012). They suggested four areas of contact between disciplines: “Representations and textures relate closely to places, while structures and connections occupy and create spaces” (Adams & Jansson, 2012, p. 306). These areas were turned into a tested analytical model (Belinskaya et al., 2019; Brantner & Rodriguez-Amat, 2016; Rodriguez-Amat & Brantner, 2016). This article cannot revisit all the applied cases in their extension but provides an overview of the model and insists on the structures of space to expand the conceptual and empirical research program on the governance of communicative spaces.

The model of analysis of communicative spaces is based on a social-constructivist approach to mediatization and integrates the multiple facets that shape complex communicative spaces defined in events like protests (Brantner & Rodriguez-Amat, 2016; Rodriguez-Amat & Brantner, 2016) or festivals (Belinskaya et al., 2019). The model offers a holistic, heuristic, and resilient set of tools that permits the integral analysis of multiple forms of expression. The four modes help to address complex nuances of the communicative space not only conceptually but also analytically, because the model avoids media-centric views and highlights the social and cultural aspects related to the power struggles and constraints mentioned earlier. Hence, the model does not entail a chronological step-by-step procedure, because the different modes influence and contextualize each other.

The representation mode analyses (social) media representations (Brantner & Rodriguez-Amat, 2016) that show the diversity of competing narratives of place. Textures of place refer to the symbolic value of the locations by assuming that places communicate in themselves (Belinskaya et al., 2019). The structure mode directs our focus to the elements that allow or limit communication flows. Structures can be physical (e.g., walls, barricades) or ‘virtual’ (e.g., Wi-Fi passwords, media ownership, regulation, or phone jammers). The analysis of structures helps to identify centers and peripheries in the communication activity and highlights decisions, policies, or actions that effectively enable or disable interaction, while the mode of connections identifies the expanded network of links among the assemblage of actors.

The four-mode model has been tested on several protests and urban festivals. Protests generate contested spaces of engagement between the online and the urban space in assembled complex environments. Commercial urban festivals are also active events that engage public and fenced urban spaces, and that spread with activity across social media, and as they are planned events, their decision-making processes become more accessible to research. The authors analyzed protests in Madrid, Spain (September 2012), Vienna, Austria (January 2014), and Paris, France (April–June 2016), city festivals in Sheffield, England (July 2016, July 2017), and the Dance Days festival in Chania, Greece, (July 2018, July 2019). In all these cases results demonstrate the heuristic potential of the model.

4.1. Beyond Representations

Communicative spaces are social constructs and citizens understand them diversely: "Place representation is contingent and unique: Complexly situated with regard to power (Hall, 1980), no less than places themselves" (Adams & Jansson, 2012, p. 307). To explore representations, it is necessary to analyze narratives about the space available throughout the extension of communicative practices. A protest in Vienna (Brantner & Rodriguez-Amat, 2016) served as a case study for the detailed analysis of representations of space. The combination of qualitative and quantitative content analysis permitted the study of large volumes of (social) media representations, be they multimodal, images, or texts. For example, the quantitative-qualitative analysis of visual representations combines an image type analysis—which consists of a sorting task, in which downloaded images are sorted into different types as regards their representations of space and place—with in-depth analyses for selected prototypical images for each type. Moreover, the method can be combined with a quantitative analysis of content features, e.g., depicted people, place characteristics, accompanying texts, the results of which also inform the qualitative analysis. In the case of the protest in Vienna, the type of analysis was based on tweets including images. Moreover, the analysis was informed by Lefebvre's (1991) triad of space to apply three subcategories (Brantner & Rodriguez-Amat, 2016): territorial representations, representations of location, and representations of activity. The systematic analysis of representations of space shows that multiple conflicting understandings and narratives emerge—they struggle to define the communicative space. In other words, the analysis of representations discerns which are the dominant representations and which perspective is allowed to name the space: occupied, liberated, free, or conflictual. In the case of commercial festivals, places termed (public) 'park,' 'playground,' or 'sports area' become (sealed off) 'VIP zone,' 'gates,' or 'stage.' Representations matter, and the analysis of the (social) media content shows which stories are made visible.

The diversity of views and negotiation of meanings might lead to the misunderstanding that they are the product of a healthy democratic debate, but such diversity of discourses and narratives, negotiating the meaning of the communicative space, must be contextualized. The communicative space is not a free space of confronted views (Treré, 2016), and analyzing the other three modes—structures, textures, and connections—helps to show that lack of neutrality. Both media and (public) places are designed to favor certain visions (and representations) and to restrict others. The underlying coding is invisible to most users of place and media (Despard, 2016), but the hidden politics and biases of and behind the interfaces are relevant and must be taken into consideration (Frith, 2017), including those of and behind the shaping of places and spaces.

4.2. Structures of Space

Structures "define inequalities and power relations between those able to move and connect freely and those who are not able to" (Adams & Jansson, 2012, p. 311). In this sense, the cultural activity emerging from communications in protests are situated, geolocated, and spatialized by "the architecture of dissent, the ways in which the physical structures and flows of a city directly affect the ability for people to gather, coordinate and maintain visible social movements" (Sadowski, 2014). This has a 'virtual' dimension too: regulation enforcement, interfaces, password-walled software platforms, surveillance vans, signal-jamming devices, access, profiling, and decisions by gatekeepers. Castells' (1989) term 'space of flows' describes the social relations emerging in the network society: "More important than the space of places, he argues, is the movement (of information, capital, people, ideas) between places" (Abernathy, 2017, p. 4). Structures are products of policies, decisions, or cultural settings and practices that coincide in their role of channeling information flows and enabling/disabling connections: the VIP wristbands, the stage pointing in one direction, prioritizing a directed information flow, the fences 'protecting' a single singer from the anonymous crowd. Structures are not only physical access to a protest or a festival venue; structures also involve regulation as described by Habermas (1991): The introduction of licensing or libel taxes for newspapers or restrictions on access to public coffeehouses limited the expression of opinion and access to information.

A mixed-method research project on an urban city festival—the Tramlines festival, in Sheffield—was designed for the exploration of structures of the communicative space (Belinskaya et al., 2019). Urban city festivals generate a communicative complexity similar to that of a demonstration but in an anticipated fashion: security, fences, venues, and the organization of the spaces are planned long ahead. The intentional transformation of initially publicly accessible places like parks into fenced-off areas, accessible only for a fee, raises immediate discussions about barriers, conditions of access, and the subsequent redesign of the conditions of communication. To explore this, the authors mixed digital and (visual) (n)ethnographic tools, interviews, mapping (GPX data), and representational resources (e.g., [social] media postings). The latter can also inform the analysis of structures, but as already outlined, media representations can provide information only about visible spatial structures (that are shown, or talked about).

The analysis of the ethnographic material and the data obtained via geotracking identified three subcategories of structures: barriers, shifts, and flows. The subcategories are defined by their roles in channeling information flows and work across devices, and across actual content (see Figure 1).

The three options deal with structures of sorts: physical, virtual, symbolic, proprietary, or regulatory. Barriers are mechanisms that stop the continuity of information flow. During the Tramlines festival 2016, the ethnographers drew fieldnotes—diagrams to show the structures and barriers in the main stage area (see Figure 1, left column top). In the case of demonstrations, police form cordons or set mobile barriers that channel the activity of protestors. Barriers are fundamental in policing but are also perceived by protesters as part of the confrontation with the forces of security. For example, a tweet from a protest in France (April 2016) mentions the arrival of lorries with fences and with “robocops” (police in anti-riot gear) as reinforcements.

This example represents a view, but points to the existence of (visible) structures, in this case fences, to stop and divert the flow of protesters (or audiences). There are other kinds of barriers: those formed by urban structures and streets. For example, regardless of whether the reason there was “no mobile network” (as one participant tweeted before the start of a demonstration in Madrid, in September 2012) was a mobile jammer or actual saturation of the mobile band, it acts as a barrier stopping the continuity of information flow. Structures should not be confused with representations. However, these two cases are picked as representations that point at structural aspects of the communicative space.

Shifts are mechanisms that work as valves, letting communication happen, or not. Examples are doors, passwords, press accreditations, ownership of mobile devices, or—in the case of festivals—the (ticket) wristbands and gates that activate the shifts, as shown in Figure 1 (middle column).

Figure 1. Examples for barriers, shifts, and flows (captured by visual ethnography).

Shifts are affordances defined by their capacity to selectively enable contact across a barrier; they are activated to open or truncate access. They can be physical, as in the case of the wristband that opens the fence for the concerts in a festival, or, coming back to protests, linguistic, as in the tweet in Figure 2 in which protesters in Paris' #nuitdebout in 2016 translate debates into sign language. The barrier for hearing-impaired people is 'open' thanks to the presence of a translating shift of simultaneous sign-language.

Figure 2. Tweet on #nuitdebout visualizing sign-language translation. Note: We obtained the user's consent to reprint the tweet; username and faces of depicted people were pixelated to guarantee anonymity.

Flows are the substance of information in action. Flows are structures that keep the communication chains by themselves (or as a product of software or cultural norms); examples of flows are queues, as shown in Figure 1, bottom right. They include both transportation across space and informal interaction, similarly to what Tonkiss (2005) calls the street. Flows can, for instance, be identified in the cartography of the expansion of the demonstrations of #nuitdebout published in the tweet shown in Figure 3 (also with permission from the author). Information flows from the center of Paris (Place de la République) to the periphery of the country. These flows can be mapped or traced across the territory and are part of the structures that stitch the communicative space.

Tracking the itineraries of the festival ethnographers enabled the visualization of flows defining the Tramlines city festival (see Figure 1, image top right). One can easily identify the centers and peripheries of the activity during the festival (particularly when overlapped with the geolocated tweets with the festival hashtag, shown on the map in Figure 4).

In the analysis of structures, ownership matters as soon as it conditions access or prioritizes communication flows. Current debates on net neutrality and the role of Internet service providers (Faris et al., 2016) are therefore related to the structures of the communicative spaces grown by the Internet. Similarly, laws regulating behavior in public space shape the conditions for media and the communicative space, for example, the Spanish Citizen Security Law (2015) criminalizes taking pictures of security forces and the organization of spontaneous protests via social media.

Figure 3. Tweet representing information flows during the Paris protests of #nuitdebout in 2016. Note: We obtained the user's consent to reprint the tweet; username and faces of depicted people were pixelated to guarantee anonymity.

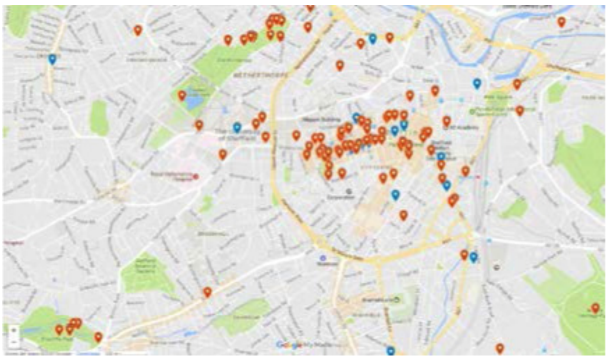

Figure 4. Map visualizing geolocated tweets using the Tramlines festival hashtag.

Structures are fundamental features of the communicative space, and the described three subcategories of barriers, shifts and flows can help orient initial analyses, applying to online and offline interactions, but also to mobility. These categories serve equally for the analysis of festivals and protest, and they could also help to understand architectural and urban planning, as much as it can help the analysis of the interface of an online media participatory platform (Belinskaya & Rodriguez-Amat, 2020). But the complexity of the communicative space and the role played by structures still deserve further critical and empirical attention.

4.3. Exploring Textures and Connections

Textures and connections are theoretically described and empirically tested but they need further critical discussion. If representations exploit the diversity of views and structures ring-fencing information flows, the role of the analysis of textures is to identify the communications loci and anchor the activity to specific places. 'Textural analysis' is about the value of places and the communication defined and implemented by places themselves (Jansson, 2007). Sites add meaning to whatever happens around them: "Textures of place" orient the analysis after spatial and material turns "towards a view of communication as implicitly grounded, embodied and situated" (Adams & Jansson, 2012, p. 309). Location does so by expressing the symbolic value of the event (Brantner & Rodriguez-Amat, 2016). As communicative resources, places are media in their own right, and function as storytellers, be it the Paris Place de la République for the #nuitdebout demonstrations, or the Spanish Parliament in Madrid, or occupied Wall Street. The location of protests is a political choice, and similarly, websites, media sources, or journalists imprint value onto the information content they spread. They are the loci of a communicative space.

The exploration of textures links to the politics or economics and place(lessness) developed in informational globalization studies. Castells (1989) writes about the historical emergence of the space of flows "superseding the meaning of the space of places" (p. 348). The dichotomy embedded in the notion of 'glocalism' explodes when multiplied by space-sensitive geolocative and mobile media and combined with the possibility of ubiquitous computing (Dourish & Bell, 2011). This wordpun shows the conceptual effort to grasp a complex phenomenon that involves consideration of place and space. Demonstrations in physical and urban squares, therefore, regain value. An initial textural analysis of a festival in Chania (Greece) suggested three subcategories: communicative capital of place, the location of (shared) memory, and the monumentalized symbolic strategy (Belinskaya et al., 2019). These categories prove that the textural analysis of place rebalances both the diversity of views (representations) and its limitations (structures): The symbolic value of a place is allegedly a consolidated one or an institutionalized representation—hence the notion of communicative capital. But more relevant is the role of textures as the context that embodies a shared (and transcendental) value: There are examples of political and symbolic cultural capital, such as demonstrating around the Spanish Congress in Madrid (#rodeaelcongreso, September 2012) or of cultural touristic communicative capital, as in the intentional connection of festival venues with tourist sites in Chania, Greece. This shared value can be historical, political, or touristic, but it settles the volatile concept of representations and substantiates the limiting role of the structures.

Somehow opposite to the specific material conditions of textures, the analysis of connections deals with the configurations of the communicative space: "Spaces are structures of opportunity, expectations, and systems of connectivity. The interaction of physical and virtual spaces constructing an imaginary territory ready for action is what is highlighted" (Adams & Jansson, 2012, p. 312) in the connectivity mode. Connections can be measured; they represent the possibilities of the space to spread information and can theoretically be reduced to a magnitude. These connections define a sort of absolute space (a network of edges) across which any human interaction and any content are possible.

Concepts emerging from social network analysis (see Scott, 2017) help understand the communicative space as a set of connective possibilities that expand beyond the specifics or the limitations of the physical/virtual: concepts like modularity and centrality help establish the relevance of communication nodes that can be topics of a conversation or loci from where the interaction takes place. Connectivity networks can be visualized too and can open analytic possibilities through the identification of connectivity bottlenecks of information, info-spreading nodes, or dead ends. For example, semantic network analysis or co-occurrence techniques can show how a conversation expands thematically on Twitter and how it links to conversations on other sites and locations beyond Twitter. The analysis of the networked public sphere (Faris et al., 2016) would be completed by examining mass media coverage, as every story covering the event has a multiplying effect on its diffusion. In the digital context of geomedia events, the idea of coverage needs to be revisited and the factors that shape the possibilities of impact need to be redefined as part of the update of the public sphere.

5. Conclusion

Changes in communication ecosystems have driven reflections that claimed the incorporation of location in media debates and particularly in the idea of the public sphere. This article has reviewed the relevant literature that describes the features of this transformation by focusing on the concepts of the public sphere and on the complexities of space and media—mobile, platformized, and geolocative. This review has also underscored the need to revisit and update the notion of the public sphere. The concept of the public sphere must expand and take into account the location, the space, and its structures, and the devices and technologies shaping the communicative space as conditions for access and participation in the debate. It is equally important to consider these factors as it is to consider the content and the arguments. But still, the concept of the public sphere is a good choice to name that area of contact between us as citizens and the conditions of our own government.

This article suggests an update of the public sphere as a communicative space that is both an interface and an assemblage of a complex set of factors in constant interaction. The notion of interface de-naturalizes the public sphere and invites an analysis of its features, its affordances, and its design; the aspect of assemblages liberates and substantiates—by enabling a relational network—the factors that intervene in shaping the conditions for social-communicative interaction. It results from the complexity of the concept of the public sphere that it can do again what it does best: to normatively project the expected conditions for public debate and for democracy.

Analyzing the public sphere, thus, cannot be reduced to considering the content of discourse. If the analysis disregards factors such as the infrastructures, the wiring of the platforms' interfaces, ownership, regulation, conflicting understandings, the symbolic value of the loci of the conversation, or the linguistic landscape and diversity, the analysis will be flawed.

Instead, researchers need to consider the factors that intervene in this quadruple function: representing, structuring, texturizing, and connecting the communicative space. This is what the second part of the article has done, by describing an analytical model that helps articulate these factors. These four modes are functions to look for when intending to explore the conditions of participation in any communicative space, and each specific case may require adapted tools, but the four modes work together by nuancing each other's roles.

These modes are not just sides of a polyhedron—they are analytic gazes that focus on different practices. Representations look for the diversity of views encountered in the several stages of an event, including perceptions of the openness or purpose of the interaction. These views are not sufficient for a proper understanding of the communicative space. It is also necessary to check the structural conditions of participation: Who has access to participate and who does not; who has allowed this to happen and for what purpose? These interactions do not take place in a vacuum but are located on a platform or around a monument. Textural analysis asks how location moderates the conditions for interaction. Finally, the coverage and how the communicative activity spreads must be considered; this is what the analysis of connections does.

These four modes of analysis have already been applied, and this article has illustrated them with examples of research applying them and with a focus on structures. But it is healthy to think of challenging and improving these modes, and references to previous work are also guides for further implementation and development of this toolkit. This is the way to respond, with empirical possibilities, to this conceptual update of the public sphere.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

Relational Communication Spaces: Infrastructures and Discursive Practices

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Abstract
Digital communication technologies, social web platforms, and mobile communication have fundamentally altered the way we communicate publicly. They have also changed our perception of space, thus making a re-calibration of a spatial perspective on public communication necessary. We argue that such a new perspective must consider the relational logic of public communication, which stands in stark contrast to the plain territorial notion of space common in communication research. Conceptualising the spatiality of public communication, we draw on Löw's (2016) sociology of space. Her relational concept of space encourages us to pay more attention to (a) the infrastructural basis of communication, (b) the operations of synthesising the relational communication space through discursive practices, and (c) power relations that determine the accessibility of public communication. Thus, focusing on infrastructures and discursive practices means highlighting crucial socio-material preconditions of public communication and considering the effects of the power relations which are inherent in their spatialisation upon the inclusivity of public communication. This new approach serves a dual purpose: Firstly, it works as an analytical perspective to systematically account for the spatiality of public communication. Secondly, the differentiation between infrastructural spaces and spaces of discursive practices adds explanatory value to the perspective of relational communication spaces.

Keywords
discursive practices; inclusion; infrastructures; methodological nationalism; networks; public communication; sociology of space; territory

Issue
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1. Introduction

Analyses of public communication and concepts of the public sphere have always been linked to questions of citizenship and polity (e.g., Fraser, 2014). The notion of a public sphere as an intermediary sphere for discourse between representatives of the political system and society is conceptually bound to the nation-state. However, we question whether the nation-state should still be considered the default geospatial reference of public communication—given that hybrid communication ecologies have developed in the past two decades (Chadwick, 2011). While the dominance of methodological nationalism in the social sciences has long been criticised (e.g., Volkmer, 2014, pp. 11–13), the emergence of digital networks has made the re-calibration of a spatial perspective on public communication even more pressing.

We argue that such a new perspective must consider the relational logic of networked public communication and digital technology, which stands in stark contrast to a plain territorial notion of space (e.g., Kavada & Poell, 2020). In the digital age, public discourse has loosened its ties from territorial arenas (e.g., Heft et al., 2021). Recent descriptions understand public communication as networks in which individuals and collectives connect to exchange information and opinions (e.g., Friedland et al., 2006). Empirical studies provide evidence that these networks exhibit specific spatial patterns. For example, people living close to one another connect much more frequently than the geographically distant, and cosmopolitan cities have greater salience in those networks than other cities and regions (e.g., Takhteyev et al., 2012). Thus, we see that public communication is spatially structured, but a territorial understanding of space alone is insufficient to properly comprehend its structure. Therefore, we propose the concept of 'relational communication spaces' which offers the tools to systematically consider and investigate the spatiality of public communication while refraining from presupposing a default spatial form or logic of public communication. In our understanding, public communication is communication that: (1) addresses a public, which means a collective that potentially includes strangers (Klinger, 2018, p. 259); and/or (2) is accessible to others (such as social media posts or conversations in public space).

For our theoretical endeavour, we draw on the sociology of space. We show that this theoretical framework serves well as a basis to identify specific spatial figures in the empirical analysis of communication phenomena. More specifically, we build on the concept of relational spaces, which emerge as "relational arrangement[s] of living beings" and things (Löw, 2016, p. 131). These arrangements structure human actions and are simultaneously structured by human agency. Thinking about public communication with the terms and conceptual tools provided by Löw's sociology of space, we can conceive of specific spatialisations of public communication as a relational communication space shaped by the complex intermeshing of infrastructured spaces and the spatial patterns of discursive practices. The two central socio-material building blocks of relational communication spaces are infrastructures and discursive practices. Other spatial dimensions of public communication, specifically the discussion of places (and their meaning), are not the focus of our concept. Since all communication is inherently relational, the term 'relational communication space' may seem tautologic at first glance. However, the emphasis on the relational character serves to contrast an absolutist (i.e., space simply exists and is a container of social processes) or relativist (i.e., space emerges out of relations between things while humans are not included) understanding of space (Löw, 2016).

We argue that infrastructures and discursive practices are central building blocks of relational communication spaces; their spatialisation shapes who can participate in public communication and how. Fundamentally, the question of the spatiality of public communication is a question of participation and inclusion. Technical and social infrastructures are the foundations from which public discourse emerges (Marres & Lezaun, 2011, p. 496; Pfetsch et al., 2019, p. 97)—and these are usually spatially bound. Whether one has access to, for example, a stable and fast internet connection or an education in media literacy, depends on where one lives and how resources are allocated there. Despite their often "hard-wired" nature, infrastructures are subject to human agency and the exercise of economic and political power (Müller et al., 2017, pp. 5–6). Discursive practices in turn are structures of meaning and knowledge production as well as circulation (Keller, 2005). Parallel to infrastructures, discursive practices exhibit a spatial pattern depending on the issue around which public communication evolves and presuppose basic competencies such as the mastery of a local language.

In the remainder of this article, we argue that the concept of relational communication spaces makes relevant aspects of public communications' complex spatial structuring visible and accessible for empirical research. We explain why this concept is sensitive to the power relations ingrained in the spatial distribution of discursive practices and communication infrastructures. Then, we demonstrate how the concept of relational communication spaces translates into strategies for empirical research. Finally, we conclude that the concept of relational space provides an analytical grid to reveal the spatiality of public communication which illuminates questions of participation, visibility, and exclusion.

2. The Spatiality of Public Communication

2.1. Conceptualising the Spatiality of Public Communication: A Desideratum

The study of public communication in the digital age requires a rigorous revision of the assumptions about the spatiality of public communication. Such a revision should unveil spatialisations of communication beyond the territories of cities, nation-states, or other 'container spaces.' This is not to say that territory has become irrelevant, but that it is only one spatial figure among others—in contrast to what has been criticised as methodological nationalism. According to Wimmer and Schiller, methodological nationalism is a "coherent epistemic structure" (2002, p. 308), that takes the nation-state or society as the default unit for empirical analyses. This has also been the case in theory development and research on the public sphere and public communication. Among others, Fraser has criticised the "Westphalian blindspot" (2014, p. 19) in Habermas' *Structural Transformation of the Public Sphere*, this blind spot being a conceptualisation of the public sphere tied to a bounded political community and territory. This liaison made sense as the concept of the public sphere developed following the rise of democratic nation-states in Western Europe in the 20th century. However, the concept of a national public sphere has always missed forms of public communication that take place on other scales (such as the translocal level; e.g., Wehden & Stoltenberg, 2019) and alternative spaces of discourse with their own infrastructures of communication (as described in the concept of "subaltern counterpublics" by Fraser, 1990, p. 67). With digital media and social networking platforms, those alternative spaces have become more visible as well as accessible to more people and now compete with mass-mediated, national arenas of public discourse (Friedland et al., 2006, p. 8).

In communication studies, many concepts such as the public sphere refer to a spatial dimension. However, a systematic scrutinisation of spatiality as an explanatory factor in empirical analyses is missing in most cases (Wehden & Stoltenberg, 2019, p. 1401). In regards to research on public communication, particular spaces and places have been described as a constitutive element of the public sphere (e.g., Habermas, 1962/2013, pp. 92–98.). Other vital research fields referring to the spatiality of public communication are comparative studies of communication systems in different countries (Hallin & Mancini, 2004), digital divide research focusing on spatially bound disparities regarding access to and use of digital services (e.g., Stern et al., 2009), the conceptualisation of proximity as a news value (e.g., Schulz, 1990), research on news geography (e.g., Wilke et al., 2012), descriptive studies of local and municipal media landscapes in the 1980s (see Beck, 2003, for a summary), or works on transnational public spheres (e.g., Heft et al., 2021).

While recent contributions on the transnationalisation of public spheres (e.g., Couldry, 2014, pp. 52–53), the rise of global social movements (e.g., Tarrow & McAdam, 2005), media history (Schüttpelz, 2017), issue publics (e.g., Marres, 2007, p. 371), and global communication networks (e.g., Friedland et al., 2006; Volkmer, 2014) have increasingly questioned the dominance of national public spheres, their notion remains powerful (Korn et al., 2019, p. 21). Inspired by these writings, we propose a spatial perspective on public communication that moves beyond the Westphalian blindspot.

2.2. Relational Concept of Space

Research on material politics (e.g., Marres & Lezaun, 2011) and the affordances of platforms (e.g., Colleoni et al., 2014, p. 329) emphasise that public communication emerges from human interactions with, or based on, infrastructure. Ethnographic research investigating media production sites shows that they result from an "entanglement" of various human and non-human actors (Bonini & Gandini, 2020, p. 3), thus emphasising the relationality inherent to the production process. Moreover, humans, their interactions, and the infrastructure they use operate on different scales: One can talk about local issues even whilst situated at another place by using globally operating platforms such as Twitter (e.g., Wehden & Stoltenberg, 2019). Löw's concept offers us the framework to combine structure and interaction in thinking about the spatiality of public communication. Löw defines space as a "relational arrangement of living beings and social goods" (2016, p. 131). The core of this understanding of space lies in two processes: the placement of social goods and living beings at locations ('spacing'), and the 'synthesis' of space comprising those social goods and beings via "sensual, affective and conscious" and discursive processes such as mappings and genres of talk (Knoblauch & Löw, 2017, p. 5). What does this mean for a relational theory of public communication? The relational concept of space encourages us to pay more attention to (a) social goods and the infrastructural basis of communication and (b) operations of synthesising communication spaces through collective discursive practices. While the processes of spacing and synthesis alone provide little information about how the processes of space creation are regulated, our case of public communication renders visible normative implications of these processes. The concept points to (c) power relations governing access to material and social infrastructures and the knowledge of discursive practices (Adams & Jansson, 2012, p. 310).

We want to highlight three aspects of Löw's definition of space, which demonstrate why this concept particularly fits our purpose: First, human beings play an essential role in the constitution of space, for example through communication. Consequently, space needs to be understood as inherently social. Even though Löw speaks of "living beings" in her definition, and includes non-human beings in principle (2016, p. 131), we will focus here on humans as communicating actors. Humans constitute spaces in a dual sense: In a constructivist sense, humans process their surroundings cognitively and affectively; thus, they synthesise spatial arrangements. Equally important, humans actively place goods and other humans in their physical environments while also being passive subjects in such processes, which matches the interactive nature of communication. Second, the term 'arrangement' implies that space is the result of a process. Although spaces can become institutionalised, they do not "simply exist" but are "created in action" (Löw, 2016, p. 145). Spaces, understood as arranged goods and beings, are constantly subject to change: such arrangements can dissolve or be rearranged. This characteristic appears particularly important in the context of highly dynamic communication spaces (e.g., Korn et al., 2019, p 21). Finally, the term 'relational' emphasises that space is a product of putting objects and beings into relation (Löw, 2016, S106). Taken together, the constant interaction between synthesis and spacing makes it possible to speak of an infrastructured space from which relational communication spaces emerge (Schäfer & Wessler, 2020, p. 315).

2.3. Building Blocks of Relational Communication Spaces

In the context of public communication, social goods are infrastructures that enable the emergence of debate (e.g., Pfetsch et al., 2019, p. 97) or the "experiences of publicness" (Abidin, 2021, p. 4). They can materialise in the form of social networking platforms, print media, fibre optic cables, or public spaces in cities. Other forms of infrastructures include social infrastructures such as educational institutions disseminating knowledge about media literacy or people with explicit knowledge in, and implicit embodied knowledge of, discursive practices. The way infrastructures are economically and politically governed as well as their spatial scope also prestructure which sorts of relational communication space emerge. In other words, it matters which social goods form infrastructures constituting spaces of public communication as they pose "different demands on synthesis" (Knoblauch & Löw, 2017, p. 5).

For social goods and living beings to constitute space, they not only need to be placed but also synthesised in order to construct an abstract whole from the social goods and humans linked through spacing. Although Löw conceptualises synthesis mainly as an individual process, such as memorising or the mere processing of the environment (2016, p. 135), it can also be related to communication practices on the level of social interaction as these processes feed into shared norms and routines of discursive practices. Importantly, these practices are increasingly digitally mediated and are primarily organised by discursive knowledge orders (Reckwitz, 2008). In the context of public and especially digital communication, speakers must imagine an audience or community which they address, since the recipients are dispersed (e.g., Litt & Hargittai, 2016). Imagining them as a counterpart, thereby putting oneself in relation to others, opens the space for public communication. Simultaneously, the practices have a spatial notion: be it the imagined audience that is concentrated locally or geographically dispersed or the collective memory of groups of people that share experiences and memories due to where they live (in different regions and nations, in an urban or rural setting).

Addressing the spatiality of infrastructures and discursive practices of public communication means considering processes of power and inequalities. Infrastructures and knowledge about discursive practices and the use of infrastructures are spatially centred, unequally distributed or fragmented (e.g., Meusburger, 2001). Two questions are relevant in this context: Who has access to infrastructures and knowledge about their use? And who is ultimately involved in public communication? The latter is inherently conditioned by the question of access, but access does not necessarily yield participation. It should also be emphasised that this perspective can bring into focus not only processes of exclusion, but also of inclusion through, for example, the lower barriers to publication made possible by digital media. In refraining from presupposing a certain spatialisation of public communication, we do not suggest a "wholeness" of publics, encompassing everyone in a territory or a perfectly connected network. This can make our framework attractive to research looking into disconnections (Pfetsch, 2018), public communication of marginalised groups in counter publics, or "refracted publics" (Abidin, 2021).

So far, we have talked about the spatialisation of public communication in a rather abstract way; however, it is worth considering the concrete spatial forms by which public communication *could* be structured. Summarising the state of research, Löw distinguishes four spatial figures: territory, network, place, and trajectory (2020, p. 153). These serve as heuristics in the description and empirical analysis of relational communication spaces. Territory describes an idea of space as a surface or container, that is, a space defined by its boundaries and which thus establishes an inside and an outside (logic of differentiation; Knoblauch & Löw, 2020, p. 273). Many legacy mass media, for example, correspond to a territorial logic and are aligned in their distribution to the borders of nation-states, cities, or language areas (Schüttpelz, 2017, pp. 27–28). With the emergence of digital media, public communication has increasingly been thought of as a network, in which also legacy media are included, as these platforms enable follow-up communication as well as networking across national and linguistic boundaries (e.g., Neuberger, 2017). But it is not only with the spread of digital communication infrastructures that network spaces emerge; we also understand road or electricity grids as networks because they follow the logic of connectivity. Places play a role in public communication as spaces of encounter, for example, public spaces in cities (e.g., Castells, 2008, p. 79), and have been described by Habermas (1962/2013), in his historical analysis, as an important infrastructure for the emergence of the public sphere. One-way communication from a sender to one or more recipients can be thought of spatially as a trajectory. With their logics of differentiation and connection, however, territorial and network spaces are—in our understanding—central to the analysis of public communication. Although places and trajectories also structure public communication, we argue that they form part of network spaces (e.g., places as nodes of a network) and territorial spaces (e.g., trajectories as unidirectional government communication in a city; see also Knoblauch & Löw, 2020, p. 273).

Having discussed the theoretical implications of understanding public communication as a relational communication space, in the following section we will argue that an empirically grounded perspective on the spatialities of communication profits when the mutual interdependence of socio-material infrastructures and discursive practices is systematically considered.

3. Relating Infrastructures and Discursive Practices

Infrastructures consist of (more or less stable) relations between social goods, which enable, deny, incentivise, or complicate discursive practices (Löw, 2016; Star, 1999). Discursive practices, in turn, are culturally and institutionally embedded, historically routed, and collectively learned practices of meaning-making and knowledge production as well as circulation (Keller, 2005, p. 25). As for their institutional and symbolical stabilisation in time and space, discursive practices establish knowledge orders in highly specialised fields such as in science, issue-centred public communication networks but also with respect to non-discursive practices in everyday social actions, such as making eye contact. These knowledge orders structure social life as they enable actors to communicate about "existing things" suggesting definitions of true, normal, or moral claims by delineating them from their opposites. Knowledge orders can be analysed regarding both their symbolic (interpretative schemes, classifications, phenomenal, and narrative structures) and socio-material dimensions (materiality of infrastructures of knowledge production and circulation). The notion of discursive practices enables us to start from the basic assumption that for any public communication to emerge, practices of meaning-making presuppose socio-material infrastructures of knowledge production and circulation (Keller, 2005, p. 9) as well as collective learning and issue-based experimentation (Sayman, 2020, p. 317). Systemically relating the spatial figures of infrastructures with those of discursive practices points at the structural power relations at play in relational communication spaces (Korn et al., 2019, pp. 31–32; Plantin & Punathambekar, 2019). This change in perspective is necessary as the history of infrastructures and publics shows that the emergence of *a* public sphere (Habermas, 1962/2013) historically required congruent scales between publics and infrastructures, especially at local, regional, and national levels (e.g., Schüttpelz, 2017, pp. 27–28). In line with Löw (2020, p. 153), we suggest that scales are outcomes of processes of spatial synthesis and thus, are unlike spatial figures, which are spatial arrangements resulting from embodied interaction between subjects and objects. Moving away from focusing solely on scales of communication networks helps to examine the making and complex intermingling of spatial figures by infrastructuring and the emergence of issue-specific discursive practices. These configurations of spatial figures in relational communication spaces exhibit new patterns of social inclusion/exclusion, access, and visibility.

Hence, our perspective emphasises how power relations between "stakeholders and users shape how communication networks are imagined, put in place, and mobilized for different ends" (Plantin & Punathambekar, 2019, p. 166). Literature on platforms and datafication has stressed the platformisation of existing infrastructures, which is an effect of the declining modern "infrastructural ideal" of broad service delivered by public monopolists. The digitalisation of public communication by private platform providers generated low cost and dynamic alternatives to legacy media. Based on their ability to create ecosystems around their services, providing interconnectedness and programmability, platform providers have become very powerful actors with infrastructural qualities. Shifting power balances between public and private actors raises the question of which infrastructural ideal could replace the old ideal of a territorially homogenous provision of basic services by public (quasi-)monopolists (Plantin et al., 2018, p. 307). One significant effect of such power asymmetries is that social groups have unequal access to digital infrastructures which has consequences for the discursive practices of the affected communities (Sayman, 2020). We stress that this perspective explicitly includes embodied competencies and social networks as some form of social infrastructure (Pipek & Wulf, 2009, pp. 456–457).

We link infrastructures and discursive practices systematically in order to enable us to use spatial figures to highlight power relations in processes of public communication. At the same time, it also allows us to shed light on how public communication shapes the spatiality of infrastructures by problematising the consequences of unequal access or representation. In line with Löw's notion of the duality of space, we suggest looking in both directions of the mutual structuration of space and power relations; for example, by looking at conflicts and negotiations concerning spatially extended infrastructures, such as discussion about internet access in rural areas (e.g., Burrell, 2018). It is necessary to specify and differentiate the term 'infrastructures' to show its linkages to discursive practices and to explain why this relation is necessary for the analysis of relational communication spaces.

First, the infrastructures of digital communication networks build on their connections to other major infrastructures, most importantly electricity grids. Interrelations between such major infrastructures are equally important in structuring access and mobility as more narrowly defined relations between discursive practices and infrastructures. However, the socio-materiality of digital communication infrastructures can be separated into four layers: devices and access networks, backbone networks, platforms, and contents (Flensburg & Lai, 2020). These infrastructural layers arrange socio-material goods in certain configurations, thereby enabling the circulation of data and the occurrence of discursive practices within the infrastructured space. This is because the spatiality of public communication depends on the affordability, accessibility, and reliability of devices for end-users positioned within a multiple infrastructured space. Each level of infrastructure has its own spatial scope and scale, thus incentivising (and inhibiting) certain mediated discursive practices (Plantin & Punathambekar, 2019). If stabilised across space and time, infrastructures enhance the probability of learning and routinising discursive practices.

Second, the most striking example for an institutionalised infrastructure is the provision of internet access, which exhibits clear spatial patterns. Empirical analyses with data from Italy and Germany show that there is a positive causal link between the provision of broadband internet on the municipal level and voting for populist parties, suggesting that the provision of infrastructures for digital communication incentivises the occurrence of specific discursive practices, such as the circulation of populists' communication rhetoric and strategies, which also spill over to offline spaces (e.g., Schaub & Morisi, 2020). Conversely, individuals living in areas without these infrastructures will likely not take part in certain genres of digitalised public communication or may find ways to acquire access to high-speed internet through mobile devices and the internet as opposed to an underground information and telecommunication infrastructure ("mobile-first" strategy; Kersting, 2020, p. 2). This leads to the conclusion that individuals outside infrastructured spaces will probably have fewer opportunities to learn the discursive practices (such as instant messaging, posting, tweeting, blogging, etc.) that enable them to participate in digital networks of public communication—which may potentially render them less able to assess information sources.

Third, another important dimension of infrastructures for public communication are educational infrastructures that provide media, information, and digital literacy (Koltay, 2011), or more broadly, any embodied skill helping actors to redesign, use, or configure media infrastructures. Infrastructures for media literacy also exhibit specific spatial patterns. Research in the field of digital inequality in Germany shows that levels of digital literacy and the provision of digital infrastructure correspond with spatial scales (such as rural, suburban, and urban), presenting evidence that rural regions lag behind (Kersting, 2020). Moreover, the spatial dimension of the digital divide overlaps with and reinforces pre-existing patterns of inequality based on age, gender, class, disability, or ethnicity, ultimately leading to an ever faster growing divide of participative inequalities mediated by uneven access to, and different levels of, competency in the use of public communication networks (Kersting, 2020, pp. 5–9). Put simply, places or county types matter in how people *can* make sense of digital media and infrastructures, which means that the adaptation of a diffusing technology is mediated by individual *and* structural variables, such as places and spatial scales (Burrell, 2018; Stern et al., 2009). While people in rural areas without a broadband connection in the US have usage patterns for entertainment purposes similar to those who live in urban and suburban contexts, they use the internet less for everyday activities and economic purposes because they lack both digital proficiency and a reliable connection to access high-quality images and content flows (Stern et al., 2009). It becomes evident that these spatially bound conditions of access (Stern et al., 2009, p. 393) are structuring the development of people's skills in handling the infrastructure and making use of it. Thus, the occurrence of discursive practices requires both access to socio-technical infrastructures and opportunities to learn competencies concerning their usage.

Prior analyses of the relations between infrastructures and discursive practices have highlighted pitfalls of monopolised, missing, or highly manipulative communication infrastructures and the censoring, oppressing, and muting of certain social groups as their digital competencies do not match the affordances of communication infrastructures (or vice versa). One striking example of the relevance for relating discursive practices and infrastructures is the unequal access of different social groups to digital media devices and platforms. This inequality is (among other factors) based on the spatial and physical availability of internet access and the required competencies for making use of it. This leads to a "digital divide" of social groups wherein the relations between infrastructures and discursive practices prestructure how diversely and frequently social groups (not individuals; van Dijk, 2013, p. 109) take part in public communication networks (van Dijk, 2013, p. 114). Consequently, the notion of infrastructures is not limited to technical arrangements of social goods—it also includes digital competencies (see Koltay, 2011, for an overview) of relationally positioned social groups (and their respective categorisations, such as the old/young or urban/rural). Thus, we argue that the intermingling of social and technical infrastructural elements constitutes an infrastructured space inhibiting and/or incentivising the occurrence of specific discursive practices for certain social groups.

The aforementioned arguments exemplify that the making and institutionalisation of spatial figures on different levels of infrastructural layers (socio-technical, media literacy, educational, and economic) should be differentiated from spatial figures as preconditions and effects of discursive practices. This difference serves the need to understand power relations within relational communication spaces playing out on the level of social groups. Differentiating the spatialities of infrastructural layers and discursive practices meets the need to re-relate their figurations in a second step; for example, regarding a certain issue around which public communication emerges, or for exploring why certain communities are hardly (or not at all) present in public communication about controversial matters that affect them.

4. Operationalising the Relational Communication Space

Drawing on the sociology of space enables us to undertake differentiated analyses of the spatiality of public communication. Distinguishing the processes of spacing and synthesis helps in understanding two challenges of public communication: the causes of spatial heterogeneity within the relational communication space and the different opportunities for participation in public communication. The concept of the relational communication space does not determine a specific spatial configuration, neither theoretically nor normatively. Instead, the spatialisation of public communication is subject to empirical analysis. It can be described and interpreted through the heuristic spatial figures of network and territory (as well as place and trajectory as subordinates). All spatial figures can occur simultaneously and are not mutually exclusive; for example, actors can use different communication infrastructures that enable a more territorially or a more network-like structured communication space. Territorially bound infrastructures can also be integrated into translocal discursive practices. Conversely, potentially globally networked infrastructures can be used for locally bound discourses. Whether the different spatial figures and their logics of connection and differentiation are in conflict or productively complement each other is also a question for empirical analysis.

Additionally, investigating the spatiality of public communication is not an end in itself because we can use the conceptual lens of spatial theory to highlight the effects of structural power relations in and prior to processes of public communication. These can range from social groups being structurally excluded due to a lack of technical infrastructures in a certain area or the overrepresentation of certain voices and communities that are more skilled with the requisite discursive practices (at the cost of others). In addition, it is possible to assess power struggles concerning the spatiality of infrastructures and publics, such as the ongoing discussions about high-speed internet access in rural areas (infrastructures), or conflicts concerning the governance of infrastructures filtering illegal or undesirable media content within certain regulative spaces (mostly territorial), such as the EU (publics). This also allows us to identify development potentials and areas of action: Where do infrastructures fail to do justice to discursive practices? Which infrastructures and resources remain unused? Which skills for participating in public discourse are unequally distributed? Who can participate and who becomes visible in the relational communication space?

How can we translate our theoretical concept of a relational communication space into empirical strategies to answer those questions? The strategies will eventually be determined by the research questions posed, but fundamentally the concept of relational communication space prompts us to work with mixed methods and to incorporate various data sources. This accounts for the infrastructures as well as practices central to the relational communication space. Such approaches can increasingly be found in the social sciences, such as mapping methods (e.g., Karsgaard & MacDonald, 2020) or netnography (e.g., Kozinets, 2010). Since ours is a relational approach, the collection of network data would be our preferred choice. Combined with content analysis, it is not only the communicative interactions between actors that can be investigated but also their references to places (e.g., Reber, 2020) or actors located in certain places. Moreover, the network represents referenced and addressed goods and human beings. Thus, the network retraces the process of spacing, of putting things and humans into "relational arrangements" (Löw, 2016, p. 131). The network perspective is also well suited to address questions of power structures, visibility, and the ability to connect. For example, network analysis can be used to identify particularly central as well as isolated nodes, the formation of clusters, whose location and topics can be traced, and to analyse the emergence of the different roles that the nodes assume (such as hubs or brokers) which influence the flow of communication (e.g., Himelboim et al., 2017). Methodological strategies that focus on the flows and paths of the object of analysis and map how interconnections are built (grouped under the label of 'following the XY,' e.g., an issue or actors), can be applied to explore the full range of infrastructures used to disseminate information or narratives and identify the actors involved (e.g., Ball, 2016; Marres & Rogers, 2005).

The processes of synthesis, namely the imagination of an audience, the invocation of shared narratives and their perceptions and interpretations (conceptualised here as discursive practices), can be interpreted within the paradigm of (spatial) discourse analysis (e.g., Glasze & Mattissek, 2009; Witschge, 2008) and understood empirically by well-established methods such as quantitative and qualitative content analysis, as well as interviews (e.g., Burrell, 2018), diary studies (e.g., van Dijk, 2013), multi-sited ethnography (e.g., Marcus, 1995; for a reflection of "ethnographic research in the age of platforms" see Bonini & Gandini, 2020), and surveys (e.g., Litt & Hargittai, 2016). Again, these insights will complement the structural network analyses of the goods and humans involved (Jackson & Foucault Welles, 2016, p. 398). However, using network analysis does not mean that one will only find network spaces of communication. Rather, the relational communication space will present itself as a structure with different spatially structured communicative densifications and infrastructures in which the various spatial figures and their logics overlap and interfere.

5. Conclusions

We have set out to develop a concept of the spatiality of public communication because the social and technological developments of the last two decades have shown that the prevailing territorial understanding of space is insufficient to capture the spatiality of public communication. Therefore, we propose the concept of 'relational communication space,' based on Löw's concept of space as a relational arrangement of humans and things (2016, p. 131). Our application of Löw's concept to public communication leads to four conceptual innovations regarding theoretical thinking about communication spaces. First, the emergence of public communication spaces can be traced back to two central processes: the use of infrastructures for the purpose of communication, and the synthesis of communicative relations between actors through discursive practices. Second, both infrastructures and discursive practices are spatially bound and thus structure the spatiality of public communication—this is a main contribution of the concept of the relational communication *space*. Third, the spatial arrangements can be described and interpreted through the simple heuristics of networks and territories. Fourth, the spatiality of infrastructures and discursive practices implies a spatial distribution of (latent) power structures relevant for the investigation of (in)equality in public communication.

What is the added value of this concept for analysing and understanding public communication? While the spatiality of public communication is systematically considered, the spatial configurations are not normatively laden (such as the idea of a unified national public sphere). Instead, our concept is created for the empirical investigation of the spatiality of public communication. The spatial features of infrastructures and discursive practices are indicators of who can participate in public communication and how. By focusing on both dimensions (communication infrastructures and discursive practices), any incongruence or mismatch between the two can be identified, allowing potential interventions to be derived.

We invite future research to apply our concept and to systematically account for the spatiality of public communication. The study of the spatiality of infrastructures, especially their gaps and access restrictions and their role in the emergence of public communication could be particularly interesting for research about media governance. The focus on discursive practices and their implication in synthesising relational communication spaces could be relevant for research investigating agenda building, the diffusion of narratives, frames, etc., and communicative strategies of activists, social movements, or other groups. Fundamentally, the concept of the relational communication space draws our attention toward central questions surrounding the participation, inclusion, and visibility of people and groups from a variety of spatial locations in public communication.

While this article aimed to systematically consider the spatiality of public communication, the integration of another central parameter of human action is still pending. Further developing the concept of relational communication space would require integrating the time dimension. In our argumentation, temporality has been mentioned repeatedly: Infrastructures change through technological developments, which may also affect discursive practices. Discursive practices, in turn, are only formed through repetition. Infrastructures can also shape certain rhythms and affect the speed of communication; for example, digital media enable faster communication than legacy mass media (Kavada & Poell, 2020, p. 197). Finally, the discourses that can change infrastructures are also shaped by events that may stretch over years (e.g., the Cambridge Analytica scandal led Facebook to adjust its API while also sparking an ongoing debate about the role of social networking sites in elections and the need for regulation). Considering both the spatiality and temporality will greatly enhance the analysis of the emergence of relational communication spaces.

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Conflict of Interests

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Article

Transit Zones, Locales, and Locations: How Digital Annotations Affect Communication in Public Places

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Abstract
The article presents an analytical concept, the Constitution of Accessibility through Meaning of Public Places (CAMPP) model. The CAMPP model distinguishes different manifestations of public places according to how they facilitate and restrict communication between urbanites. It describes public places along two analytical dimensions: their degree of perceived accessibility and the elaboration of knowledge necessary to participate in place-related activities. Three patterns of communicative interaction result from these dimensions: civil inattention, small talk, and sociability. We employ the CAMPP model as an analytical tool to investigate how digital annotations affect communicative patterns and perceptions of accessibility of public places. Based on empirical observations and interviews with users of smartphone apps that provide digital annotations, such as Foursquare City Guide, we observe that digital annotations tend to reflect and reinforce existing patterns of communication and rarely evoke changes in the perceived accessibility of public places.

Keywords
annotation; civil inattention; Foursquare; locative media; perceived accessibility; public places; small talk; sociability; social worlds; Tabelog

Issue
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1. Introduction

Public places are the historical nucleus of the modern public sphere. Scholars have pointed out the importance of public places as sites for encounters where mutual strangers can communicate face-to-face and experience a sense of belonging (e.g., Goffman, 1963; Jacobs, 1961; Lofland, 1998; Sennett, 1977; Strauss, 1961). Gerhards and Schäfer (2010) refer to this earliest and interpersonal level of the public sphere as “encounter publics” (p. 144). Most of the research on encounter publics originated in the pre-digital era. In the wake of digitization, research on interpersonal communication has largely shifted from face-to-face encounters to the “networked publics” (Varnelis, 2008) of social media platforms. However, we believe it is worth taking a fresh look at some older literature. By confronting older concepts on encounter publics with new empirical observations, we expect to gain deeper insights about how profoundly those media have transformed the nature of public places and face-to-face encounters.

Locative media are mobile apps utilizing the positioning features of smartphones to provide their users with web-content about their current position. An example enjoying great popularity is mobile recommendation services that help users find restaurants, shops or other places. In addition to pointing to nearby places, recommendation services provide users with various information such as ratings, comments or photos left by other users. In the context of locative media, these various kinds of digital information are usually labelled "annotations" (see Frith, 2015, pp. 81–95). By linking GPS coordinates with user-generated web content, such as photos, reports, or ratings, annotations add digital layers of meaning to urban public places, acting as equivalents of physical display windows, posters, or graffiti. Predicting how the mass proliferation of annotations will change encounters in public places as a whole is difficult. In our empirical research, we narrow our focus on two closely related questions. We investigate how digital annotations affect the perception of accessibility of public places and how this perceived accessibility, in turn, affects communicative patterns in face-to-face encounters.

Accessibility is a concept describing the likelihood that an urban place will provide a social entry point for encounters between strangers (Lofland, 1973, pp. 19–20). Public places are, by definition, legally accessible for every inhabitant or visitor of the city. However, the de facto accessibility of a place is difficult to assess without taking into account the city dwellers' perceptions. As Anselm Strauss (1961, pp. 59–61) has shown, people who belong to different social worlds perceive the accessibility of public places differently. This difference is particularly evident when considering the meeting places of marginalized social worlds, such as those of drug addicts or the homeless. Although these places are legally accessible, many city dwellers avoid them because they attribute a poor reputation to these places. This example also clearly shows that perceptions of accessibility are less a matter of personal experience and more a result of knowledge circulating within social worlds. Many city dwellers know about places to avoid without having personally experienced them. This knowledge also includes the "genres of communication" (Bergmann & Luckmann, 1995) that are appropriate for addressing strangers in certain places.

Digital annotations have the potential to transform these knowledge-based modes of perceiving accessibility because they provide city dwellers with new channels for creating and sharing knowledge about public places. To investigate this transformative potential, we proceed in two steps. The first part of the article presents the Constitution of Accessibility through Meaning of Public Places (CAMPP) model. This step is necessary to counter the widespread impression that public places are a homogeneous phenomenon in terms of their perceived accessibility. Instead, we develop a typology that distinguishes different types of public places with respect to their perceived accessibility and the way it is constituted by ascription of meaning. In the second part, we discuss how the annotation features of contemporary smartphone apps affect the meaning attached to public places and their corresponding perceived accessibility. In doing so, we employ the CAMPP model as a sensitizing concept.

For the purpose of our discussion, we draw on findings from ethnographic and interview-based research on the use of annotation apps in Berlin and Tokyo. In terms of the use of locative media, Berlin represents a typically European metropolis offering numerous opportunities to study the effect of annotations on the perceived accessibility of public places. To avoid a Eurocentric perspective, however, we added a contrast case. Tokyo is an East-Asian megacity, a characteristic of which is that the various public encounters occur in a spatially condensed form. In addition, our decision for the city was based on Japan's (and especially Tokyo's) reputation as a technologically pioneering society. Considering the spatial condensation of public encounters there, we assumed we would find more creative appropriations of digital annotations in Tokyo than in Berlin, although, with regard to the perceived accessibility of public places, this assumption has not been confirmed.

2. A Typology of Public Places

According to Lyn Lofland (1973, p. 19), public places are defined by the criterion of legal accessibility. In contrast to private households or the workplace, public places are, in principle, freely accessible to the urban population. However, only some of them are perceived as equally accessible from the perspective of the members of the different social worlds inhabiting the city. In contrast, many public places, though legally accessible for everybody, are actually visited only by small sections of the urban population. Strauss (1961, pp. 59–67) considers this is a result of urban places being associated with different meanings that attract some social worlds while repelling others. Places gain their meaning from knowledge. This can be general knowledge or more elaborated knowledge shared only within specific social worlds. The concept of 'social worlds' originated in the Chicago School's approach to capturing the segmentation of urban life into relatively independent "universes of discourse" (Strauss, 1993, p. 210). Social worlds organize around core activities concerned, for example, with the production of certain goods or a way of living. Examples from urban life are the worlds of arts, scenes, gangs, sports, or ethnic communities (e.g., Becker, 1982; Irwin, 1977; Whyte, 1943; Zifonun & Naglo, 2019). Depending on the degree of involvement in a social world's core activities, sociologist David Unruh (1980) distinguished four roles: At the inner circle of social worlds are "insiders'' (p. 282) with specialist knowledge. They are the key representatives of this world's lifestyle. Insiders get support from "regulars" (Unruh, 1980, p. 281), who habitually participate in the core activities. At the fringes of social worlds, "tourists," and "strangers" (Unruh, 1980, p. 281) can be found. While tourists are irregular visitors of social worlds who may acquire superficial knowledge, strangers usually stay away. It is one of the peculiarities of urban life that people take on the role of strangers with regard to most activities occurring around them (e.g., Lofland, 1973, pp. 3–23).

Social worlds typically have some kind of spatial reference point where participants perform core activities and share knowledge (Strauss, 1993, p. 212). These are the places where insiders and regulars of their respective social worlds are most likely to be found. Usually, members of a social world invest a considerable part of their resources in symbolizing these places as their own. Due to legal accessibility, however, clear demarcations are neither common nor necessary. What is a relevant place for the activities of one social world is very likely to be irrelevant from another world's perspective. Strauss (1961, p. 59) points out that the accessibility of most public places is restricted to some degree simply because these places "lie outside of effective perception" (Strauss, 1961, p. 65) of a large part of the urban population. By filtering out less relevant places, city dwellers cope with the cognitive overload of potentially accessible urban places (e.g., Milgram, 1970). Georg Simmel (1950) once summarized this psychological condition of urban life in the famous social type of the "blasé."

Drawing on the concept of social worlds and their relevance for the perceived accessibility of public places, the CAMPP model distinguishes places according to how strongly they restrict perceived accessibility. The spectrum ranges from places that are actually accessed by all city dwellers to places that are perceived as being accessible only to members of specific social worlds. The model also distinguishes places according to how basic or elaborate the knowledge is that is necessary to participate in the activities performed at these places. The three types of public places we identify this way are associated with different communicative genres (see Figure 1). Communicative genres are established behavioral patterns of—verbal and non-verbal—exchanges helping people to cope with recurring problems of everyday life (Bergmann & Luckmann, 1995; see also: Goffman, 1981; Hymes, 1974). They are an integral part of a society's knowledge stock. In our case, these communicative genres help people cope with the large number of public encounters they experience in urban environments.

2.1. Transit Zones

The transit zones displayed in Figure 1 refer to spaces characterized by a high degree of accessibility, e.g., parking lots, subway stations, or low-budget hotels. These places did not play a significant role in Strauss's (1961) conceptual thinking, but transit zones, as we call them, usually set the stage for Erving Goffman's (1963) observations of "behavior in public places." We have integrated this type into the CAMPP model because transit zones have gained increasing importance for urban life. Cities of contemporary societies are traversed by transit zones, providing infrastructures for the "mobile lives" (Elliott & Urry, 2010) of the 21st century. At these places, millions of times on a single day people are passing mutual strangers. Transit zones are easily accessible for large numbers of city dwellers because, in the world of mass mobility, it is barely relevant where participants come from or what special knowledge

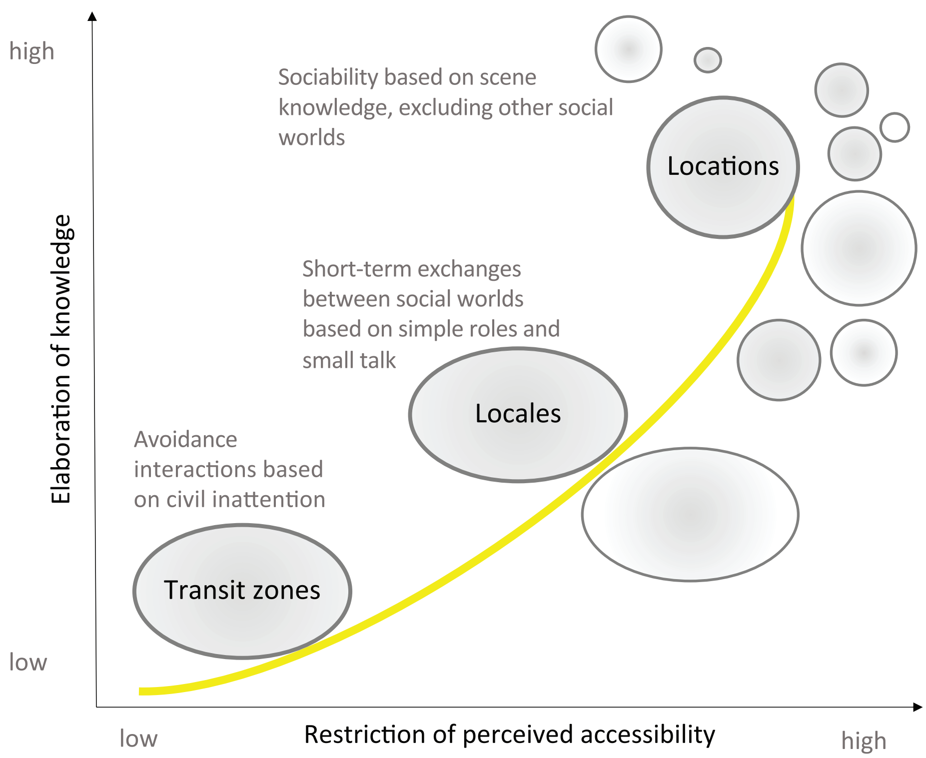

Figure 1. The CAMPP model.

they have. The knowledge required to navigate transit zones is "general knowledge," i.e., knowledge "routinely transmitted to everyone" (Schütz & Luckmann, 1973, p. 312). Most interaction follows the simple rule of avoiding face-to-face conversations. People cope with the co-presence of strangers by applying a behavioral pattern of non-verbal gestures and signals, described by Goffman (1963, pp. 83–88) as "civil inattention." As Anthony Giddens explains, this pattern of nonverbal communication creates an atmosphere of mutual trust among the visitors of public places:

> Two people approach and pass one another on a city sidewalk….As the two people approach one another, each rapidly scans the face of the other, looking away as they pass….The glance accords recognition of the other as an agent and as a potential acquaintance. Holding the gaze of the other only briefly, then looking ahead as each passes the other couples such an attitude with an implicit reassurance of lack of hostile intent. The maintenance of civil inattention seems to be a very general presupposition of the trust presumed in regular encounters with strangers in public places. (Giddens, 1990, p. 81)

The rules of civil inattention limit verbal exchanges to a minimum. Special circumstances must prevail for the barriers of civil inattention to be breached—for instance, asking for directions or, broadly speaking, asking for help. The absence of face-to-face conversations turns transit zones into places of anonymity. This anonymity is probably one of the reasons why the participants of mass mobility are hardly aware of being part of one world—despite the fact that urbanites of the 21st century spend more time moving through transit zones than people have ever before. In the social world of mass mobility, each participant is a stranger to the others and, at the same time, a specialist in this particular field of activities. In other words, there is no meaningful differentiation between the role of the stranger or the insider.

2.2. Locations

Compared with that of transit zones, a location's degree of perceived accessibility is low. The concept of locations refers to those places where urban space most convincingly takes the segmented form of "a mosaic of little worlds which touch but do not interpenetrate" (Park, 1915, p. 608). When Strauss (1961, p. 64) wrote about locations, he had in mind public places rooted in urban neighborhoods whose inhabitants are composed of a single economic class or ethnic community. Today, the urban mosaic is completed by post-traditional life forms as, for example, the many worlds of (youth) scenes, such as punks, vegans, computer gamers, skaters, etc. (see Pfadenhauer, 2005). All these social worlds resemble each other in having their own locations, which may emerge around bars, churches, bookstores, gyms, etc.

The prevailing communicative genre at locations is "sociability" (Simmel, 1949). Sociability is a playful pattern of exchange between people, "always contingent on the joy of others" (Simmel, 1949, p. 257), which might be expressed in joint activities, such as drinking beer or playing cards, but above all in face-to-face conversations (Oldenburg, 1997, pp. 26–31). Although most locations are legally accessible to the general public, the public display of sociability is, quite often, an expression of a social world's dominance over a place that keeps outsiders away. Consequently, those public places, where sociability is most likely to occur, bring together especially those urbanites who share a common lifestyle and common activities.

Participating in the activities that take place at locations often requires elaborate knowledge. As visiting a location is often about sharing special knowledge and cultivating particular lifestyles, people can easily distinguish insiders and regulars from occasional tourists and strangers. Referring to the example of a Polish tavern in 1960s Chicago, Strauss (1961) points out that, at a location, "the stranger is quickly spotted" (p. 64) due to their lack of special knowledge in how to participate in the core activities that regular visitors perform at the location. Most strangers avoid such locations because they are unfamiliar with the activities carried out there. They feel uneasy as they do not know what goes on and how to address other people. Considerable intimacy with subcultural codes and respective lifestyle practices is necessary to gain knowledge of a social world's meeting points and to understand its symbolic forms of expression. This is as true for the visitors of a present-day techno club in Berlin as it was for those of a Polish tavern in 1960s Chicago.

2.3. Locales

Navigating public places such as city plazas, concert halls, shopping promenades, sports facilities, or parks and participating in the typical activities taking place there usually requires more specific knowledge than navigating transit zone but less knowledge than that required to feel comfortable at the locations of specific social worlds. In these places, "the diversity of the city's residents comes together and dwells side by side, sometimes appreciating one another, entertaining one another, or just chatting, always to go off again as strangers" (Young, 1986, p. 21). Strauss (1961, p. 63) summarizes these places, where people experience the diversity of social worlds, under the heading of "locales." While locations are associated with one dominant way of life, locales attract people of very different lifestyles. For an example, Strauss refers to a street in Chicago once famous for its vibrant nightlife:

> It is one of the glamour streets of Chicago. There one can see, if one has an eye for them, prostitutes, pimps, homosexuals, bisexuals, upper class men and women, university students, touts, artists, tourists,

> business men out for a good time with or without girlfriends, young men and women dating, people of various ethnic backgrounds, policemen, cabbies—the entire catalogue is much longer. Rush Street is a locale where people from many different urban worlds, with many styles of urbanity, pass each other, buy services from each other, talk to one another, and occasionally make friends with one another. (Strauss, 1961, p. 63)

Locales are the spatial intersections of the orbits of people who, most of their lifetimes, are committed to different urban worlds (Strauss, 1961, p. 64). The exchanges taking place at locales are coordinated using simple role sets such as marketers and customers, allowing strangers to temporarily breach the barriers of civil inattention without their identities being affected. Accordingly, face-to-face conversations in locales rarely lead to social relations that go beyond small talk. As Judith Beinstein (1975, p. 147) points out, small talk is a "highly ritualized and predictable" genre of communication "to initiate exchanges, pass time effortlessly, and maintain cordiality around acquaintances and strangers." Both components, ritualization and predictability, are social means to prevent from having to open "to each other's potential disapproval" (Beinstein, 1975, p. 148). Thus, small talk is appropriate at locales, "where social heterogeneity and secondary contacts proliferate" while "establishing mutual trust [is] especially difficult" (Beinstein, 1975, p. 148).

3. Locative Media and Digital Annotations of Public Places

Strauss' (1961) reflections on public places, on which the CAMPP model is based, still assume that the ascriptions of meaning and the corresponding perceived accessibility of places are primarily generated in face-to-face interaction. Of course, Strauss was also aware of the fact that life in modern cities has always been permeated by media technologies such as telephone booths, billboards, or newspapers, which provided the urban population with information and connected them. Nevertheless, in his conceptual reflections, these media technologies do not play a major part. In an age of "deep mediatization" (Couldry & Hepp, 2017), this way of conceptualizing the perception of public places no longer seems adequate. Media technologies always had an impact on the meaning attributed to public places. Whether people perceive Alexander Platz in Berlin, for example, as a crime-ridden location or as a touristic locale depends largely on the discourses taking place in the mass media and on Internet platforms. There is reason to assume that, with the development of web-enabled smartphones, the impact of digital media will even increase, as smartphone apps directly intervene in face-to-face communication on public places (Rainee & Zickuhr, 2015).

The CAMPP model is intended to serve as a "sensitizing concept" (Blumer, 1954) for investigating how locative media, a new type of smartphone app, affect the perceived accessibility of urban public places. "Locative media" is an umbrella term for mobile apps utilizing the positioning features of web-enabled smartphones to provide users with digital information about their physical and social surroundings (see Frith, 2015, p. 2). Locative media take the mediatization of urban environments to a new level by merging the digital representation of a place with its physical reference on a smartphone screen. In the words of media scholar Adriana de Souza e Silva (2006), these apps create a "hybrid space" composed of physical and digital experiences. Mobile games that project digital creatures into physical places or navigation services that guide their users in real-time through unknown streets are examples of different locative media. In this article, we take a closer look at another locative media, annotation-based recommendation apps.

The idea of annotating public places arose in the 2000s within locative media art projects (Tuters & Varnelis, 2006). The original aim was to initiate public encounters and to re-write the dominant meanings associated with public places in creative and playful ways (e.g., Farman, 2014; Liao & Humphreys, 2014). However, it has not been locative media art but commercial recommendation apps that have made annotating an everyday practice suitable for the masses of smartphone users (e.g., Wilken, 2019). Thus, commercial recommendation services are the research object of our investigation. To trace their effects on perceptions of spatial accessibilities, we conducted and analyzed in-depth interviews and media diaries of 15 users residing in Germany and 17 users residing in Japan. A translator assisted us with the Japanese interviews. The empirical research was conducted in two cities that offer a broad spectrum of diverse public places: Berlin and Tokyo. The interviews with users in Berlin took place in summer 2018; those with users in Tokyo in fall 2019. On average the interviews lasted 60 minutes. They covered topics of leisure activities, navigating the city, practices of finding a place, and digital media use. Each interview was preceded by two to four weeks in which interviewees kept a "media diary" (Berg & Düvel, 2012) about their app use based on screenshots and brief descriptions of their spatial perceptions; these diaries later served as conversational stimuli for the interviews. All interviews were recorded, transcribed and coded. Coding was performed according to the principles of Grounded Theory and with the help of a software tool for qualitative content analysis (MAXQDA) to systematically capture all interview statements about relationships between spatial perception and digital annotations. In line with Grounded Theory's core principle of "theoretical saturation" (Strauss, 1987), the aim of coding the interview transcripts and media diaries was to draw a picture, as complete as possible, of the different ways in which recommendation apps affect the spatial perceptions of the users in the two cities.

In Germany, we interviewed users of the Foursquare City Guide. Foursquare is one of the world's leading recommendation apps for restaurants, shops, and other places (see Frith, 2015, pp. 96–111; Wilken, 2019, pp. 67–75). In Japan, we focused on Tabelog, which is the more popular app there. Though our focus was on these two apps, the interviews also included information about other locative media that are part of users' media ecology for navigating their cities. In contrast to Foursquare, Tabelog is specialized on restaurants and other eating places. Yet, both apps are similar in their functions. Unlike desktop software, these apps are designed to be used on the go, for example, while riding the subway or just before entering an unknown location. Users can search for places in their vicinity using digital maps and lists they can sort by categories, ratings, or keywords. User-generated content such as photos, short reports, and ratings provide them with various information about places. Heavy users are also eager to write their own reports, rate places, and share photos. Since we were interested in the ways annotated recommendations affect the perceptions of spatial accessibilities, we relied primarily on interviews, and we left aside a detailed content analysis of the two apps at this point. Inspired by the "walkthrough method" (Light et al., 2016), we conducted a content analysis of Foursquare's interface and describe it in another article (Lettkemann & Schulz-Schaeffer, in press). For the purpose of this article, however, we consider it sufficient to show some screenshots depicting essential interface elements of both apps (see Figure 2). These screenshots show typical search results, such as text-based recommendations, photos, maps, and ratings.

We discuss our observations along the three types of public places described in the CAMPP model. Since the Japanese app Tabelog is limited to places that we classify as locations, we can compare the uses of Foursquare and Tabelog only with respect to locations. Nevertheless, since these apps are typically used in combination with other social and locative media, our interview data from Tokyo and from Berlin also provide information about the other types of public places. For the purpose of this article, we concentrate on these two apps so that the examples of interview quotes that refer to locales and transit zones are taken only from our case study in Berlin. In our analysis, we find three practices of using annotations, two of which do not increase the perceived accessibility of public places, while the last one helps to overcome barriers, at least temporarily.

3.1. Reflecting Place-Related Knowledge

Transit zones are characterized by a high degree of perceived accessibility but also by anonymity. Some older studies on locative media assumed that transit zones such as subway stations or airports gain symbolic significance just because users tend to annotate them quite often (e.g., Buschauer & Willis, 2013, p. 33). However, do these annotations really add new layers of meaning to transit zones? Our empirical material suggests otherwise. The prevalent form of annotating transit zones seems to be to share basic knowledge relevant to the activities of mass mobility. The following quote from an interview with a German heavy user about helpful information, called a "tip" in the Foursquare app, illustrates this point:

> Q: When do you write a tip?
>
> A:… At Berlin Hauptbahnhof, I will not write a tip. Except maybe….I think I once wrote a tip because at some point… that may not be the case anymore, but in the past, you hardly found any lockers in the main hall or they were all occupied.

Figure 2. Screenshots of Foursquare City Guide (left) and Tabelog (right) captured in our interviewees' media diaries.

Q: This tip is very helpful; it was displayed on my phone once! (Laughter).

A: And then at some point in time they built this luggage center… between these two tracks where you could just drop off your luggage for 5 Euros without having to search for a locker for a long time. This knowledge is of great a help in such a large building!" (Foursquare user, insurance agent, male, 43 years)

All the statements of our interviewees regarding transit zones have one thing in common. The knowledge objectified in annotations that focus on transit zones usually provide tips and tricks for coping with the burdens of urban life's mobility. In other words, annotations referring to finding lockers, rare consumer goods, WiFi passwords, restrooms, and similar instances relieve people of the unpleasant burden of asking strangers. Consequently, face-to-face interactions are further minimized, reinforcing the communicative pattern of civil inattention predominant in transit zones. This way of annotating knowledge makes it easier for strangers to move through unknown transit zones, but it does not change the symbolic meaning of this type of public place.

With locales, we also observe that the annotations tend to reproduce and reinforce place-related patterns of communication and attributions of meaning. Foursquare annotations referring to locales often display the kind of knowledge that corresponds with the typical tropes of small talk. For instance, the content about Berlin's Kollwitzplatz, a popular locale to stroll and go out to, includes a variety of comments written in the style of small talk: Typical topics for small talk are addressed, ranging from warnings about too high prices to various recommendations on how visitors can pass the time (see Figure 3). Since Kollwitzplatz is also a tourist hotspot, many of the comments are written in English. As is characteristic in verbal small talk, these comments are a series of short statements that are little or not at all related to each other and offer little potential for disapproval.

One reason to read the annotated recommendations related to locales is to find places whose atmosphere lends itself as a background for photos that can be shared on Instagram, TikTok, and other social-media platforms. This reason was mainly brought up by our younger interviewees. Since they assigned themselves to heterogeneous urban scenes, ranging from regular visitors of sports bars to nature lovers, this concordance can be read as an indication of the continuing aesthetic appeal of these places to heterogeneous social worlds.

3.2. Filtering Out Locations

Since the more elaborated knowledge required to understand what is going on at locations restricts their perceived accessibility, the question arises whether the information shared by users of recommendation apps can reduce these barriers to perceived accessibility. Although users can search for all kinds of places in their surrounding areas, including those different from their usual habitat, our interviews show that this kind of search is rare. The main motivation to use recommendation apps seems to be to find additional places that fit existing preferences rather than to explore unknown territory. Instead of the internalized psychological filters Milgram (1970) or Simmel (1950) have attested to urbanites, users of recommendation apps allow external technical filters to relieve them of the cognitive overload of potentially accessible places. The various filtering features of Foursquare and Tabelog make it possible for users to exclude from searches most kinds of places and

Figure 3. Berlin's Kollwitzplatz through the lens of Foursquare City Guide. Note: screenshots captured during our case study.

to include only those with particular characteristics. For example, a young management consultant without an office of his own, who does much of his work in cafés in downtown Berlin, reported that he rarely visits any places that do not match his search criteria. Cafés without free WiFi or enough sockets to charge his laptop are useless places to him:

> I have my search criteria for a place where I want to work [sockets, free WiFi, etc.]. I don't change these criteria very often. In the end, I always end up in relatively similar places because the criteria that I am basically looking for on Foursquare are the same criteria that I have implicitly always been looking for. (Foursquare user, business consultant, male, 26 years)

Most of our interviewees reported similar search strategies. A Japanese business student told us that she is always looking for quiet and inexpensive bars where she can have long conversations with her friends. Her fellow student is mainly interested in finding places where credit card payment is accepted. A web-developer from Berlin reported that, during her lunch breaks, she is always looking for highly rated cafés that serve certain brands of coffee. Most interviewees confirm that they look for places that fit their own lifestyle. Discovering unfamiliar places and exploring unknown social worlds at their locations does not seem to be a pronounced motive to use Foursquare or Tabelog. This is remarkable in that the advertising texts of both apps promise potential users that installing the app will give them access to new places and experiences. The Japanese and German users in our sample do not show any significant difference in this respect. One of the few differences is that, in some instances, the apps offer users different search categories.

Users in Berlin and Tokyo agree that the most important source of information to decide whether a location corresponds to their own preferences is viewing the annotated photos of the locations. With these photos, users communicate their world-specific knowledge about taste, fashion, etc. Thus, visual annotations of locations also tend to reflect already established views rather than assign new meanings to public places. One Japanese interviewee even told us that he completely forgoes reading comments and makes his decision solely on the basis of photos, which he considers more authentic than written reports of other guests' experiences:

> When I look at the photos, I can decide for myself, does that food look tasty, or does that setting look appealing? And I don't really believe in written comments because it is a very individual feeling whether something tastes delicious or whether you like the interior, and so on. And from the photos, you can see much more because you can judge for yourself, does it look tasty, or does this store look good, and so on. (Tabelog user, business student, male, 21 years)

Though the users most of the time employ quite restricted search strategies, they describe themselves as curious to get to know new places. This is not a contradiction. Annotation apps accomplish the trick of satisfying the desire of many users for the experience of new places without exposing these users to the risk of disappointment or irritation that comes with random exploration of public places. Our tentative conclusion is therefore: Even though it is highly likely that using recommendation apps increases mobility across urban public space, perceived accessibility to locations seems to be unchallenged. Most users remain within the borders of their social worlds.

Even if users are looking for different places, the problem arises that only small pieces of scene knowledge are portrayed in annotations. Places are not only technically filtered by searching users selecting certain search categories; rather, the filtering process starts a long time before, with the social composition of those people who create annotations. Those heavy users, who actively annotate places, are probably representatives of a small number of social worlds, as one of our interviewees explained after exploring her neighborhood through the Foursquare lens. She lives in Wedding, one of Berlin's districts with a high percentage of people of Turkish origin:

> Q: Do you think this is a realistic reflection of your neighborhood?
>
> A: Well, I haven't lived here that long now, so I can't judge that. I think there were far too few kebab shops suggested to me for me to be in Wedding. (Laughs).
>
> Q: Okay. (Laughs).
>
> A: Here there are very many kebab shops, and you simply notice that here about 50 percent at least or no, 30 percent of the people somehow have something to do with Turkey. When I look at reality and Foursquare, then Foursquare seems a bit too European to me.
>
> Q: Okay. How would you describe the picture that Foursquare shows, European, and maybe some other attributes that come to mind?
>
> A: European, progressive, creative and also a bit green, that's it. (Foursquare user, chemistry BA student, female, 21 years)

3.3. Touristic Visits to the Locations of Neighboring Social Worlds

However, our sample is not so homogeneous that we cannot point out some opposing tendencies. Some interviewees have described annotations as "windows" allowing them to look behind the walls of unknown locations. That knowledge does not necessarily mean they actually visit a place, but social barriers seem to be lowered. A Japanese interviewee described a situation when she arrived at a small train station and there was only one store available that she normally would not have entered:

> I found [the store] a bit strange because the only staff member was a guy who was reading the newspaper. I wondered: Hm, is this store even open? And the store looked very old. And it wasn't a chain store, it was run by a single person, and it felt a bit difficult for me to get in. It didn't look inviting. But the [Tabelog] reviews were good and it said in the reviews that the coffee was really tasty and there were a lot of reviews of it. And then I said to myself: Pull yourself together and I went in. I was very hungry at the time. (Tabelog user, business student, female, 21 years)

In situations where only a limited number of places are available or when users decide to drift through unknown streets, they consult annotations of locations that usually fall outside their search categories. The fact that the majority of users share similar lifestyles might be quite functional in the sense that it makes it easier to trust other users' recommendations and taste judgements. A similar effect can be observed with regard to the rating scores of locations, calculated from users' likes and numbers of visits. According to some interviewees, their trust in ratings occasionally leads them to places they would never have chosen based on the self-presentation of these locations; as a German interviewee reported about a situation where he was looking for pancakes:

> [I entered] a restaurant that looked like a rocker bar from the outside. I probably wouldn't have entered it. But from the inside it looked like my grandma's living room and there were delicious pancakes! (Laughing). Usually, I would never have entered, really, but I had based my decision on the score. (Foursquare user, tax consultant, male, 37 years)

In all instances reported to us, these excursions remained short, but without the help of annotations they probably would not have occurred at all. In other words, annotations make it easier for strangers to take on the role of tourists venturing into neighboring worlds. It is an open question whether the new kind of "touristic gaze" (Urry & Larsen, 2011) that annotation apps cast on public places will lead to changes in the perceived accessibility of places in the long run. For the moment, it seems that scene-specific forms of sociability, such as listening to loud rock music, impel outsiders to withdraw to their own social worlds after their touristic desire for an exotic experience has been satisfied.

4. Conclusion

The CAMPP model is built on the basic assumptions of interactionist urban sociology as laid out by Strauss (1961). It extends and refines these basic assumptions by adding another type of public place, transit zones, and by linking types of public places to research on scene knowledge and communicative genres. In this way, it allows three different types of public places to be distinguished based on the empirical characteristics of perceived accessibility, forms of knowledge, and patterns of communication. The different ways in which transit zones, locales, and locations are rendered meaningful is related to these three characteristics. Locative media provide an additional option to attach meaning to public places. Yet, we know little about the consequences of this new form of mediatizing public places. The CAMPP model is intended to serve as an analytical tool to trace these effects.

The research on Foursquare City Guide and Tabelog, presented in this article suggests that digital annotations tend to reflect and reinforce the given views and interpretations of public places. The information provided by annotations usually contains the kind of knowledge and the pattern of communication already established for the respective transit zone, locale, or location. And the users of the recommendation apps tend to use the information as a support for their already established ways of navigating the city. The two apps are not only similar in terms of interface design but also in the ways users, residing in Tokyo and Berlin, appropriate the annotation features of both apps. In the case of locations, annotations constantly provide mobile users with suggestions and thus succeed in satisfying their need to discover new locations. Yet, these suggestions are similar enough to the users' already preferred locations to shield them from experiencing the risks and irritations associated with random exploration. Personalized search filters and algorithmically generated location recommendations in connection with the described user practices maintain the established restrictions of perceived accessibility of public places by directing users to places that correspond to their social and environmental preferences.

Our results diverge in interesting ways from older works on the appropriation and impact of digital annotations on public places. For instance, ethnographic studies on the field of locative media art emphasized that annotations are used to challenge and change established meanings of public places (e.g., Farman, 2014; Liao & Humphreys, 2014; Tuters & Varnelis, 2006). In technical terms, these locative media art projects operate in similar ways to recommendation services developed in commercial contexts. Although theoretically imaginable, the users of Foursquare and Tabelog we met in our research do not annotate places in order to challenge their meanings. This creative restraint is explained by how these apps are intended to be used and how they are actually used. Those heavy users of Foursquare, Tabelog, and similar recommendation services who actively annotate places share this information to describe these places as they present themselves to them. The subject of their annotations is the given meaning of a place as they experience it. Likewise, the more occasional users of these apps are looking for reports and photos to gain information about the given meaning of a place. Thus, in contrast to a locative media art project that, for instance, turns an exterior wall into a projector screen, employing annotation to give a place a new meaning would make not much sense in this context.

It was, however, not apparent from the outset that providing and searching for information about places would become the main way of using these recommendation apps. In an early study on Foursquare, Jordan Frith (2013) observed a pattern of use in which using Foursquare was much more about exploring a wide range of unfamiliar places than about making sure that the places to be visited would match with own preferences. Frith explained this behavior by the gamified design of the app, rewarding visits to new places with digital badges, etc. Since 2014, however, the company owing Foursquare has removed these gamified elements from the main app to focus more on its spatial search and recommendation features (Frith, 2015, pp. 96–111; Lettkemann & Schulz-Schaeffer, in press), thus taking into account the now dominant way to use these kinds of recommendation apps. Nevertheless, there is reason to believe that gamified elements of locative media have some potential in influencing their users' perceptions of public places. For this reason, a next step in our research will be to compare the effects of digital local recommendations with those of locative games. Locative games, such as the popular Pokémon Go, transform public places into playgrounds and attract a broader spectrum of social worlds. Thus, they may have a greater potential to change how people navigate and perceive the urban public sphere.

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Conflict of Interests

The authors declare no conflict of interests.

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Article

From Global Village to Identity Tribes: Context Collapse and the Darkest Timeline

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Abstract

In this article we trace the development of two narratives describing social media that informed much of internet scholarship. One draws from McLuhan's axiom positing that communication networks would bring forth a 'global village,' a deliberate contradiction in terms to foreground the seamless integration of villages into a global community. Social media would shrink the world and reshape it into a village by moving information instantaneously from any location at any time. By leveraging network technology, it would further increase the density of connections within and across social communities, thereby integrating geographic and cultural areas into a village stretching across the globe. The second narrative comprises a set of metaphors equally inspired by geography but emphasizing instead identity and tribalism as opposed to integration and cooperation. Both narratives are spatially inspired and foreground real-world consequences, either by supporting cooperation or by ripping apart the fabric of society. They nonetheless offer opposing accounts of communication networks: the first is centered on communication and collaboration, and the second highlights polarization and division. The article traces the theoretical and technological developments driving these competing narratives and argues that a digitally enabled global society may in fact reinforce intergroup boundaries and outgroup stereotyping typical of geographically situated communities.

Keywords

context collapse; disinformation; geography; global village; internet studies; polarization

Issue

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1. Introduction

For all the undoubted emphasis in literary criticism and communication theory associated with the Toronto School of Communication, it also offered a spatial research program with lasting impact on internet studies. This stream of research was distinctly developed in the works of Eric Havelock and Harold Innis, the latter of whom offered an intensely geographic exploration of communication networks (Barnes, 1993; Innis, 2007). It also transpired in the late work of Marshall McLuhan that came to be associated with the school, particularly the axiomata about the media. McLuhan's first axiom was neither spatial nor political and stated that mass media were extensions of man, as technology enhanced the physical and nervous systems of individuals and increased their information processing capacity (Carey, 1967). The second axiom, a footnote to Innis' observations on the psychic and social consequences of communication, asserted that the medium was itself the message because the meaning of a message was ultimately affected by the symbiotic relationship between the medium and the content being communicated (McLuhan, 1962).

But it was the third axiom, a deeply geographic metaphor, that resonated with those envisaging global networks: communication networks would bring forth a 'global village,' purposely coined as a contradiction in terms foregrounding the seamless integration of villages into a global community. Electronic media would shrink the world and reshape it into a single village by moving information instantaneously from any location on the planet at the same time. Network and telecommunication technologies would increase the density of connections within and across social groups, thereby integrating geographic and cultural areas into a village that stretched across the globe (McLuhan, 1964). In short, global network infrastructure would change the balance between communication and spatial distance and put into effect McLuhan's vision of a global village.

Another narrative, largely opposed to the notion of a global village, emerged in the late 2010s and influenced much of the recent internet scholarship. It was built on reports of extensive filter bubbles, echo-chamber communication, and the widespread balkanization of internet communities (Flaxman et al., 2016; Fletcher & Nielsen, 2017; Pariser, 2012; Tucker et al., 2018). The prevalence of this narrative was arguably triggered by the deployment of data-driven micro-targeting in political campaigning epitomized by the Cambridge Analytica data scandal and the ensuing data lockdown enforced by social media platforms. Since then, digital trace data has been increasingly linked to disinformation, misinformation, and influence operations across Western industrialized democracies and countries in the Global South, where state and non-state actors seek to strategically diffuse content that heightens partisanship and erodes the general trust in democratic institutions (Walker et al., 2019).

These metaphors refer to two milestones in how internet scholarship theorizes social media and networking technology: first it was perceived and conceptualized as a force for integration, only to be subsequently defined as force for polarization. In the following we unpack the theoretical tensions between spatially inspired narratives that either foreground cooperation or division against the backdrop of large-scale influence operations and a landscape of disinformation. We conclude with an assessment that while networking technology may well produce a globally interconnected society, it nevertheless continues to support intergroup boundaries and outgroup stereotyping typical of geographically situated communities (Hampton & Wellman, 2020).

2. From Global Village to Identity Tribes

2.1. Global Village

The suggestion of a global village exudes the formulaic optimism of the 1960s but managed to leave a lasting imprint on the discussion about the internet in the 1990s. In the years leading up to the dotcom bubble, digital communication was thought to bring the world together, both geographically and politically. During the late 1990s, particularly in the second half of the decade that led to the dotcom bubble, technology pundits and observers forecast that the impact of distance would be progressively diminished by communications technology (Cairncross, 1997). This narrative gained currency in the emerging field of internet studies even if studies continued to report that geographic proximity remained a critical factor in building relationships and that the negative impacts of distance on cooperation were only partially mitigated by network technology (Kiesler & Cummings, 2002).

In other words, the term global village epitomized the shrinking of the world into one village through the use of social and digital media. Since its prescient formulation by McLuhan (1964), the metaphor was popularized to explain the internet, where physical distance is even less of a constrain on the communication activity of users. boyd (2008) argued that the global village metaphor continues to describe effectively how digital communication empowers personal relationships across vast geographic and cultural differences. In this alternative rendering of the global village, digital communication tools were used primarily to maintain relationships with people in close physical and social proximity instead of initiating relations with strangers. Friendster, a seminal social networking site predating Facebook, simply provided a tool for scaling up social networks rooted in proximate social relations and representing this dynamic to the community.

But the scaling of geographically-situated social networks to online platforms is not a perfect mirror, if it is a mirror at all, of social relationships established in one's immediate surroundings. boyd (2008) noted that the social graph of Friendster users with numerous common ties offered a good indication of severed relationships. Whenever user *A* and user *B* shared many friends in common, but were not friends themselves, there was a good indication that this was due to a severed personal connection, not a social opportunity. This is in sharp contrast with the dynamics of social relations observed offline, where exes cannot be simply deleted from one's life while also maintaining the social network that supported their previous relationship. In other words, the Friendster network was not merely mirroring offline social networks, but creating a disparate version with parallel albeit adjoining rules of engagement (boyd, 2008).

This persistent McLuhanian account of online social networks informed much of early internet research where social platforms were framed as a window to social contexts and local communities. It also provided the theoretical framework to a large body of scholarship praising the democratization of public discourse brought by open platforms and networked publics (Howard & Hussain, 2013). During this period, the open infrastructure of networked publics was explored in scholarship detailing how online social networks supported gatewatching (Bruns, 2005) and practices in citizen journalism that are central to a diverse media ecosystem (Hermida, 2010), with citizens auditing the gatekeeping power of mainstream media and holding elite interests to account (Tufekci & Wilson, 2012). By most assessments, social network sites were genuine challengers to the monopoly enjoyed by the mass media (Castells, 2012).

This body of scholarship extolled the potential of social media for democratization and deliberation, inadvertently reinforcing a narrative where the affordances of social media platforms would necessarily champion communication and collaboration (Loader & Mercea, 2011). McLuhan's technological optimism, maintained with solipsistic certitude, heralded the ensuing globalization of markets, politics, telecommunications, and popular culture (Ferguson, 1991). The diffusion of information was no longer constrained by the high costs of production or limited bandwidth, the very tangible and perennial limitations associated with print and broadcast media (Bastos et al., 2013). These affordances, however, would eventually be leveraged by propagandists to coordinate and organize disinformation campaigns through social platforms with no interest in cooperation, integration, or collaboration (Benkler et al., 2018).

2.2. Identity Tribes

The metaphor of a globally integrated village is directly at odds and particularly ill-suited to account for the set of problems that appeared in the past decade, namely the upsurge in hyperpartisanship (Marietta & Barker, 2019), a political context marked by the spread of misinformation (Lewandowsky et al., 2012), and the declining trust in government and institutions, including news organizations (Amazeen, 2020; Zuckerman, 2017). A theoretical framework dedicated to foregrounding cooperation was also poorly positioned to account for influence operations that weaponized social media platforms, a development whose prominent examples including the 2016 US elections, the UK EU membership referendum, and the 2017 general elections in France (Bastos & Mercea, 2019; Ferrara, 2017; Shao et al., 2018).

These developments challenged the very notion of networked publics and Castells' (2012) depiction of the internet as universal commons. The open infrastructure of the internet, particularly the World Wide Web, was a fitting arrangement built on the back of personal computers. But in the ensuing decades, scalability requirements led to a shift toward cloud computing that marked a milestone in the cost reduction of data transfer, followed by the upscaling of internet companies' ability to provide services to anyone anywhere in the planet. With cloud services providing economies of scale between five to ten over small-scale deployments (Hamilton, 2009), and mobile platforms slowly replacing desktop-based applications of personal computers, open standards gave way to cloud-based, centralized communication systems epitomized by social media platforms.

In the intervening period, social technologies gradually pivoted from a business model centered on software and services to the leasing and trading of user data. These changes overwhelmed the openness of networked publics, with the debate underpinning networks in the late 1990s being replaced by a focus on the affordances of mobile apps and social platforms, whose userbase differed in substantial ways from the living communities of users that would come together around common interests. The emphasis on open communication eventually shifted to concerns about information warfare, an epochal transition that reflected material transformations in the social infrastructure of increasingly centralized communication networks.

Also noticeable in the transition from networked publics to social platforms was the steady commercialization of previously public, open, and often collaborative spaces, largely reduced to private property (Galloway, 2017). In the span of a decade, social platforms built their social infrastructure on the back of networked publics and the community organization that shaped internet services in the early 1990s. The ensuing infrastructural transformation of the networked publics continues to drive anxieties about social platforms in the aftermath of the Cambridge Analytica data scandal, including issues of digital privacy, data access, surveillance, microtargeting, and the growing influence of algorithms in society (Gillespie, 2010, 2014; O'Neil, 2016; Pariser, 2012).

This represents a considerable departure from the landscape shaped by online communities in the mid-90s and early 2000s where members would share their experiences. The meteoric rise of social platforms, particularly the behemoth Facebook, came with the promise of a wider audience that successfully pulled members away (and apart) from online communities that evolved from forums and e-zines in Bulletin Board System. The promise of a wider audience came at the cost of a dwindling sense of alterity and community. The ensuing algorithmization of communities introduced and championed by social platforms completed the transition by instantaneously rendering networked publics into a profitable source of users' interactions (Lingel, 2017; O'Neil, 2016).

Perhaps unintentionally, the transference of community governance from users to algorithms (Caplan & Gillespie, 2020) removed a key basis for mutual trust and opened the way for large-scale disinformation campaigns that conspicuously plagued election cycles, ethnic relations, and civic mobilization from 2016 onwards (Apuzzo & Santariano, 2019). By Facebook's own account (Weedon et al., 2017), its advertising algorithms were harnessed to segment users into belief communities that could be microtargeted with materials that amplified their intimate political preferences. This repurposing of intimate knowledge and networked interaction for revenue-making remained the corollary of commercial social media enterprises, including the individuals and academics involved in the infamous political consultancy firm Cambridge Analytica (Rosenberg, 2018).

The tendency of social media users showing a preference for a subset of content that is at odds with the coverage of newspapers was already apparent before social media became a primary channel for news consumption (Bastos, 2015). Benkler et al. (2018) argued that it was Facebook algorithm—more than Facebook communities or specific malicious actors distributing problematic content—that rewarded clickbait websites and tabloid-like sources of information, which often include hyper-partisan content. The algorithmization of social media communities was particularly damaging because it reinforced patterns of interaction and the sharing of content in tightly clustered communities that supported and likely reinforced the relative insularity of users. For Benkler et al. (2018), concerns over the Facebook News Feed algorithm in particular, and over algorithmic shaping of reading and viewing in general, are not only legitimate but likely underplayed in the aftermath of rampant disinformation campaigns that leveraged social platforms' algorithms.

This account of social platforms is a considerable departure from the heydays of the internet as a force of liberation. Propaganda efforts led by the Internet Research Agency, a 'troll factory' reportedly linked to the Russian government (Bastos & Farkas, 2019; Bertrand, 2017; Farkas & Bastos, 2018), weaponized social platforms to meddle in national elections in Western democracies. Since then, the record of demonstrable falsehoods shared on social platforms with real-world consequences has increased steadily. Facebook grew more proactive in Myanmar after the United Nations and Western organizations accused it of having played a role in spreading the hatred and disinformation that contributed to acts of ethnic cleansing (Miles, 2018). Narratives of the internet as a community, global or otherwise, were rapidly superseded by accounts of the internet as a tribe, with the meanings associated with community—i.e., identification, communication, and collaboration—being likewise replaced by terms addressing the hostility between tribes: polarization, weaponization, and nationalism.

Mark Zuckerberg, Facebook's CEO, insisted on the path of greater connectivity and ignored the reverse course in his call to the Facebook community, melancholically titled 'Building Global Community,' with a suitable reference to tribes, cities, and nations. The missive read much like a reality check for a company that assumed greater interconnection between users would necessarily bring about greater understanding among people in real-world communities. The letter exudes a Silicon Valley feel-good vibe about progress and humanity coming together, not just as cities or nations, but as a global community (Zuckerberg, 2021). It also underestimates the extent to which social life is marked by contradictions, swiftly and demonstrably amplified as online and offline social networks, local and global communities, collapse into a common contextual ground.

3. Context Collapse and the Darkest Timeline

3.1. Context Collapse in the Global Village

Social media platforms have struggled to cope with the distinctively different social norms that orient online and offline worlds. The conflict was perhaps to be expected: The affordances of online platforms pale in comparison to the overwhelming stream of visual, auditory, and kinesthetic information that supports face-to-face interaction. The implicit norms and conventions of face-to-face communication are often absent in online interaction, particularly turn-taking and the expectation that conversation will not be recorded or filmed without one's consent. Interaction on social platforms, on the other hand, is recorded by default and it is not always clear who owns the data generated. Digital trace data resulting from online interaction may also be stored beyond the life of participants. This caveat of online interaction is augmented by the business model of social platforms supported by advertisement, which requires online activity to be linked to the real-world identity of users, with Facebook being notable in ensuring all users are personally identifiable as real human beings, or perhaps more tangibly as real-world consumers.

Facebook is not alone in struggling to manage the collision between online and offline identities. Google has a track record of underestimating how entrenched relationships with kith and kin may differ in substantive ways from online transactions. The short-lived microblogging tool Google Buzz shared users' online activity with people they were trying to avoid. Google engineers assumed email frequency was a reliable proxy for meaningful relationships, which of course does not take into account pranksters, stalkers, debt collection agencies, crooks, and scam artists. Similarly, Google's Glass project failed to note that recording conversations between individuals requires one's consent. Much like Facebook's Real Names Policy, Google Plus—another short-lived microblogging and messaging tool owned by Google—sought to force users to link their Google activity to their real name, so that user's activity would be irrevocably linked to their real-world identity, a condition at odds with the regular forgetfulness of face-to-face interaction. Even Sidewalk—Google's project of a robot-maintained, data driven city of the future in Toronto—was eventually scrapped. Sensors would track residents' movement to optimize traffic flow and clean the streets, while also extending Google's omnipresent surveillance from the online world to the physical one.

The struggle to cope with online and offline norms is often accompanied by overwhelming good intentions that set these problems in motion. In the early 2000s, when Facebook was setting its agenda to reshape the internet around personal relationships, and then the entire world, few would argue against the mission of making the world more open and connected. A more open and intensively connected world was a logical consequence of the technolibertarianism epitomized by the *Declaration of Independence for Cyberspace* (Barlow, 1996) and the broader political aspirations of the Silicon Valley technorati (Barbrook & Cameron, 1996). This political project collapsed in the second half of 2016, when Facebook's News Feed algorithm was exploited in various influence operations in the run-up to national elections, turning a platform originally designed for connecting people into a remarkable driver of political division (Bastos & Farkas, 2019).

3.2. The Darkest Timeline

By the end of the decade, the narrative surrounding social platforms had turned to metaphors foregrounding polarization and division in a landscape marked by tribalism and information warfare (Benkler, et al., 2018). This narrative required the adoption of specialized vocabulary associated with influence operations to describe a set of practices designed to exploit deep-seated tensions in liberal democracies (Bennett & Livingston, 2018; Bennett & Pfetsch, 2018). The effectiveness of mal-, mis-, and disinformation campaigns depended in part on the ability to take advantage of the biases intrinsic to social media platforms (Comor, 2001; Innis, 2008), particularly the attention economy and the social media supply chain based on viral content (Jenkins et al., 2012). This model also maximized user engagement by tapping into primal emotions, such as anger or fear, that scramble users' perceptions of reality while being oblivious to the real-world repercussions of algorithmic filtering (Ananny & Crawford, 2018; Gillespie, 2014). In the closed environment of algorithms agnostic to hatred and vitriol, reality-distorting misinformation could flourish by reliably tapping into users' darkest impulses and polarized politics.

The substitution of real-world community leaders that emerged with the first wave of online communities with algorithms automating the management of social interaction online removed the underlying nexus negotiating the expression of identities online and offline. As social platforms began to scale up operations to cater for an increasingly larger user base, the flux of information within was for the first time managed by algorithms dedicated to maximizing engagement, which often translated to maximizing conflict. The rapid deployment of this algorithmic network infrastructure led to remarkable disconnect between social groups and undermined the fragilely woven fabric of society. The rise of network propaganda embedded to social platform affordances, along with the 2016 election cycle that placed Trump in the White House and brought a near-impossible Brexit to the UK, led the technorati to embrace dystopian narratives that described current events with term such as 'Darkest Timeline,' a reference to the theory that there may exist multiple universes outside of our own and that we live in the worst possible universe of them all.

The Darkest Timeline anecdote foregrounds a split in consensus reality perceived as cognitive dissonance in the cultural and political landscape. This perception is accompanied by a substantive uptake in conspiracy-theorizing (Uscinski, 2018), chief of these being the QAnon meta narrative. This knits together contemporary politics and racist tropes, positioning 'the people' against globalist elites it refers to as 'The Cabal,' a force that traffics in pedophilia, blood sacrifice, Satanism, and other attention-getting transgressions. Similarly, anti-vaccination conspiracy-theorizing has rapidly evolved into a cult where members feel an obligation to share the truth with their neighbors and significant others. The economics of social capital underpinning real-world communities drives much of the activity in these loosely knit communitarian narratives, which embrace the participatory nature of the contemporary internet, where storytelling is built upon decentralized fan fiction spiraling within closed universes of mutually reinforcing interpretations (Zuckerman, 2019).

Despite its limited overlap with consensus reality, conspiracy-theorizing such as QAnon narratives successfully found footholds in the offline world. 'Q' t-shirts appeared recurrently in Trump reelection rallies during 2019 and 2020, and culminated in the violent storming of the US Congress on January 2021, when supporters featured Q paraphernalia, carried signs, and celebrated the theory. QAnon surfaced in political campaigns, criminal cases, merchandising, and college classes. The book *QAnon: An Invitation to a Great Awakening*, written by QAnon followers and supporters, peaked at #2 on Amazon's list of bestselling books in early 2019. QAnon supporters were often regular citizens who found in Q's messages a source of partisan energy that confirmed their suspicions about powerful institutions. Many were senior or elderly users who came across the theory through partisan Facebook groups or Twitter threads (McIntire & Roose, 2020). The ease of information sharing supported by social platforms not only allowed content to become untethered from offline communities. It also allowed content untethered from reality to penetrate real communities at scale and speed.

3.3. Outgroups in the Global Village

Barry Wellman has made a fundamental contribution to understanding how technology has changed the spatial constraints in social networks. Curiously based in the same university where Marshall McLuhan developed his seminal theories, much of Wellman's work is an empirically supported debate with McLuhan's insightful probes, with the concept of 'Global Village' resonating with Wellman's construct of 'Community Liberated,' and several of Wellman's studies consisting of attempts to see what the global village looks like around the world (Wellman, 1999). Much of this work addressed the perennial tension between face-to-face and computer-mediated communication. Of particular interest is the study authored by Wellman and Potter (1999) where three types of communities are identified based on the extent to which they relied on face-to-face and phone contacts: lost, saved, and liberated. Individuals who lived near each other continued to have more frequent contact, but social technologies altered the notion of proximity in fundamental ways.

Our own attempt to understand this relationship was initially focused on investigating the relationship between the geographic location of protestors attending demonstrations in the 2013 protests in Brazil and the geographic location of users that tweeted the protests (Bastos et al., 2014). Spatiotemporal analysis showed only limited overlap between online and offline protest activity, with users' location differing considerably from the geography of the protest they participated online. The geography of street protests was indeed significantly distant from the geography of users tweeting the protests, with hashtagged tweets being particularly poor at predicting the actual location of users. While the events analyzed in this study took place in 2013, they foreshadowed the disconnect between online and offline protest activity that would drive many influence operations and the information warfare in the ensuing years (Bastos & Farkas, 2019; Walker, et al., 2019).

This study forced us to challenge the narrative about digital communities suggested by the concept of 'global village,' the powerful McLuhanian metaphor describing how new communication technologies empower and bring together geographically disparate individuals across vast territories and cultural differences (McLuhan, 1962). If anything, our results suggested a different emphasis: Instead of bridging disparate geographies, social media consolidated extant socioeconomic and political divisions in the country, with users in geographically distant locations directing their attention toward the metropolitan centers of the public opinion.

In a follow-up study that similarly leveraged temporal and spatial data about the Brexit debate (Bastos et al., 2018), we explored the geographic dependencies of echo-chamber communication on Twitter within the Leave and Remain referendum campaigns. After identifying the location of users and estimating their partisan affiliation, we examined if polarized online echo chambers mapped onto geographically situated social networks. Echo-chamber communication was indeed rampant during the Brexit debate, but whereas most interactions were within a 200km radius, echo-chamber communication was predominantly restricted to neighboring areas within a 50km radius, with significant differences across the partisan divide: 168km on average for pro-Leave echo chambers, compared with 208km for pro-Remain. Perhaps more puzzling, the trend was reversed for non-echo-chamber communication, which covered shorter distances on the Remain side.

One possible explanation for the conflicting evidence on echo chambers is that politically homogeneous communication may reflect group formations inherited from offline social relations. As such, the boundaries of one's network can be simultaneously permeated by echo chambers stemming from offline relationships while being exposed to competing opinions on polarizing topics that circulate on social media. At any rate, the prevalence of ideologically homogeneous communication contradicted the euphoric literature praising the democratization of public discourse brought by networking technology and social media platforms (Howard & Hussain, 2013). But it also challenged the prevailing narrative on echo chambers arguing that social media interactions lead users to engage with political content that resonates with them (Sunstein, 2009). The ideological and geographic patterning observed in the Brexit debate offers evidence for communication spanning the entire country, while also supporting ideologically homogeneous echo-chamber communication within geographically enclosed areas.

These studies lend partial support to the real-world consequences posited by both narratives, either by supporting cooperation or by ripping apart the social fabric of society. We found strong evidence for cooperation across geography and within ideological clusters, but we also found high levels of insularity between ideological clusters. These studies suggest forms of social organization that depart radically from the 'open society' postulated by Karl Popper's rendering of liberal democracy (Popper, 2020). Within this line of inquiry, network communication may indeed support the creation of a global society or village, but this globally connected society might reproduce outgroup negativity and derogation, with intergroup behavior reflecting geographically homogeneous communities that can suddenly outspread their spatial constrains.

4. Conclusion

Internet scholarship in the late 1990s and early noughties oscillated between narratives of integration and division, with McLuhan's seminal metaphor of a global village being superseded by a horizon of tribalism and information warfare. These narratives were inspired by geography and emphasized either integration and cooperation or identity and tribalism; either communication and collaboration or polarization and division. Common to both narratives is the foregrounding of real-world consequences, whether by supporting cooperation or by ripping apart the social fabric of society. As mutually exclusive narratives, they project inconsistent and disjointed physical places resulting from the weaving of network technology into the fine textures of the physical world, epitomized by social platforms and the vast centralized architectures underpinning cloud services.

Concerns about the viability of the internet up to recently have been largely restricted to infrastructure scaling, robustness, and resilience. With internet traffic growing at a fast and steady pace from the late 1990s to the late 2000s, the technology sector focused on issues of load and strain on the infrastructure. These developments shaped the debate around the benefits and potential hazards of centralized approaches to content delivery compared with a distributed architectural model. Scalability requirements eventually led to the shift toward cloud computing that marked a milestone in cost reduction for data transfer, followed by the rapid scaling of internet companies' ability to provide services to anyone anywhere in the planet. The post-PC of the late 2000s and 2010s evolved to include wearable and ubiquitous devices favoring portability and seamless connection to cloud-based services.

It is an open question whether social groups can scale up as seamlessly as our communication infrastructure. Our cognitive threshold, indeed our capacity to empathize, remains evolutionarily linked to a relatively small pool of individuals ranging from a few dozen to a couple hundred individuals (de Sola Pool & Kochen, 1978). While we can communicate globally at virtually no cost, our social lives remain mapped to very real, limited, and tangible material surroundings. In sharp contrast to cloud computing infrastructure, our cognitive architecture is not designed to scale, but to root social experiences in a relatively small and stable number of meaningful social ties (Dunbar, 2016). The disconnect between scalable technical infrastructure and the limits of our social networks, but also the social technology underpinning our social fabric, has produced asymmetric social divides including polarization and the breakdown of communities. In other words, as online communities scale both in size and geographic breadth, critical breakdowns in the limits of social integration, cohesion, and consensus reality may follow.

As one's local experiences are intertwined with global communities or villages, the tenuous arrangements piecing together heterogeneous social groups may give way to social tensions, which are the source of much cruelty, oppression, but also of comfort and kindness. The permanent impetus toward greater connectivity evangelized by social platforms and encapsulated in the metaphor of a global village leaves little room for this inherent contradiction in social life. Narratives foregrounding division and polarization, on the other hand, overlook the substantial contributions of network communications to citizen journalism, civic education, and media activism that hold governments and power to account. On balance, network communication does seem to advance a global society or village, with the caveat that this globally connected society continues to reinforce intergroup boundaries and outgroup stereotyping typical of geographically situated communities.

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Conflict of Interests

The author declares no conflict of interests.

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Article

Close to Beijing: Geographic Biases in *People's Daily*

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Abstract
Inequities in China are reflected within state-run media coverage due to its specific role "guiding public opinion," and with our study we contribute to the geographic turn in the Chinese context with regard to media and journalism. As a subject of a spatial study, China is unique due to several factors: geographic diversity, authoritarian control, and centralized media. By analyzing text from 53,000 articles published in *People's Daily* (rénmín rìbào, 人民日報) from January 2016 to August 2020, we examine how the amount of news coverage varies by region within China, how topics and sentiments manifest in different places, and how coverage varies with regard to foreign countries. Automated methods were used to detect place names from the articles and geoparse them to specific locations, combining spatial analysis, topic modeling and sentiment analysis to identify geographic biases in news coverage in an authoritarian context. We found remarkably uniform and positive coverage domestically, but substantial differences towards coverage of different foreign countries.

Keywords
authoritarian public; China; Chinese media system; People's Daily; propaganda; spatial analysis; news values

Issue
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1. Introduction

While scholars have called for a geographic turn in the Chinese context (Sun, 2010) with regard to media and journalism, few studies really have tried to follow that call, and most existing work has relied on qualitative case studies (e.g., Sun & Chio, 2015; Tong, 2013). In this study, we focus on what Usher (2020) calls "journalists as map-subjects" as we try to visualize and analyze the news coverage of *People's Daily* (rénmín rìbào, 人民日報) through the text's spatial qualities, then connect them loosely with associated news values (Galtung & Ruge, 1965; Harcup & O'Neill, 2017; Oppegaard & Rabby, 2016; Walmsley, 1980). Previous scholarship in China has shown measures of inequality to be heterogeneous based on region and scale of study (e.g., He et al., 2017), and there is a need for nuance in spatial analysis of the country in particular. China's spatial diversity and highly controlled media lead to an emphasis on some news values that are weighed differently than in the typical Western context (Huan, 2016). Some news values such as proximity are also relevant with regard to geographical bias, and they have often been mentioned in studies with a geographic analysis of news reporting (e.g., Brooker-Gross, 1983; Galander, 2012; Harcup & O'Neill, 2017). Geographic bias (Jones, 2008; Whitney et al., 1989) and media bias in general also exists in Western media systems due to, for example, organizational ownership structures, but we assume that unique biases will exist in the Chinese case, especially in an outlet like *People's Daily*, which represents the official view of the Chinese Communist Party (S. N. Liu & Chang, 2020; Robinson, 1981).

There has always been variation within the Chinese media system, and even in *People's Daily*, there was at times room for subtle criticism (Tan, 1990). However, the situation has clearly worsened in comparison to earlier leadership periods with Xi Jinping's "repressive-coercive strategies towards critical voices" in combination with a "resurrection of the media propaganda role" (Repnikova, 2017, p. 209). In our study, we are interested in this new leadership period as the role of official media has changed. We will first introduce how spatial analysis has been used in communication science in the past, then focus on the Chinese case and discuss the role of *People's Daily* in China.

To answer our main research question of whether geographic biases can be identified in the coverage of *People's Daily*, we combined different computational approaches. We analyzed all articles published between January 1, 2016, and August 31, 2020. First, a complete sample of the titles, subtitles, and leads (here defined as the first 120 Chinese characters) of all available articles from *People's Daily* was gathered and organized. Second, all place names in China and names of countries around the world were extracted using custom-built geoparsing methods. Third, we performed sentiment analysis on each lead containing a place name to determine the positive or negative tone of the article. Fourth, a topic model will be built using these articles, using different provinces over time as additional variables. Fifth, we used this assembled meta information to draw conclusions about the geographic biases in *People's Daily*. This study thus employs techniques gathered from multiple disciplines to gain insights into the overall trends shaping the spatial variations of *People's Daily*'s news coverage.

2. Literature Review

Spatial analysis and the study of the ways that geography influences media and communication is rooted in different strands of communication science research, with some authors focusing on geographic bias (Jones, 2008; Whitney et al., 1989), or geographic and cultural distance as described by Galtung and Ruge (1965) in their news values theory. Even though these existing conceptual references are a good starting point for spatial analysis in communication science, only a few studies have tried to use a geographic information system framework for their analysis. Existing studies that combine journalism studies or communication science with spatial analysis are often published in other academic disciplines, commonly in geography and computer science. Geographer Brooker-Gross (1983), for example, analyzed US television news by referring to Galtung and Ruge's (1965) news values. Of course, there are early exceptions like communication scholar Dominick (1977), who analyzed the geographic bias in TV news in the US.

Spatial analysis of the news media is typically restricted by the geoparsing technologies used, and methods are often re-adapted for each study. While these older studies (e.g., Walmsley, 1980; Whitney et al., 1989) relied on manual content analysis, newer studies such as Johnson's (1997) analysis of geographic and cultural proximity combine more traditional content analysis with computer-assisted techniques. Studies published today rely mainly on entity recognition models that automatically extract names of organizations, persons and locations (Duffy et al., 2020). While entity recognition works well in English and other Western languages, these models usually perform worse with Chinese (Wan et al., 2019). The different existing approaches are used in communication science to analyze digital trace data (see Hoffmann & Heft, 2020, for an overview) but also traditional news coverage (Watanabe, 2018). However, much simpler techniques can get comparable results with texts as formally structured as those in the pages of Chinese official newspapers.

2.1. Geographic Bias in the News Media

Research about locations in the news reporting can be roughly divided into two intertwined strands of research. First, as we have already mentioned above, many studies refer to Galtung and Ruge's (1965) news values as cultural as well as geographic proximity influence the selection of news (e.g., Brooker-Gross, 1983). Such studies describe the impact of news values as potential bias (Brooker-Gross, 1983) or discuss it just as news values without referring to it explicitly as bias (e.g., H. D. Wu, 1998). On the other hand, there are studies that mainly focus on bias in news reporting without explicitly mentioning news values (e.g., Dominick, 1977; Duffy et al., 2020; Jones, 2008; Walmsley, 1980; Whitney et al., 1989). The normative question then is whether such a bias of certain regions or countries being under-reported is something undesirable.

One study (Napoli et al., 2018) of US media found that even in local media outlets, only 17 percent of stories were truly local in nature, and that many communities went completely unreported in their sample. When examining the types of communities that received the most mentions in the news media, they compared the number of mentions against a variety of demographic factors, such as population, median income, ethnic makeup, administrative status, and number of universities, and found that news mentions correlated most strongly with population. Other researchers have tried to identify different variables that explain the variable representation of certain regions in the news coverage. Previous studies have shown mixed results regarding the relevance of GDP when applied to news coverage; H. D. Wu (2000) found that the "clout" variables of population, area and GDP were often predictive of news coverage of different countries, but were often precluded by other factors. A more recent study (Atad, 2017) found area, population and GDP to all be significant variables when examining international news coverage. In journalism surrounding natural disasters, it was found that cultural proximity, geographic closeness and number of deaths in a disaster contributed to the amount of coverage and length of international news stories in American media (Adams, 1986).

2.2. News Values

China is an interesting case with regard to news values. Huan (2016), in an article conducted with private interviews with Chinese journalists, showed how the news values of positivity and eliteness are brought to the fore. It can then be hypothesized that Chinese news, especially in a party-line publication such as *People's Daily*, will uphold news values that benefit China's party elite and deviate from those ideals typically exemplified in newsrooms (Bandurski, 2016; Repnikova, 2017). This means if under- or over-coverage of certain regions can be observed after normalizing the attention with population numbers (Whitney et al., 1989), it might be due to different news values such as eliteness, positivity, negativity, or just technological and economical constraints on reporters.

Thus, we can use spatial data to discover spatial biases and provide insights into the news values used to produce content in *People's Daily*. Based on the work of Jones (2008), we can assume that newsworthy events will occur across China loosely in line with population, and that *People's Daily* will report on different provinces in kind. Where we find greater concentrations or gaps in news coverage, this can be a starting point for more detailed investigation into why a place is covered and to which news values this can be ascribed.

2.3. People's Daily

People's Daily has a long history as a leading newspaper in China (Robinson, 1981), as it is the official newspaper of the Central Committee of the Communist Party of China and it thus "represents the Party's orthodoxy" (Ye & Zeldes, 2020, p. 26). Scholars have described *People's Daily* as the "voice of the CCP government" (S. Wu, 2014, p. 974) or "Chinese Communist party" (Robinson, 1981, p. 62) and the "national mouthpiece of the central Party leadership" (Wang et al., 2018, p. 126) that sets the "agenda for the rest of the media" (S. N. Liu & Chang, 2020, p. 347).

The role and form of *People's Daily* has changed during different periods of leadership. Robinson (1981), for example, describes in her analysis of the Chinese media system a shift in the style of *People's Daily* after the cultural revolution towards more critical news away from a purely positive propagandistic style. She compares the style at the beginning of the 80s with the time before by referring back to Schell's (1978) description of *People's Daily* during the cultural revolution who describes the newspaper as without any negative news. After the cultural revolution, the content of *People's Daily* gradually changed as they, for example, stopped printing pictures of leaders, a practice that was even criticized in some articles published in the newspaper (Robinson, 1981). A second major shift could be observed in 1989 during the student protests in Beijing. In his analysis about the role of *People's Daily* during the Tiananmen student protests, Tan (1990) describes how the newspaper changed for a very short time from an official mouthpiece to a newspaper with open reporting about the protests in Beijing.

The contemporary role of *People's Daily* and the media in general was clearly outlined by Xi Jinping in 2016, when his new media policy approach was presented in *People's Daily*. Bandurski (2016) analyzes this shift and concludes that every aspect with regard to media has now to "revolve around the central priority of advancing the Party's agenda." While Repnikova (2017) is slightly more optimistic in her analysis, stating that there is still some room for critical journalism in specific cases, she also sees a clear shift away from the Hu Jintao leadership period towards a stronger emphasis on "fusion of repression-propaganda strategies" (p. 210).

Studies in communication science focusing on *People's Daily* usually conduct quantitative content analysis or qualitative discourse analysis to focus on one specific issue. The Chinese government's views on many issues have been studied using the paper, such as climate change (Pan et al., 2021), the representation of people with disabilities (Ye & Zeldes, 2020) or queer sexualities (Zhang, 2014), the revival of Confucianism (G. Wu, 1994), citizenship (S. N. Liu & Chang, 2020), democratization (Huang & Chen, 2009) or disease coverage (Yang, 2020).

Almost all of these studies use a diachronic perspective by distinguishing different time periods that represent leadership generations (e.g., S. N. Liu & Chang, 2020). A second strand of literature has compared *People's Daily* to more commercially oriented domestic newspapers (e.g., Wang et al., 2018) or a US media outlet such as the *New York Times* (e.g., Luther & Zhou, 2005; Parsons & Xu, 2001). Of special interest for our own study are A. P. L. Liu's (1974) analysis of the rather negative coverage about the US since the founding days of *People's Daily* as well as Lee's (1981) analysis of the more positive coverage of the US in *People's Daily* in 1979 and 1980 as the diplomatic ties between China and the US normalized. Lee (1981) includes in his content analysis the geographic area that is mentioned with regard to the US in articles. An exception is Wan et al.'s (2019) technical study in computer science that uses all articles published in *People's Daily* in 1998 to test their entity recognition model, which also includes locations.

3. Research Questions

With cosmopolitan coastal regions and an isolated inland, rural and urban areas, and different methods of state control, spatial inequality in China can take many forms. The diverse distribution of population, opportunity and wealth (Morales, 2019) throughout China, paired with the special role of *People's Daily* in the national discourse, make this an interesting area of study. We expect that these inequities will be reflected within *People's Daily*'s news coverage and can be explained with geographic proximity (Chang et al., 1987), other demographic factors such as GDP or population (Napoli et al., 2018) or with more specific editorial decisions that should help to "guide public opinion" (A. Chan, 2007). We are interested in what geographic bias exists while accounting for population (Whitney et al., 1989) and GDP. Therefore, our first research question is:

> RQ1: Does the amount of news coverage in a province of China scale with population, GDP or other factors?

The supply of news is not determined by demographics alone, and there are bound to be exceptions to these rules. For example, domestic news can be purely positive to communicate a positive image of China to its citizens (Huan, 2016; Shen & Guo, 2013). On the other hand, negative coverage can be used to target specific contentious regions in China in which minorities challenge the legitimacy of China's Communist Party (Odgaard & Nielsen, 2014), or it can appear because of the more reader-oriented news value of negativity (Huan, 2016). However, we expect the news to be mostly positive with regard to domestic news and stronger biases in more contentious areas. Using the quantitative analysis as a starting point, we will examine some of the exceptions in detail, and analyze the different topics and sentiments expressed in different parts of the country:

> RQ2: What accounts for variations in news coverage across space or time?

An important aspect of news coverage is how local the news stories are, even in the context of a national-level publication. In other contexts, the level of local coverage has been the subject of some discussion, such as by Dickens et al. (2015). Because we will be able to see the administrative level mentioned in these news stories, we can see how specific these stories are in mentioning real-world locations. We will then examine this granularity and how it relates to the content and locations of the news. We thus are interested whether a bias exists on a more granular level that is usually not considered in typical studies focusing on geographic bias (Jones, 2008; Whitney et al., 1989):

> RQ3: How specific are the places mentioned in the news media, and does this specificity vary across China?

In our last research question we focus on the international coverage of *People's Daily*. Shifts in diplomatic relations have had an especially strong impact in the past on the coverage of foreign countries such as the US and are usually evident in the articles published in *People's Daily*, such as those by Lee (1981) or A. P. L. Liu (1974):

> RQ4: What influences the amount and content of news coverage of the US and other foreign countries?

4. Data and Methods

For our study, we gathered data from 56,226 articles published in *People's Daily* from January 1, 2016, to August 31, 2020 (see Figure 1). We decided to focus on this time frame as the beginning coincides with Xi Jinping's most recent changes in media policy (Repnikova, 2017). Additionally, the source of our data, the China National Knowledge Infrastructure Database

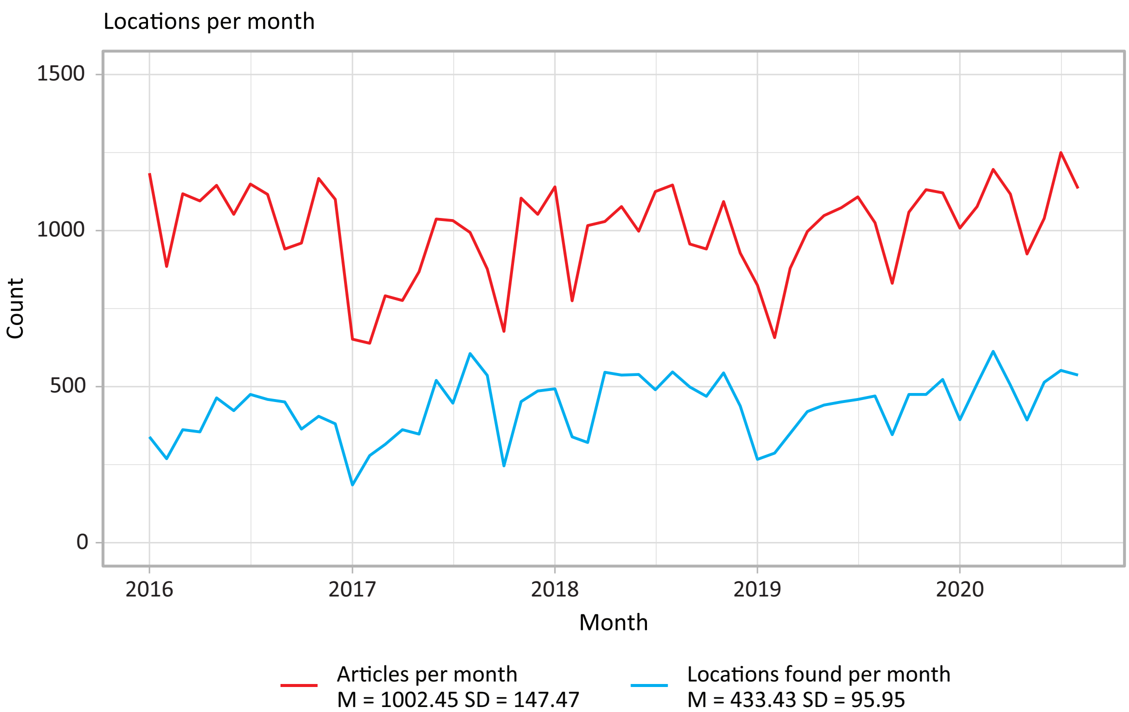

Figure 1. Total articles and recorded locations found per month from January 1, 2016, to August 31, 2020.

(CNKI, 中国知网) has an incomplete dataset for articles before this point in time. The title, author, newspaper section, and first 120 characters were freely available from CNKI's China Core Newspapers Full-text Database, and there was a mean of 1,002 articles gathered per month, with a minimum of 639 and a maximum of 1,250. As *People's Daily* is a printed daily newspaper, the number of articles should be largely consistent, with yearly dips during major holidays. To test whether the first 120 characters were sufficient for this study, we manually compared the geographic names from the leads and the full text of the article and found that the lead was sufficient; of 20 manually inspected samples, 6 contained place names not mentioned in the lead, and none was the primary focus of an article.

To geoparse text, we first considered an entity recognition model (e.g., Sui et al., 2019) that identifies locations as well as organization and personal names. While this approach is better than list-based approaches if person and organization names should be additionally identified (Wan et al., 2019), we decided to use a gazetteer-based approach, as these news stories have a regular structure and a clear hierarchy of place names. China is divided into four administrative levels: the provincial level (省级行政区), prefectural level (地级行政区), county level (县级行政区), and township level (乡级行政区), although names for different regions vary by location and level of autonomy (State Council of the People's Republic of China, 2020), and most smaller locations are accompanied by contextual information in text.

Spatial data from the top two levels of Chinese administrative regions were extracted from a shapefile available from the United Nations Office for the Coordination of Humanitarian Affairs (United Nations Office for the Coordination of Humanitarian Affairs, 2020). In total, 50,563 names corresponding to 46,912 locations were recorded in an SQLite database at all administrative levels. Each article was then scanned for each of these place names using Python, leaving a list of potential place name candidates. The next steps involved narrowing down the list in successive iterations using contextual data, until only the most valid places remained.

We created a coding interface in Python to validate our approach. Against a manually-coded random sample of articles (N = 127), this method achieves 96 percent accuracy. While simple, this method performs better than other geoparsing algorithms for similar tasks. Another study (Gritta et al., 2018) of English-language geoparsers tested a number of methods, with results ranging between 66 and 81 percent precision. Our method's superior result can be attributed to several context-specific restrictions. First, *People's Daily* has very predictable, structured content, and almost always uses official place names, which was the main reason to opt for a list-based method (cf. Wan et al., 2019). Second, with only the title, subtitle, and first 128 characters, there is less ambiguity over which identified place names are the most appropriate as the subject of the story.

Some articles were filtered out after the geoparsing process. First, *People's Daily* contains many obituaries and other biographical articles, which contain many locations not relevant to this research in the form of birthplaces or places of education. To eliminate this, any article that contained a reference to the years 1800 to 1980 are identified and eliminated. From the original 56,226 scraped articles, 55,182 were found to be about current events. Second, some articles simply comprise lists of locations, such as those announcing "civilized cities" awards. Because these have little value for this research, any article that contains more than three locations in the lead is filtered out, and we thus reduce our sample to "journalistic" texts. Another 771 articles were filtered out using this method, leaving 54,411 valid articles.

These 54,411 gathered articles contain a total of 24,312 valid place names within Mainland China. 4,110 articles contained more than one location. A plurality of place names recorded were at the prefectural level, with 3,506 of those being references to Beijing City prefecture, the only prefecture in the Beijing City Provincial-level city (see Figure 2). The same basic method was used to search for mentions of different countries around the world, using a gazetteer built from the public domain data set Natural Earth. A total of 16,319 mentions of different countries were found, excluding China.

A variety of sentiment analysis methods were tested, and the most performant was Stanford NLP Group's Stanza natural language processing package in Python which yielded a significant and acceptable correlation of .41 during manual validation (n = 100). For details surrounding testing and verification, see the Supplementary File Appendix 1. We also created a structural topic model for the textual data, using those articles that contained place names. This was accomplished using the structural topic model package in R, and captured the top 30 topics across the data set, which we built to contextualize our findings with regard to the third research question. The topic model was validated with a word intrusion test using R's oolong package (C.-h. Chan & Sältzer, 2020) and achieved an acceptable accuracy of 80%, as all topics reported specifically in this article could be successfully identified in word intrusion test.

5. Results

5.1. RQ1: News Coverage by Province

The most basic measure of geographic representation in the news media is the number of news articles mentioning a place. As an absolute measure, this is remarkably uniform; most provincial-level entities received between 1,000 and 2,000 mentions in *People's Daily* over the course of this study (see Figure 3). We compared these numbers to the scaled GDP per capita and scaled population of each province using a Bayesian negative binomial regression model (N = 30, R^2 *Bayes* = .52) and found that if Beijing is excluded, media attention can be

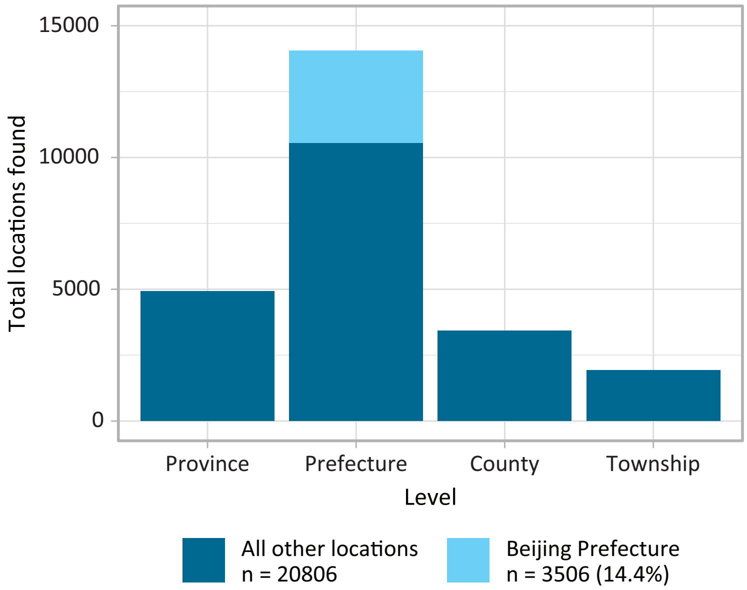

Figure 2. Locations recorded by administrative level in all articles. Notes: n = 24,312. Prefectures were the most commonly mentioned administrative level. Beijing City, the only prefecture in the Provincial-level entity of the same name, was the most commonly mentioned entity.

predicted by GDP per capita (*incidence rate ratio* = 1.25, 95% *CI* = 1.11–1.41) and by population (*irr* = 1.20, 95% *CI* = 1.08–1.33), but Beijing is such an outlier that only GDP per capita (*irr* = 1.47, 95% *CI* = 1.30–1.67) is an acceptable predictor whereas population (*irr* = 1.13, 95% *CI* = .99–1.29) is irrelevant if Beijing is included (*N* = 31, R^2 *Bayes* = .43). Estimating the model and the marginal effects also allowed us to identify outliers (see Figure 3).

Beijing was the largest outlier in terms of coverage (see Figure 4), but much of this coverage was not about Beijing itself, but about national-level politics centered on Beijing. Because Beijing is such an exceptional case, we examined it separately. A total of 3,746 articles were found to mention Beijing, of which 3,506 were about the city as a whole. 200 articles that were geoparsed to Beijing were randomly selected; 100 which were of the city as a whole, and 100 of which mentioned a specific district or neighborhood in Beijing. Loosely following the classification laid out by Napoli et al. (2018), they were classified into three categories: (1) Articles not really about Beijing, (2) Articles about events taking place in Beijing but not specifically about the city such as government meetings or diplomatic visits, and (3) those which are relevant to locals of Beijing. An example of category 1 would be an article about a medical team from Beijing going to Wuhan, category 2 might be about a meeting of

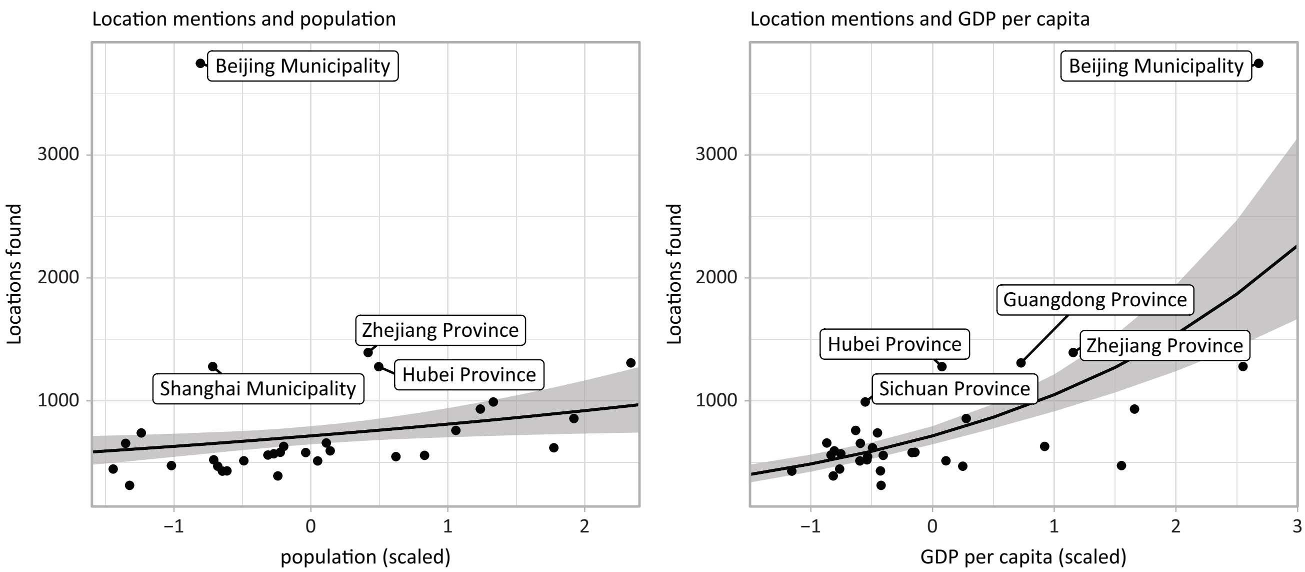

Figure 3. Marginal effects based on the Bayesian negative binomial regression model for population and GDP per capita. Note: Positive outliers are labeled.

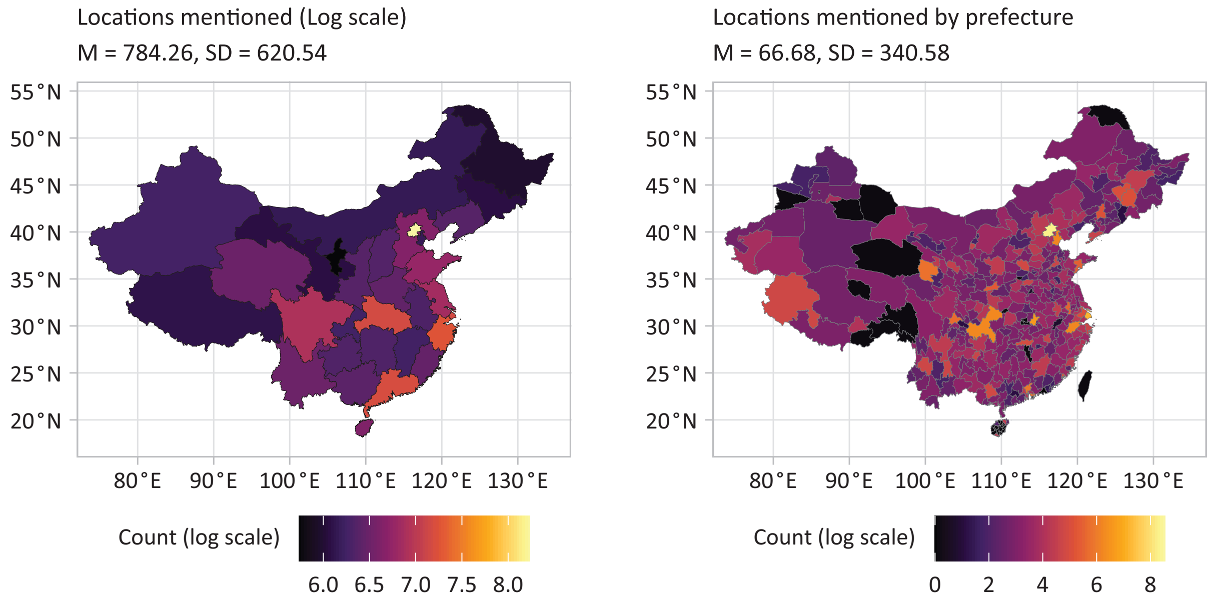

Figure 4. Locations mentioned per province and prefecture. Note: Due to highly variable count data, a natural log scale was used.

the National People's Congress in Beijing, and category 3 might be about an improvement to a traffic junction in the city. These 200 articles were manually coded to see how locally relevant the articles might be, as well as to what degree citywide and local articles differ. A majority of articles about the city as a whole were about national affairs in Beijing, with 18, 53 and 29 articles in categories 1, 2 and 3, respectively. Those which were about a specific neighborhood were predictably more local, with 10, 36 and 54 percent in the same categories, but there were only 240 of these in the whole data set. If this sample can be extrapolated to the entire data set, weighting for those about the city as a whole and those about individual neighborhoods, there are an estimated 1,146 articles of local Beijing coverage, or 4.7 percent of the entire data set, meaning that Beijing is still over-represented with regard to population.

Two other outliers, Shanghai and Zhejiang, are culturally prominent and wealthy areas of the country. The final outlier, Hubei, was the source of the Coronavirus epidemic, and was genuinely newsworthy during this time period. News mentions of some selected provinces are visualized in Figure 5, as well as reasons for any spikes in news coverage. For example, we can see that the majority of Hubei's news coverage occurred in the beginning half of 2020, when the Coronavirus was at its peak in Wuhan, but then rapidly declined as time went by (see Figure 5).

5.2. RQ 2: Variations in News Coverage

The initial assumption that the domestic coverage in *People's Daily* would be overwhelmingly positive were shown to be correct, and this was found to be uniformly true across China. On a scale of −1 (every sentence is negative) to 1 (every sentence is positive), no provincial average ever approached neutral, and any dips in sentiment were temporary. The mean monthly sentiment of all articles varied very little during this time period ($M = 0.58$, $N = 57$, $SD = 0.06$). Even coverage of Hubei, the origin and epicenter of the Coronavirus pandemic in early 2020, barely dipped below the national average at the height of the pandemic. Sentiment over time in selected provinces is charted in Figure 6, chosen to show the different areas of China, paired with sentiment that rarely diverges from the mean.

5.3. RQ 3: Granularity of Place Name Mentions

We found spatial inequality in the levels of stories from different administrative levels of locations mentioned in different provinces, with the results illustrated in Figure 7. 51 percent of the mentions of Xinjiang were at the provincial level, making it unique among Chinese provincial-level entities.

5.4. RQ 4: International News Coverage and the Role of the US

The same method was used to gather mentions of international locations in the news—articles mentioning different countries were extracted from the news media, and total mentions and sentiment gathered for each. In Figure 8, the total mentions per country are shown.

Using data from the World Bank, the number of mentions per country was compared to population and GDP. Using a linear regression model, a higher population was found to have a statistically significant positive effect on mentions in People's Daily (for full results, see Supplementary File Appendix 3). This contrasts with a

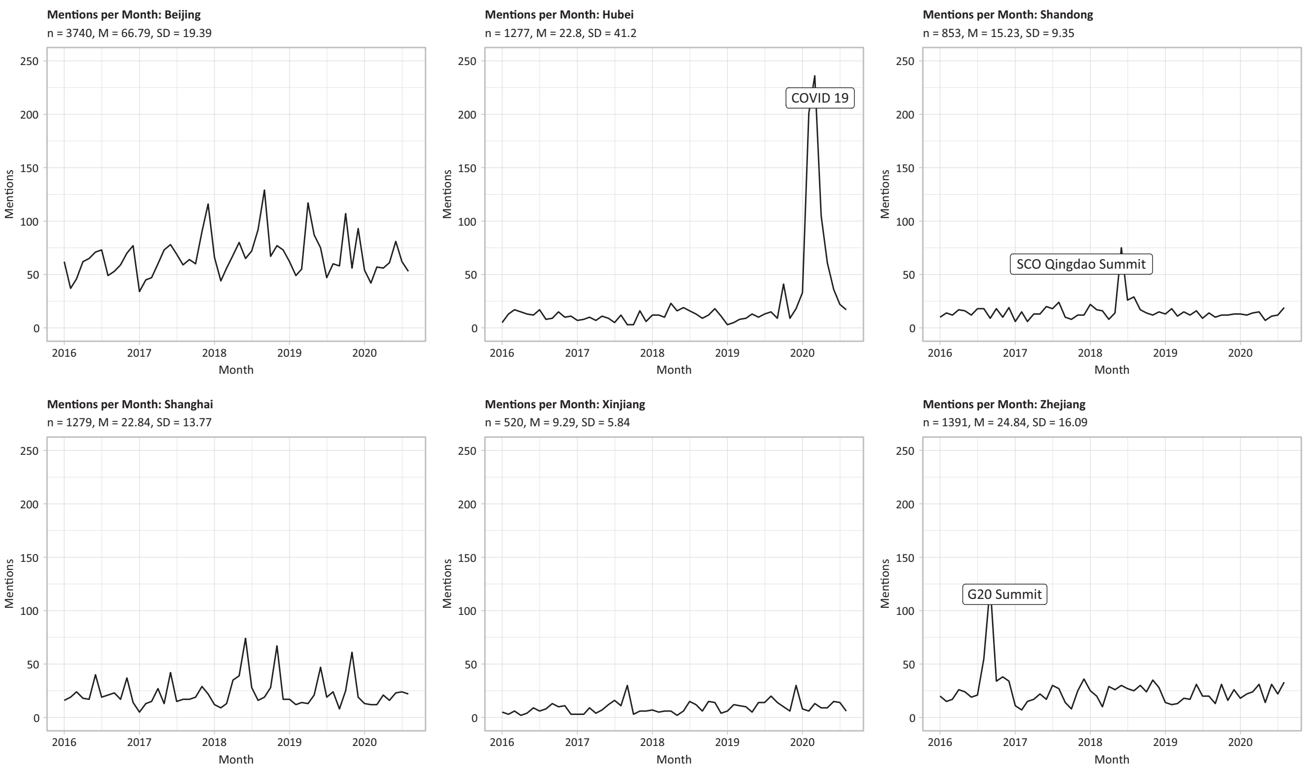

Figure 5. Articles per month for selected locations. Note: Major events are labeled where appropriate.

weak correlation with population in domestic coverage, indicating that in international coverage, *People's Daily* may function more in line with other news organizations around the world.

The US was by far the most mentioned country in *People's Daily* except for China itself, and also had some of the most negative coverage. In contrast, most articles mentioning European countries have fairly neutral or positive sentiments. Overall, stories that mentioned international locations scored less positively (n = 16,319, M = .52, SD =.52) than those that mentioned a location within China (n = 24,312, M = .60, SD = .46). The average sentiment per country is shown in Figure 9.

Using a topic model, we can look closer at the difference between the ways that the US and other countries are portrayed in *People's Daily*. As plotted in Figure 10, we can see 10 selected topics' relative prevalence in articles mentioning the US and other countries. For a full list of topics, see Supplementary Fil Appendix 2. From this, we can see that references to Xi Jinping are more common in articles featuring countries other than the US, where the US tends to be clustered as a topic by itself.

6. Discussion

People's Daily's coverage of each area of China is remarkably uniform in both amount of coverage and tone. Higher GDP provinces can gain more coverage, and there are some outliers in terms of total coverage. First of all, it can be concluded that with a correlation between the population and the attention each province receives, the geographic bias usually observed in the media (Jones, 2008; Whitney et al., 1989) is weaker in China. This finding makes *People's Daily* different from other media organizations studied using similar methods. In the case of *People's Daily*, it seems that there is a predictable and even amount of coverage for each part of the country.

Regardless of politics or situation on the ground, *People's Daily*'s domestic news remains uniformly positive in tone. While we could not identify specific trends on a provincial level, we observed a steady and significant overall trend over time (see Supplementary File Appendix 1). In general, our analysis shows that positivity and eliteness are important news values for the *People's Daily*, and that these standards are rigid across all areas of the country. Our findings are thus in line with the conclusion of Huan's (2016) qualitative analysis. For example, the lead to one article from 23 June 2020 reads as follows:

> Over the past few decades, donkeys have been an important livestock animal in southern Xinjiang, used for travel, hauling and farm work. However, in the past few years, the role of the donkey is slowly changing. In Hotan Prefecture's Pishan county, Mamat Ulam saw this change. With the improvement of villagers' lives, the use of donkeys has decreased, and they have decreased in number. Now, the rise of scientific breeding techniques has strengthened the donkey industry, and the lives of villagers have improved. (*People's Daily*, translated by the authors)

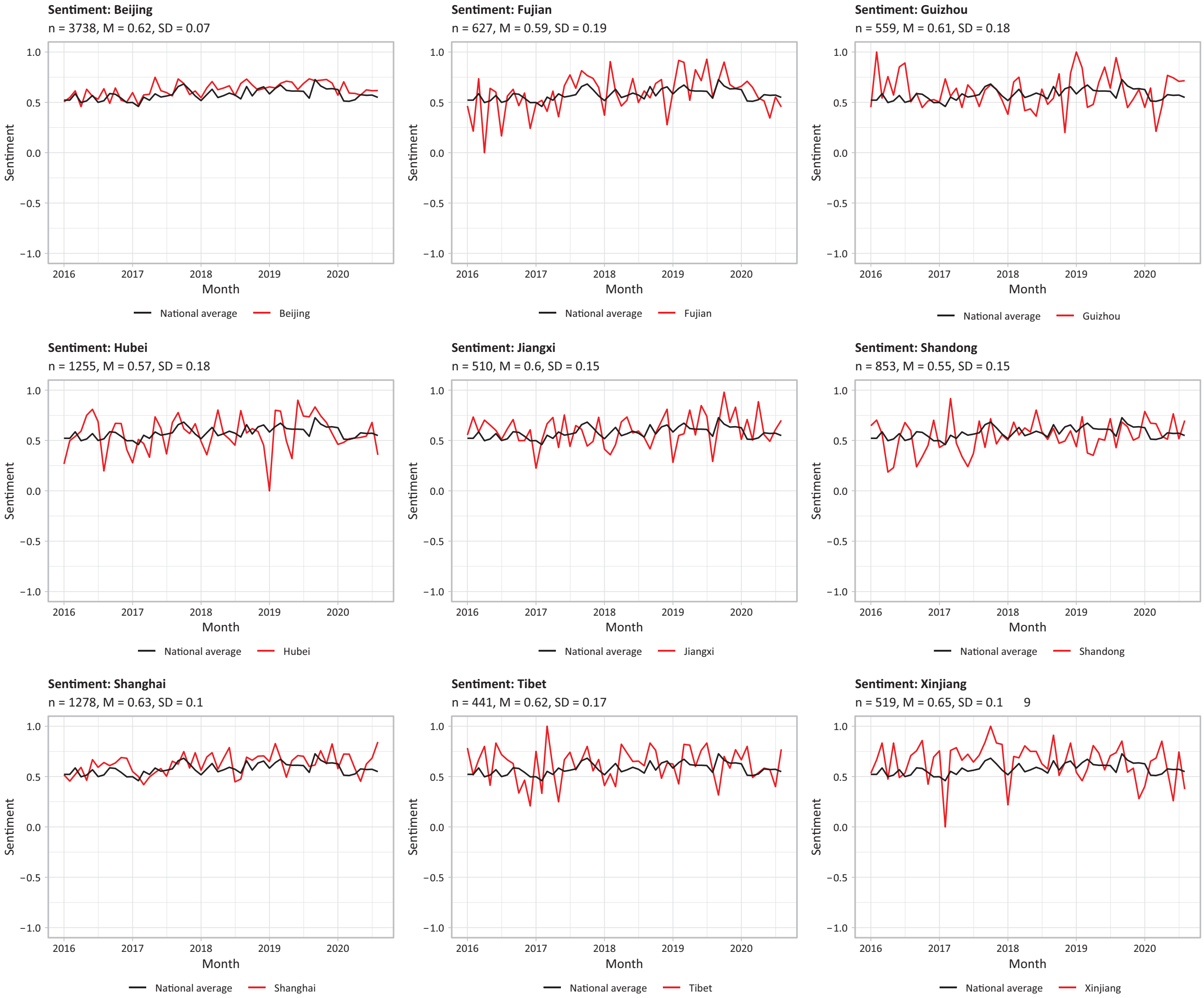

Figure 6. Monthly average sentiment for select provinces. Notes: Over the long term, no news coverage of provinces in China seriously deviated from the mean sentiment values. Some provinces with fewer mentions per month have noisier data and greater variation.

From this short passage, we can see an emphasis on positivity, development and scientific progress, especially towards the improvement of rural citizens' lives. This also ties into the views of some editorial teams expressed regarding the role of news values in China, where they attempted to hold to the "[t]hree closeness principles (close to the fact, close to daily life, and close to the mass)" (Huan, 2016, p. 4) and the news value positivity (Huan, 2016). However, *People's Daily*'s focus on positivity does not extend towards international news, especially the US. The coverage is thus different from the time in the late 70s when the diplomatic ties normalized with the US (Lee, 1981).

While there is coverage of negative events in these articles, it is often balanced by positive coverage within a few sentences. For example, one article from July 21 2020 begins:

> Since 2004, I have visited Xinjiang in China more than ten times. Xinjiang has beautiful scenery, rich products, and friendly people. I have made many friends there. For a period of time, terrorism, separatism, and extremist forces caused tremendous damage to the stability and development of Xinjiang, posing a serious threat to the lives and property of Xinjiang people. Last year, I was invited to visit Xinjiang again. What happened there? (*People's Daily*, translated by the authors)

While volume of coverage and sentiment are largely uniform, there are differences in the specificity of news coverage across the country. We can see this reflected in our findings, in which county-level data was more likely to be present in the provinces closest to Beijing. An alternative hypothesis is that because place names in Xinjiang are often transliterated from other languages such as Uighur or Kazakh, they are less likely to be mentioned. However, this pattern is not repeated in Tibet or Inner Mongolia, other regions with their own writing systems. In this sense, Xinjiang is unique among Chinese provincial-level

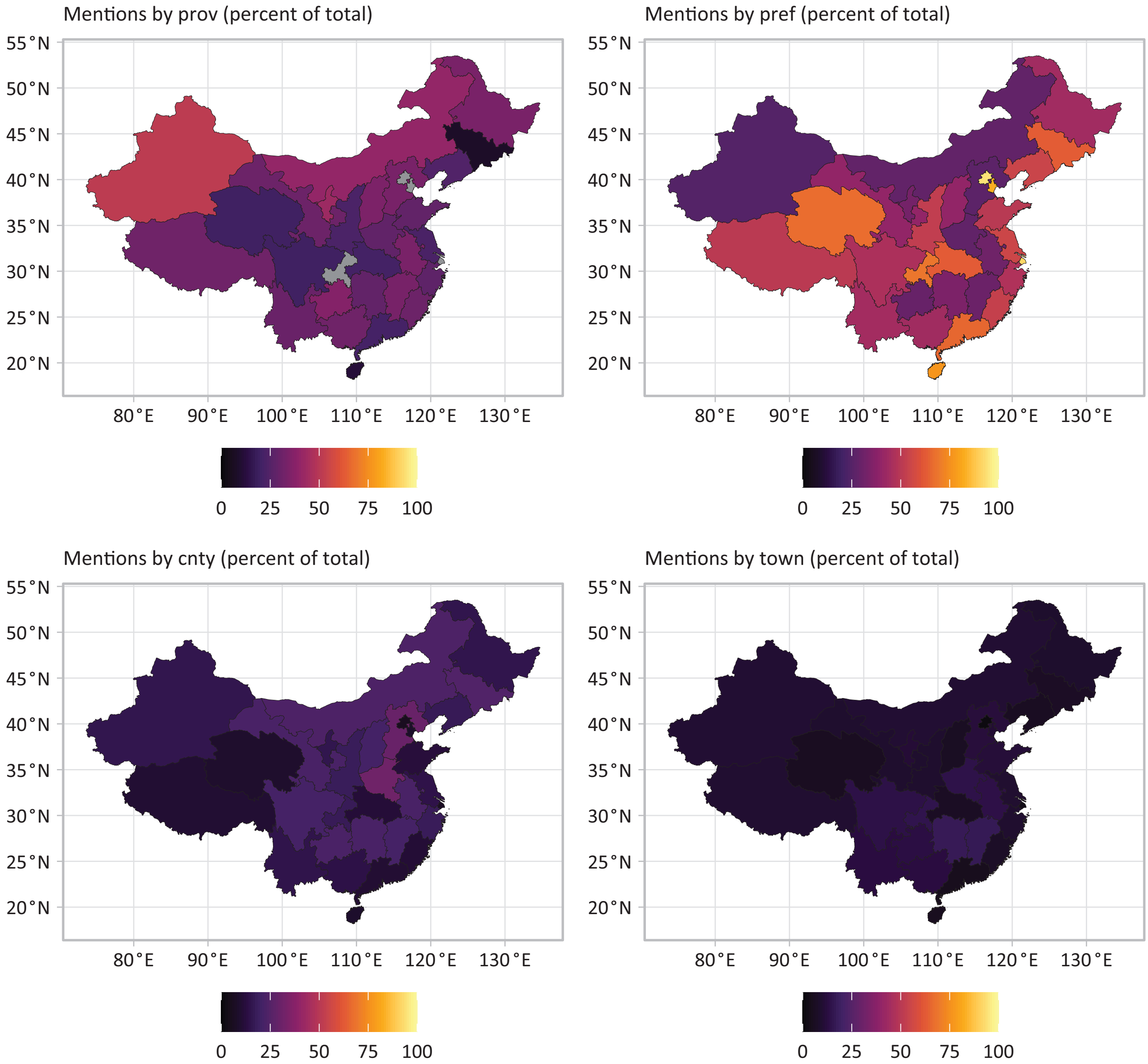

Figure 7. Place name mentions at different administrative levels, aggregated by province. Notes: Provinces are mentioned most often in the news media at different administrative levels. For example, the eastern coastal provinces are most often mentioned at the prefectural level, whereas the northwestern Xinjiang Uighur Autonomous Region is most often mentioned by province.

entities in that it is most often referred to very generally. However, the sentiment values are in line with other parts of the country. This finding could be an indicator of so-called othering as people in Xinjiang are represented as a homogenous group in the coverage (Zhao & Postiglione, 2010). Future qualitative research should analyze in more detail how our findings can be explained.

We also took Beijing as a test case, and were manually able to differentiate between news with a truly local focus and that which took place in the city, but was of a national scope. It can be presumed that this would be true at a lesser extent in other provinces. For example, international events such as the G20 summit in Hangzhou or the Shanghai Cooperation Organization summit in Qingdao were seen to correlate with spikes in news coverage, but these are not about the cities themselves. This can be seen as a starting point for differentiating truly local and nominally local news coverage using automatic methods.

Our analysis of the specificity of news coverage shows that even if there are no strong geographic variations on the provincial level, there still might be a more granular bias when looking at how much local coverage exists. Many studies focusing on geographic bias (e.g., Jones, 2008; Whitney et al., 1989) or the news value proximity (e.g., Johnson, 1997; H. D. Wu, 1998) have either measured distance to major cities or aggregated the locations to broader regions, but did not consider the

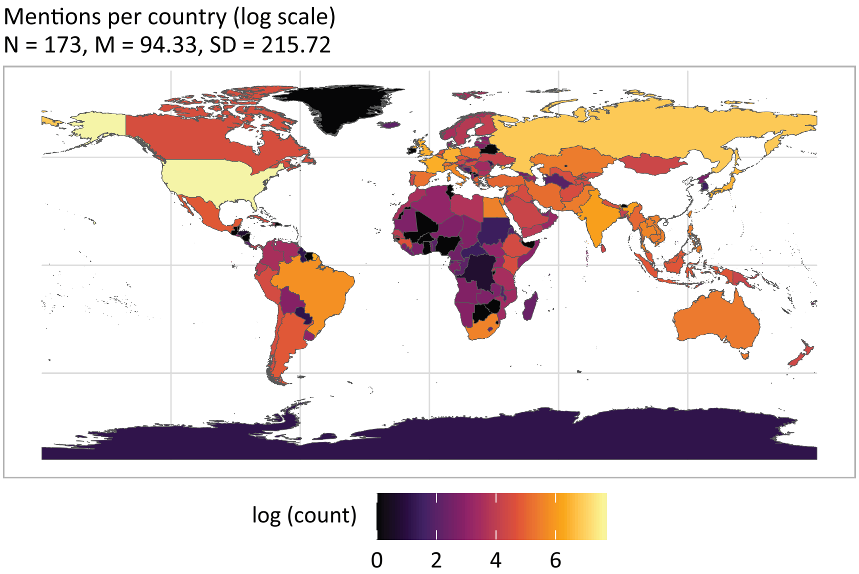

Figure 8. *People's Daily* mentions by country. Notes: Mentions are shown at the country level. The source of this spatial data, Natural Earth, lists all dependent territories separately. Because the count data is highly variable, a natural log scale was used.

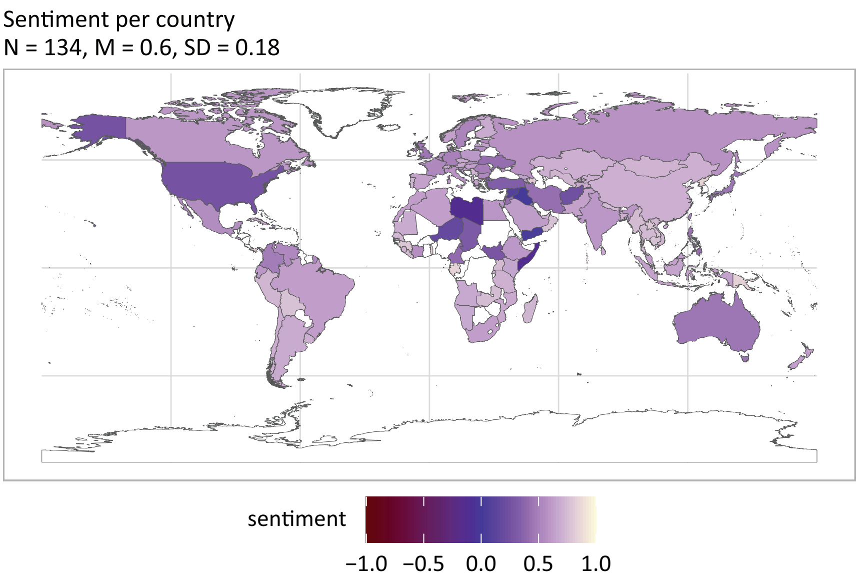

Figure 9. Average sentiment per country. Note: Like in domestic news, no country has an average negative sentiment score, but there is much more variation than at the domestic level.

levels of specificity of place names. Future studies focusing on geographic bias could also include our approach to get a more nuanced picture of which places are covered by news media. However, this is only possible if geoparsers are used that are able to also identify smaller places within a country and assign them a clear hierarchy. Because measures of inequality in China vary by geographic scale (He et al., 2017), this method of analysis could be useful in other contexts.

International coverage in *People's Daily* has much more variation in volume and tone than its domestic counterparts, and in this way is more similar to typical news publications. We can see from this that this newspaper responds to different news values, presumably subject to different editorial pressures for different types of coverage. The US' exceptional place in news coverage is remarkable, but not unique. H. D. Wu's (2000) study of 38 global newspapers found the US to be the most covered country in the world. The especially negative coverage of the US was likewise expected; it is the subject of many critical editorials in our data set, which can be seen to reflect the CCP's editorial position towards the US (Lee, 1981).

This study is subject to several limitations. First, it only covers one newspaper, so the sample size is limited to how much content is actually available. When dividing the data set into provinces and months, there were often only a few dozen articles per slice, which

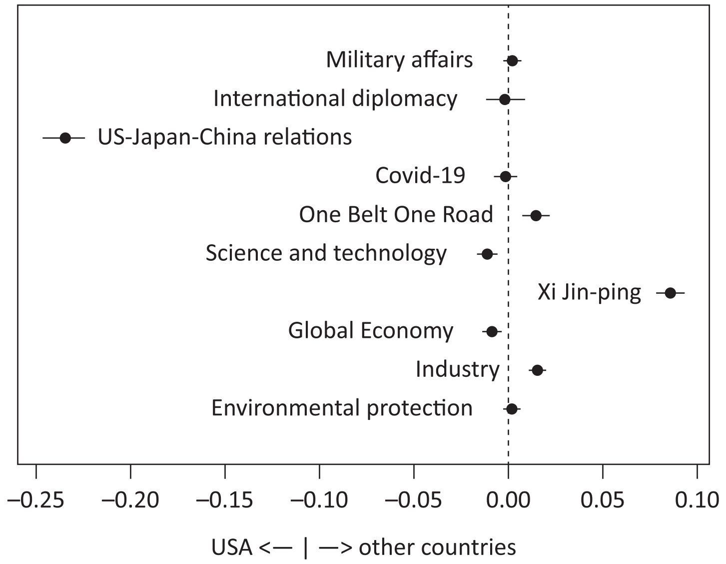

Figure 10. Prevalence difference between articles mentioning the US and other countries. Notes: Topics to the left of the dividing line are more common in articles mentioning the US, while those to the right are more common elsewhere. Lines indicate 95% *CI*.

introduces a fair amount of "noise" into the data set. Future researchers would be wise to incorporate multiple leading newspapers.

Second, sentiment might not be the most applicable way to judge the intent of Chinese news articles. While it proved to be a useful measure to illustrate perceptions of different countries in the Chinese press, the overall positive tone of domestic coverage meant that the mapped articles were nearly universally positive. Future work could revolve around creating a more applicable typology for Chinese news media, which could better show contrasts between different geographical regions. We believe more qualitative studies of the content will also help to better understand the current editorial strategy of *People's Daily*.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the author (unedited).

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Article

Towards (Hyper)Local Public Sphere: Comparison of Civic Engagement across the Global North

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Abstract
The role of hyperlocal media is of increasing relevance as traditional local journalism experiences a decline due to centralisation and consolidation. The affordances of Internet and digital technologies also enable hyperlocal initiatives to enhance civic engagement in localities and serve as a place and resource for local deliberative processes. This study examines how the aims, perceptions and practices of hyperlocal media vary in three countries of the Global North—Sweden, Finland and Russia—and what implications this has for connectedness and civic engagement in local public spheres. The context of different media systems and local political regimes help to explore possibilities and limitations of hyperlocals as agents of place-oriented civic engagement. The data includes interviews with practitioners and analysis of selected hyperlocal media. Our results indicate that hyperlocal media practitioners in all three countries aim to provide local people and communities with a voice, and to enhance resident engagement in local life. We reveal three civic roles of hyperlocal media: (i) information provider, (ii) community builder, and (iii) civic mediator. Practices of civic engagement used by hyperlocal media range from relying on civic journalism to fostering civic debates and can be classified in two main categories: civic information and civic debate and interaction. The perceptions and practices of these hyperlocal media are, to some extent, similar because of comparable changes and challenges regarding the local media and public spheres. At the same time, the perceptions of civic roles vary, reflecting both the developments and differences in the countries' media spheres and political regimes. This research raises a critical question about hyperlocal practitioners' understanding of their own roles and aims, and in addition, how differences in media cultures and local regimes affect their performance as agents of local public spheres.

Keywords
civic engagement; Finland; Global North; hyperlocal media; local media; public sphere; Russia; Sweden

Issue
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1. Introduction

The role of hyperlocal media is of increasing relevance as traditional local journalism is in decline, experiencing processes of centralisation, consolidation and devaluation in the age of 'platformisation.' Despite liminal field positions in terms of capital and resources, small hyperlocal media demonstrate physical proximity with their audiences and tend to produce a sense of community togetherness (Örnebring et al., 2020). The capacities of

Internet and digital technologies enable hyperlocal initiatives to enhance local deliberative processes and present a multitude of local voices in public interest matters (Freeman, 2020).

Being a comparatively new addition to the local media sphere, hyperlocal media cover a wide range of initiatives, usually defined as media that target a limited geographical area, have a community orientation, contain original news reporting, are indigenous to the web, fill perceived news gaps and stimulate civic engagement (Metzgar et al., 2011). Researchers stress their small scale, independence from established media houses and orientation towards sharing citizen-driven content at a grassroots level—which makes these media a means for people's individual expression and involvement in local life and debates (Radcliffe, 2012; Turner, 2015). Initiatives span from non-profit operations to commercial businesses, with various levels of professionalisation (Tenor, 2018). What is common among these diverse outlets is their spatialised orientation, which affects the practices and logic of these media and the practitioners standing behind them (Rodgers, 2018).

As such, hyperlocal media have the potential to revive the local public sphere by facilitating fora for localised debates and welcoming material from neighbouring people and organisations. At the same time, hyperlocal media tend to reconsider the composition of the local public sphere by redefining what local news is and what the public interest is (Harte et al., 2019). The forms of civic engagement vary in different political regimes (Hujanen et al., 2020), so it is unclear how hyperlocal media perform in different media systems and journalistic cultures.

Despite its potential, the role of hyperlocal media in local civic engagement is neither evident nor uniform. To gain novel insights into the possibilities of hyperlocal media as agents of place-oriented civic engagement, this article examines the aims, roles and practices of hyperlocal practitioners and initiatives in three countries of the Global North: Sweden, Finland and Russia. The two Nordic countries are democracies with traditionally strong local media and emerging hyperlocal media. In Russia, the situation for independent media is challenging. Hyperlocal media in this media system act not only as grassroots initiatives but also as an alternative to state-controlled and digitally underdeveloped local media (Dovbysh & Mukhametov, 2020). At the same time, the three countries have common geographical features with long distances between settlements, low population density in rural and remote areas and harsh climate conditions, which influence the role local media play in local communication.

This study thus seeks to understand how hyperlocal media practitioners understand and tackle their roles across the needs and potentials of local publics. We study both the similarities and differences that exist despite, or because of, inherent differences in media systems and local political regimes in these three countries of the Global North. To gain context-sensitive and nuanced insights into the aims, roles and practices of hyperlocal civic engagement in local public spheres in different media cultures and political regimes, this article seeks to answers the following questions: (i) How do hyperlocal practitioners perceive the civic role of their media in local public spheres in Sweden, Finland and Russia? (ii) What types of practices have hyperlocal media operations implemented to enhance civic engagement within their local contexts?

2. Theoretical Framework

2.1. Local Public Spheres and the Role of Local Media

The notion of the public sphere is changing in the digital era. The concept of the public sphere has usually been understood as a constellation of communicative spaces, where information, ideas and debates can circulate to form a political will, which is also called public opinion (Dahlgren, 2005). Dahlgren conceptualises the public sphere as consisting of three constitutive dimensions: structures, representation and interaction. The structural dimension refers to the institutional features of the media outlets, including their organisational form and ownership structure, sources of financing and legal framework. The representational dimension concerns the output of the media, its fairness, accuracy, pluralism of view, agenda setting and so forth. The interaction dimension constitutes the public space as a communicative *relationship* between speakers and hearers (Friedland et al., 2007, emphasis is original). As such, digital technologies and the Internet affect all three dimensions. Being indigenous to the web, hyperlocal media affect all three dimensions and therefore the constitution of the local(ised) public sphere. Below, we provide a brief overview of the role of digital local media for the public sphere.

First, the very notion of locality is changing in the digital world. In the boundless digital space, local media are no longer defined only by an attachment to a particular geographical place. Place is acquiring a more social meaning (Usher, 2019). Recent research suggests a 'geo-social' concept to highlight how local news media offer people a sense of place (Hess & Waller, 2014). This is in line with Rodgers (2018, p. 856), who proposes that:

> Practices of so-called hyperlocal media should be understood via a phenomenological duality. On the one hand, as activities rooted in place: conducting media work though situated environments. Yet, on the other hand, as inhabitations of field spaces: geographically dispersed social and technical worlds.

Further, Hess and Gutsche (2018) particularise the social and cultural forms of media and suggest the relevance of a *social* sphere when studying the functions of journalism. Despite the obvious importance of 'where,' it is one of the least investigated areas of the journalistic professional domain, and the links between place, local knowledge and the role of hyperlocals in the public sphere remain largely unexplored.

A long tradition of research has demonstrated the strong connection between local journalism and local community in both metropolitan and rural areas (Nielsen, 2015). Local news can foster community engagement and audience participation, providing communities with more agency in democratic processes (Nelson & Kim, 2020; Wenzel, 2019). For instance, cities in the US have experienced significant drops in civic engagement after the closure of local newspapers (Shaker, 2014). This shows that local journalism is important for local political knowledge and for the community. What might not be important for people as individuals is important for the local society in which they live (Olsen, 2020). Residents expect local journalism providers to be 'good neighbours,' to care about the area and to provide a community forum rather than to fulfil watchdog functions and focus on rapid news reporting. People also wish for local media to prioritise solutions as much as problems (Heider et al., 2005).

Hyperlocal media are less visible so far in terms of their role in the public sphere. However, hyperlocal news sites engage the public in a different way compared to professional journalists and news organisations (Firmstone & Coleman, 2015) and strive to establish a close and reciprocal relationship with their audience and to offer key values for citizens, including a route for participating in the public sphere (Harte et al., 2019). Hyperlocal media typically have an insider perspective to local life, and people contribute more to local groups, which offer a space for discussion, than to legacy media (Nygren & Leckner, 2016). In this research, we consider the impact of hyperlocal media on the structural, representational and interactional dimensions of the public sphere to understand their place in the local(ised) public sphere in three countries.

2.2. The Civic Role of Hyperlocal Media Practitioners

How hyperlocal media practitioners perceive their roles is important for understanding the potential impact of hyperlocal media in the local public sphere. Practitioners typically express motives other than economic for starting a hyperlocal media operation (Leckner et al., 2017). For instance, in the UK, most hyperlocal producers identify their work as a form of active civic participation. 'Filling the news gap' is a common goal but articulated as a civic duty rather than a gap in the market (Radcliffe, 2015).

At the same time, the civic potential of hyperlocal media should not be considered as a one-dimensional benevolent process. It is not always the aim of the initiatives to enhance civic engagement, as the goal of the hyperlocal practitioner can be to stimulate local businesses, engage in local activism or politics. Civic engagement may not always be for the greater good or democratically desirable. Citizen participation in the newsmaking process became a hopeful promise in the 1990s, but since then a bleak flip side to these utopian ideas has surfaced—a concept which Quandt calls 'dark participation' (2018). Quandt cautions against equating 'civic engagement' with 'normative good.' For that reason, it is important not to confuse so-called 'alternative media' and partisan interest communication with community-oriented hyperlocals with a multi-dimensional content and news focus.

Over the course of decades, some of the prominent roles identified among professional journalists are the roles of disseminator, interpreter, adversary, populist mobiliser and civic. Lately, a decline in the disseminator role and an increase in the interpretive role have been noted (e.g., Willnat et al., 2019). Variations in the prominence of certain roles and the emergence of new ones, such as that of the populist mobiliser, reflect the changing journalism terrain over time, such as the increase of citizen engagement. Chung and Nah (2013) found that citizen journalists in the US tended to see their own role as that of populist mobilisers, while viewing professional journalists in the roles of interpretation and dissemination. According to Chadha (2016, pp. 704–706), who has examined how hyperlocal practitioners negotiate their work identities, the role of hyperlocal practitioners closely connects in their identity negotiation to the community and neighbourhood—reporting "on the side of the community," serving the neighbourhood or being "community campaigners."

We do not analyse practitioners' role perceptions against the aspects of the profit and professionalism of the initiatives (see e.g., Tenor, 2018), or from the viewpoint of individuals' renegotiation of their work identity (see e.g., Chadha, 2016). Our goal is to understand, first, how hyperlocal practitioners perceive their civic role in/for the community—that is, what kind of roles they want their media initiatives to have in the local public sphere. Second, our aim is to understand how practitioners' perceptions of the roles of hyperlocal sites are locally embedded constructions—that is, created and made sense of against the needs and potentials of media and political spheres. In other words, we are interested in what kinds of differences exist between the role perceptions of practitioners operating in different cultural, journalistic and political contexts and how it affects the hyperlocal media they develop.

3. The Study in Context

Finland and Sweden are characterised by universal media and communications services, strong and institutionalised media freedom—a model called the Nordic media welfare state (Syvertsen et al., 2014). In the Finnish media culture, despite digitalisation, local printed media still have a rather strong position compared to many other countries. The majority of newspapers there are small, local, and politically independent dailies. Most local newspapers belong to larger media companies (Grönlund & Björkroth, 2011). Local media vary from professional news producers to hybrid forms of marketing and local information sharing (Hujanen et al., 2019). In Sweden, professional news media hold a relatively resilient position, with a stable public service media and a daily press with wide distribution and editorial presence (Weibull et al., 2018). However, since 2004, as part of a process of centralisation and consolidation, nearly half of the editorial offices of local newspapers have been shut down (Leckner et al., 2017). The weakening position of traditional local media and journalism, the emergence of hyperlocal initiatives as well as the eroding social cohesion at the local level, make both Finland and Sweden fruitful Nordic contexts to study hyperlocal practitioners' perceptions of the civic role of their media in the local public spheres.

The Russian media system is characterised as a dualistic one. There are elements like commercial advertising, news journalism, and private media capital which were adopted from Western models after the collapse of the Soviet Union. Close relations with political power, the impossibility of private ownership in certain media, and the comparatively low participation of citizens in the public sphere are indigenous to the Russian media system (Kiriya, 2018).

Russian local media have typically been highly dependent on financial support from local authorities (Dovbysh & Mukhametov, 2020). Clientelistic relationships with the authorities, coupled with self-censorship, have contributed both to the crisis of journalistic values and professional authority (Roudakova, 2017) as well as to people's decreasing trust in local media ("TV, Internet," 2016). These tendencies have alienated the local professional media from their communities and increased "the distance between power—and media allied with that power—from local problems" (Kiriya, 2020, p. 174). The increasing popularity of digital, non-professional media—mainly on social media platforms—is a logical response to the call for relevant and independent local information and a space for local communication in Russian provinces.

This research is designed as a comparative study. Comparative studies are crucial for understanding communication in fragmented public spheres, weak legacy media systems and disrupted democracies (Bennett & Pfetsch, 2018, p. 250). The most common type of comparative journalism research is cross-national research on media models, whereas comparative analysis of journalism at the level of media outlets has received less attention (Örnebring, 2012). As a base for this comparative study lies three parallel studies, independent of each other but within geographical proximity, which provides a unique opportunity to compare field data and broaden the scope of hyperlocal media as agents of the local public sphere. The selection of the three countries studied was motivated mainly by the authors' access to the empirical data in these countries. At the same time, the authors' previous research (Dovbysh & Mukhametov, 2020; Jangdal et al., 2019) demonstrates that the local media in these three countries have both differences and similarities which justify a comparative analysis.

3.1. Interview Data Gathered

Our data combines qualitative interviews with hyperlocal media producers as well as analysis of selected initiatives. The main data consist of 53 semi-structured qualitative interviews conducted in 2017–2019: 23 in Sweden, 12 in Finland and 18 in Russia. 14 of the interviewees were female and 39 were male. The group of interviewees represents a somewhat diverse group of actors in terms of their professional background and current activities. Some respondents have professional experience in legacy media, while others have never worked as professional journalists. Some pursue commercial goals, while the majority has non-commercial motives. All hyperlocal media the interviewees represent are independent from established media outlets. The platforms where they run their media vary. In Russia, hyperlocal media are run mainly on social media platforms, while in Sweden and Finland they have their own websites. The localities of the media outlets studied range from small rural settlements to urban areas. To gain a better understanding of the context and practices mentioned by the respondents in the interviews, we observed all hyperlocal websites run by the informants, focusing on what forms of civic engagement was offered. The interviews were recorded, transcribed and analysed qualitatively, marking important statements and quotations under chosen themes and roles. Although there are differences regarding the size and content of the interview data per country, the data are still rich and comparable enough to illustrate key similarities and differences in practitioners' perceptions.

4. Results

4.1. Hyperlocal Practitioners' Perceptions of Their Civic Role

Below, we focus on how the practitioners make sense of and describe their civic role, as well as how their perceptions affect the dynamics of local media and transformations of the localised public sphere. Fostering civic engagement and strengthening the local public sphere are represented as central but with multifaceted aims of hyperlocal media practitioners throughout the Global North. However, civic goals do not apply in a similar way to all hyperlocal media studied. Within our data, three civic roles are constructed for the hyperlocal media: (i) information provider, (ii) community builder, and (iii) civic mediator. These analytical roles are not mutually exclusive, however.

First, within the civic role of a local information provider, the task of informing and filling the local news gap is central. Hyperlocal practitioners wish to inform residents about what is happening in the community from a grassroots perspective, with a focus on topics that are not covered by other media and with a sense of 'I was there.' In some initiatives, the aim is to provide people with news in one's own language. As the resources of the operations vary, there are obvious differences in how operators are in practice able to fulfil their role as information providers.

Regarding news making and information sharing, practitioners share an aim of providing accurate, truthful, and trustworthy representations of local issues and events, without sensationalism or a strong emphasis on negative news. As put by an interviewee from Russia: "I do not want to demonstrate an image of a well-being town; I want to demonstrate that the town is not that bad and that we should notice not only negative, but also positive things."

In addition, sharing local news and information is represented as a question of local democracy. The practitioners aim at providing local information at an early stage in order for people to have an opportunity to react, speak, and make their voices heard. As perceived by the interviewees, if people do not have adequate information about what is happening in their communities, there will be decisions people were never made aware of and they stop caring: "When you don't know and understand the process you stop caring. You cannot protest and criticise propositions if you are not aware of them" (Sweden).

The motivation for the role of information provider differs between Finland and Sweden on the one hand, and Russia on the other. This indicates that the justifications are contextually constructed and reflect diversities in the structures and developments of the media and political sphere. In Finland and Sweden, justification for informing people about local and positive issues comes typically from the fact that professional news media focus on negative news. Moreover, professional journalists have left several rural municipalities in the Global North, leading to news deserts and information deficits. As noted by interviewees, many local issues would never make it into the mediated agenda without them and residents who take action.

While Nordic hyperlocal practitioners regard their media as a counterforce to non-existing or negative-slanted professional news media, hyperlocal media is perceived among Russian colleagues as a counterweight to biased and non-independent local professional media. Filling the news gap is represented as being a function of the poor quality of professional media, where 'quality' is a political issue and a question of journalistic autonomy and freedom. While professional local media is financed by the local government in Russia, hyperlocal operations are independent. Following this, practitioners see themselves as free, independent, and truth-seeking actors.

To some extent, the perception of own agency in local politics applies to practitioners across the Global North. Compared to professional journalists, hyperlocal practitioners see themselves as having a more free and independent position in the media ecosystem. This is viewed as a very important value. As stated by a Swedish interviewee: "When you interview a politician, you must be aware of the agenda that the politician has, or you end up becoming a spokesperson for what that political party wants on the table." The Russian practitioners distinguish between 'political' and 'non-political' issues and see their civic role as being that of a non-political social helper. They avoid discussing pure 'political' issues and challenging the existing political order or vertical power structure. Instead, they focus on the 'non-political social sphere' to help people with particular problems.

Within the role of community builder, the aims for strengthening and mirroring local community and identity, as well as activating people, are represented as central. This aim is connected to globalisation and individualisation. As a counterweight, a civic goal is constructed to help practitioners themselves and other people living in the same city or street corner to be 'locally present,' rooted, and integrated. For example, a Finnish founder of a hyperlocal initiative had felt himself as 'an outsider' in his own neighbourhood. Within the role of community builder, it is important to enhance a sense of community both virtually and physically in real life—so that people get to know each other and become part of the community. This is why practitioners wish to organise actions and events for local people.

In the Russian context, the civic role of a community builder is represented as having the aim of making people's identity stronger as local citizens: "We are trying to increase civic consciousness. The aim is also to force local officers 'to do good things.' " The role of community builder is represented as a service to other people and as a personal social project: "I had a very gratifying feeling that I was able to influence something, that my resource had significance. This is a social project for me" (Russia).

The civic role of a mediator includes the goal of facilitating interactions, local debate, and civic journalism. Practitioners aim at offering people and civic groups an opportunity, platform, and resources to meet, discuss, and give their voices to public debate and participate in local society. The vivid public dialogue is seen as important for democracy and the local public sphere: "The public dialogue is vital. It is absolutely necessary for the democratic conversion to function. My view of society rests on the fact that there is a continuing dialogue. This is the foundation of journalism and for civil society'' (Sweden).

The role of civic mediator is about establishing good collaborative practices for people and civic groups, in order for local democracy to work. It is important to facilitate making news together, in particular by enhancing citizen journalism and people's chances to contribute and comment on the news agenda. Practitioners strongly value the fact that different types of people are involved and that different viewpoints are included and published. As stated by a Russian interviewee: "If anyone is interested in voicing his or her opinion about what is going on in the town—this is the place where you can do it.”

4.2. Practices for Enhancing Civic Engagement

Next, we analyse which practices hyperlocal operations have implemented in order to enhance civic engagement within their local context. In terms of their practice, we refer to the ways the hyperlocal operators act in order to get people engaged. Thus, we ask what concrete actions the publications perform locally. The analysis is based on the interview data and digital observations.

Hyperlocal practitioners in the countries studied share similar practices in order to serve the local community and act as the virtual place where locals can participate in civic activities, but the analysis also reveals differences. Two categories of practices can be distinguished: civic information and civic debate and interaction. The civic information practices are further divided into practices for individual persons and those for local organisations.

The civic information practices for individuals are about reader and/or citizen participation. They broaden the scope of participation and civic engagement by offering people the possibility to express themselves and share their thoughts publicly in a moderated environment. The actions include ways and tools that help local people to act as civic journalists and which support their involvement in content production. The practices applied vary from publishing stories that are fully generated by local residents to the opportunity for people to share information that is used by journalists for writing stories.

Content making, technical support, and mentoring, as well as networking-oriented practices, are forms of civic information practices for individuals. The first group includes columns for guest writers (Sweden and Finland) and citizen bloggers (Russia), as well as training for civic journalists (Sweden and Finland). In the light of the data, practitioners can take a mentoring role when inviting people to participate. They offer for example training and support for publishing user-generated material. The second group refers to launching technical solutions, such as payment to civic journalists according to traffic (Sweden) or making a section ‘to offer the news’ for one-click news submission (Russia). The group of networking practices includes coordinating former journalists to contribute regularly (Sweden), creating networks which provide contributors with particular knowledge within various aspects of local society to facilitate citizen contributors (all countries).

The civic information practices for organisations offer associations, non-governmental, municipal, or state organisations a place to publish and distribute information on actual issues and activities. The municipal or state actors may be, for example, local police, the fire department, or a museum. These practices mediate information without someone in between the organisation and the audience. The practices can also include entertaining elements.

In Sweden and Finland, the civic information practices for organisations seem to contribute to a sense of local togetherness and community building. For example, a hyperlocal media outlet in northern Sweden plays an important part in a yearly community celebration where new-borns are presented with gifts. In Finland, initiatives organise offline events for people to gather. Spreading information is an important aspect for the initiatives, as well as to enhance everyday interactions and communication between people.

The civic debate and interaction practices include activities to involve people in decision-making and discussions of local affairs as well as to foster direct communication between officials and people. Hyperlocal media invite people to discuss issues on their own sites or on social media platforms in the Nordic countries. These practices vary between hyperlocal media and the countries studied but are about providing a platform to comment and discuss current issues. In Sweden, it is typical for hyperlocal media to report on local government plans so that residents have an opportunity to react before decisions are made.

Even though it is important for the Nordic practitioners that different viewpoints meet in the local public sphere, the quality is seen to require moderation of the comments. As observed by a Swedish interviewee:

> A commentary function is a way to listen to the entire population, and it adds to reader value. It’s important, though, to have a responsible handling of comments. We don’t have threaded comments for that reason. Certain words are also banned.

A difference compared with Russian initiatives is that as they consider themselves as independent from local authorities (in comparison to legacy media), hyperlocal media practitioners praise their weak moderation practice: “Everything is possible [to discuss] with us, just do not get personal.”

In the light of the data gathered, we revealed a need among the people to have a hyperlocal platform for discussion. For example, an article about a local church building raised a vivid discussion in a small Finnish hyperlocal media and became one of the most debated stories in the history of this hyperlocal initiative: “As the church is an issue of utmost concern to the village, the issue is perceived as very close, as ‘our own.’ It is possible that everyone has something to say about this.” In Russia, hyperlocal media serve to collect information for local governments about people’s opinions on local development, like urban planning, housing, and communal services. To fulfil this aim, hyperlocal media publish surveys and questionnaires and report the results to the city administration.

Practices used by Russian hyperlocal initiatives are to a great extent determined by the unfree position of legacy local media and their dependence on state finance. Hyperlocal media aim to fulfil the normative functions of media and to bridge the gap in local civic engagement. Having a huge audience on a city scale, the hyperlocal media have power to challenge the local officials unlike professional and financially-dependent media: "When you have a couple of thousand signatures of actual people behind you, your request gets a response very quickly, even if it was sent from an individual" (Russia). Therefore, their practices often include writing petitions or requests to the local government. Our results also demonstrate that some hyperlocal media serve as a space for direct communication between authorities and citizens. A Russian initiative, for example, organises live streaming with the city mayor, who answers questions submitted by the hyperlocal audience on social media platforms.

5. Conclusions

The role of local news media in civic engagement is less studied than that of social networking, top-down platforms or websites intentionally created to enhance collaboration between citizens and public institutions (Bartoletti & Faccioli, 2016; De Cindio & Peraboni, 2011). To get more context-sensitive and nuanced insights, this article has examined how hyperlocal practitioners perceive the civic duty of their media in local public spheres of Sweden, Finland and Russia. The article also studies what types of practices hyperlocal media outlets have implemented to enhance civic engagement.

The aim of hyperlocal media to function as agents for the local public sphere—to engage with people being as important as producing news for and with them—is present throughout the Global North. Fostering civic engagement and strengthening the local public sphere are represented as central but with multifaceted aims by practitioners. Similarities can be seen both in the perceptions of the practitioners as well as practices of hyperlocal operations in the countries studied. The three intertwining civic roles for hyperlocal media are understood by practitioners from the Global North as (i) information provider, (ii) community builder, and (iii) civic mediator. Within the first, sharing local news and information is represented as a key aspect of local democracy. Providing local information at an early stage and from a grassroots perspective is seen as important for people to have an opportunity to react, speak, and make their voices heard (see also Tenor, 2018). Within the second role, as a counter force for globalisation and individualisation, a civic goal is to help practitioners themselves and other people to be able to be locally present, rooted, and integrated in the community. The civic role of a mediator is about facilitating interactions, local debate, and civic journalism.

While the first role is one of those traditionally ascribed to professional journalists (e.g., Willnat et al., 2019), our study indicates that hyperlocal practitioners, like citizen journalists, consider newer roles, such as the populist mobiliser and civic roles, as important (e.g., Chung & Nah, 2013). This study indicates that hyperlocal media practitioners from the Global North, who often lie between professional and amateur or 'pro-ams,' perceive their roles as closely attached to local communities and ordinary citizens. Many perceive it important for hyperlocal media to let people express views and to motivate people to get involved. Many also said they find it as important to report fairly and accurately but with the purpose of serving their community. Bringing our results together with observations from the US (Chadha, 2016), it can be concluded that, in the practitioners' sense-making, hyperlocal information providers or media are not only content creators, but also populist mobilisers, community builders and campaigners. It is thus important that the roles ascribed to hyperlocal media are constructed from the viewpoint of the community, being part of the community and reporting on the side of the community.

Two categories characterise the civic practices of the hyperlocal media studied: civic information and civic debate and interaction. Civic information practices for individuals include content making, technical support and mentoring, as well as networking-oriented practices. The practices for local organisations are about offering civic associations—non-governmental as well as municipal organisations—a place to publish their activities and distribute information on actual issues. These practices are important in bringing the possibility of mediating information directly between the organisations, authorities, and local people. It can also be claimed that via these kinds of practices, hyperlocal initiatives address media users' expectations of local journalism providers to care about the area, and to provide a community forum (Poindexter et al., 2006). The civic debate and interaction category includes activities to involve people in decision-making and discussions of local affairs as well as to foster communication between officials and local people.

As we see it, the perceptions and practices are to some extent similar in the three countries studied as the changes and challenges regarding the local media and public spheres are similar: the detachment of local government from the local community (Kiriya, 2018) and gaps in local reporting by professional news media (e.g., Leckner et al., 2017). At the same time, our analysis indicates that the perceptions for civic roles can and do vary, reflecting both the developments and differences in the countries' media sphere as well as configurations and power relations of the political regimes. Regarding role perceptions, the roles of information provider and civic mediator are central for Russian practitioners, who think that trustworthy local news and a forum for dialogue do not otherwise exist. The community builder role has a strong presence in the perceptions of Finnish and Swedish hyperlocal practitioners, while the democratic watchdog role seems not to be so central for them.

Regarding practices, differences between the hyperlocal media in Finland and Sweden, on the one hand, and Russia, on the other, are also visible. Our study indicates that Russian hyperlocal grassroots media aim to bridge the gap in local civic engagement, offering a platform for open communication and letting people freely discuss issues. These practices among Russian hyperlocals reflect the characteristics of the local media model and political sphere—that is, dependence on state financing, unfree professional local media and weak communication between local authorities and people.

It is also noteworthy that while hyperlocal media share similar practices oriented towards civic engagement, the rationales behind similar practices may differ. In other words, even if hyperlocal media act in comparable ways, practitioners seem to make sense of them differently. Within our data, this becomes visible in, for example, the discursive construction of journalistic autonomy—that is, how the need for independence is represented and made sense of by the practitioners in different cultures in diverse ways. For the Finnish and Swedish practitioners studied, corporate independence and grassroots and insider perspectives to news reporting are important. At the same time, Russian hyperlocal media practitioners stress the significance of freedom of speech and their political independence. These differences can be at least partially understood against the processes and needs coming from the wider media sphere—that is, from the fact that traditional local media in Russia is highly controlled (Dovbysh & Mukhametov, 2020), while in Finland and Sweden, alongside with centralisation and market-orientation, there are fewer resources within traditional local news media to invest in covering local issues.

Via our comparative approach, we are able to conclude that journalists' and media practitioners' role conceptions should not be detached from their cultural contexts. Journalism and communication scholars should be careful not to propose that results from one specific context would apply to professional or citizen journalists or hyperlocal practitioners 'in general.' Instead, role perceptions, being discursive constructions, need to be studied as an inherently social phenomenon within their specific historical, cultural and interactional contexts. This finding can be applied to the further clarification and reconsideration of the definition and understanding of hyperlocal media. In comparison to earlier definitions (e.g., Metzgar et al., 2011), we suggest that instead of a definition based on a composite of generic characteristics of hyperlocal media, the focus should be on the roles, practices and values of hyperlocal media in the local community. The ascending logic, taking into account the practitioners' viewpoints and reflections (Rodgers, 2018), should be used, and the influence of broader cultural and socio-political contexts should be considered as well. Our research also suggests another perspective on the study of hyperlocal media and practitioners: Instead of studying them in contrast or in relation to professional media and journalists (Chadha, 2016; Tenor, 2018), we suggest examining them as a part (or extension) of the local community they serve. This perspective suggests the need to focus on their (civic) roles in and for the local community and public engagement.

Our more general aim in this research was to understand the possible implications of hyperlocal media for the local(ised) public sphere. Based on Dahlgren's (2005) conceptualisation of the public sphere as a constitution of three constitutive dimensions—structural, representational and interactional—we conclude by discussing how hyperlocal media may contribute to the transformation of all three dimensions in relation to local(ised) public spheres in three countries studied. Reconsideration of the structural dimensions refers to different (compared to established local media) institutional features of own performance. Praising their independence from bigger media corporations (Sweden and Finland) or from the government and other political forces (Russia), hyperlocal practitioners have a multitude of logics and motivations for their own activities in the society. Taking into account the non-commercial nature of many hyperlocals and the non-journalistic background of some practitioners, hyperlocal media have the potential to subvert the established logics and practices of local communication and debates. Moreover, hyperlocal media not only passively inform about local events but also have the agency to challenge local politics and criticise local politicians.

The representational dimension is determined by hyperlocal practitioners' understanding of the values and principles they rely on in their activities. They aim to offer values for citizens, such as a route to participate in the public sphere supporting everyday active citizenship and civic consciousness. Unlike professional journalists' ideals (Hujanen, 2016), the value of care is articulated as important. The task of hyperlocal practitioners is represented by some both as a service and as a help to other people, including important personal social projects. Objectivity thus becomes a contested notion (Harte et al., 2019, pp. 199–200): The lack of objectivity of grassroots media can result in greater civic value. Instead of regarding themselves as detached objective reporters, hyperlocal practitioners are committed to enhancing community cohesion.

The impact on the interactional dimension is determined by the reconsideration of the closeness to the place and the local proximity of hyperlocal media to the community they serve. Being part of the community, hyperlocal media tend not only to reconsider what local information is worth discussing but also to reassess who has access to and is visible in local debates. As such, local events, ranging from children's births and everyday routine events to church renovation and local elections, are intertwined into a mediated public sphere, (co)produced by local residents.

We are aware that these findings are not generalisable to the entire field of hyperlocals, even within the Global North. Each hyperlocal media outlet is unique and the output and aims very much reflect the views of the practitioner(s). Another limitation is that our study focuses on the practitioners' aspects. In the future, audience research would be desirable to gain a more nuanced picture of the links between hyperlocal media and the outcomes of civic engagement.

Conflict of Interests

The authors declare no conflict of interests.

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Article

What Constitutes a Local Public Sphere? Building a Monitoring Framework for Comparative Analysis

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Abstract
Despite the research tradition in analyzing public communication, local public spheres have been rather neglected by communication science, although they are crucial for social cohesion and democracy. Existing empirical studies about local public spheres are mostly case studies which implicitly assume that cities are alike. Based on a participatory-liberal understanding of democracy, we develop a theoretical framework, from which we derive a monitor covering structural, social, and spatial aspects of local communication to empirically compare local public spheres along four dimensions: (1) information, (2) participation, (3) inclusion, and (4) diversity. In a pilot study, we then apply our monitor to four German cities that are comparable in size and regional function ('regiopolises'). The monitoring framework is built on local statistical data, some of which was provided by the cities, while some came from our own research. We show that the social structures and the normative assessment of the quality of local public spheres can vary among similar cities and between the four dimensions. We hope the innovative monitor prototype enables scholars and local actors to compare local public spheres across spaces, places, and time, and to investigate the impact of social change and digitalization on local public spheres.

Keywords
comparative research; local communication; local public spheres; participation and inclusion

Issue
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1. Introduction

Public communication is essential in democracies, a prerequisite for understanding political decisions and their consequences, enabling citizens to participate in society. Public communication acts are highly relational and thus constitute the public sphere as "a network for the communication of content and statements, i.e., opinions" (Habermas, 1992, p. 436, translation by the authors). The public sphere can be understood as a normatively and functionally demanding concept, based on various theoretical ideas of democracy and applied to different levels of society. In communication science, empirical studies of the public sphere have predominantly focused on the national level, such as thematic publics in mass media (e.g., Eilders et al., 2004; Ferree et al., 2002a) or social media (e.g., Bruns & Highfield, 2016), or network structures of the public sphere (e.g., Wallaschek et al., 2020). A comprehensive, longitudinal, and cross-sectional perspective encompassing different levels and venues of the public sphere, such as encounters, public meetings, media and other intermediaries for enabling and organizing public communication acts, seemed only theoretically, but not empirically feasible (Neidhardt, 1989).

Less research exists regarding local public spheres. There are case studies focusing on public communication on specific topics (e.g., Friedland et al., 2007) or studies on local media ecologies (e.g., Coleman et al., 2016). While these studies focus on specific topics or media ecologies in single or a few cities and because results are thus hardly comparable to other studies in the field, our aim is to provide a framework which: a) provides an overview of the local public sphere which goes beyond a single media ecology; b) allows the comparison of a larger number of local public spheres by focussing on aspects of the local public sphere which can be easily quantified or where statistical data is widely available; and c) is intended to allow comparisons over time to measure changes in the local public sphere which happen for example due to technical, political, or societal change.

The focus of our article is on German cities, but the monitoring framework should be applicable to other cities in Western democracies as well since our four core dimensions are not specific for Germany but are normative demands on public spheres in participatory-liberal democracies in general. In Germany, much of the existing research on the local level dates back to the 1980s, when the introduction of private local radio and TV stations triggered a series of case studies (e.g., Bentele et al., 1990; Jarren et al., 1989). Since then, legal conditions, as well as the media environment on the municipal level, have changed, and legislators on the regional level as well as city administrations have introduced many participatory instruments of municipal governance (such as *Bürgerbegehren* and *Bürgerentscheid*; Kersting, 2008; Neumann, 2007, p. 359). In addition, new media have emerged: social media, neighborhood platforms, podcasts, city apps—just to name a few—which enable more inclusive forms of public communication, potentially turning citizens from mere information recipients to active participants in communication (Neuberger, 2009, p. 37).

Societal changes such as individualization and the rise of media platforms (digitalization) are transforming the public sphere on all levels, making it more inclusive, but also more fragmented—democratizing discourses but also leading to increasingly dissonant public spheres (Bennett & Pfetsch, 2018). While there is much debate about this transformation, only a few comparative studies consider old and new elements of the public sphere, and even fewer on the local level. To our knowledge, there is no instrument to compare local public spheres over space and time. Measuring and monitoring the local public sphere could lead to new insight into the impact of social change, reveal any need for further research, and stimulate more local communication research. But how can we empirically measure local public spheres to compare them over time and space?

2. Core Components of Local Public Spheres: Information, Participation, Inclusion, and Diversity

Theories of the public sphere have been instrumental in our understanding of public communication and the emergence of public opinion. The public sphere is the social sphere where public matters are openly discussed, where different opinions and options for action are challenged and scrutinized, and where conflicting interests are negotiated. It is thus both a marketplace of ideas and an arena for competing opinions and interests. As such, the public sphere is a key category for the integration and development of modern societies (Neidhardt, 1989). In addition, as Theis-Berglmair (2015) points out, the public sphere is more than just the political public sphere: Integration and social cohesion can be promoted by discussions of societal issues as well.

Models of the public sphere can focus on structural aspects such as the different levels of social interaction, or the relationship of actors involved in the public sphere. Gerhards and Neidhardt (1990) proposed analyzing three different levels of the public sphere: (1) the level of *encounters*, where people meet by chance and discuss issues, for example, at work or on public transport, etc.; (2) *public meetings* where the topic as well as roles in communications, e.g., speaker, moderator, audience, are set; and (3) *mass media* where information is broadcast to a large, dispersed audience. These three levels are intertwined: On the encounter level, e.g., people might discuss topics they have heard about at public meetings or learned from the media; the media raises topics that are being discussed in public meetings or elsewhere in society. Through such processes, ideas, opinions, or frames can diffuse through the three levels and people can then get involved. A large and ever-growing body of literature has dealt with the question of how digital media and communication transform classic models of the public sphere and media systems but in the context of society at large, not the local level (e.g., Chadwick, 2017; Papacharissi, 2010; Reese & Shoemaker, 2016; Schäfer, 2015).

Some models describe the political public sphere as an intermediary system between citizens and the state. The intermediary system consists of political parties, civic associations, interest groups, and the mass media, which aggregate, articulate, and organize the issues at stake (bottom-up) to explain, contextualize, and challenge the output of political decision-makers (top-down; Donges & Jarren, 2017; Rucht, 1993). Nowadays, social media platforms, search engines, and messaging services are also part of this intermediary system—as digital or online intermediaries (e.g., Schmidt et al., 2019).

All attempts to model public spheres refer explicitly or implicitly to normative standards because the qualitative requirements of the public sphere are influenced by the underlying theories of democracy. The models of the public sphere can be grouped into four types: a representative-liberal model, a participatory-liberal model, a discursive model, and a constructionist model (Ferree et al., 2002a, 2002b; Martinsen, 2009). The framework we develop here is based on the normative characteristics of the participatory-liberal model of the public sphere, combining normative elements of a liberal understanding that has recurring, free and fair elections, and the regular exchange of governments at their core with normative elements that underline the inclusion and participation of citizens outside of elections. This theoretical approach goes beyond basic assumptions such as free media and freedom of speech and therefore allows to take account of participatory elements in the local public sphere in Germany and the hybrid media landscape described above. It also allows us to go beyond the contemporary approach of communication science which analyzes the local public sphere by focusing on media ecologies only. Instead, into our monitoring framework, we incorporate organizations of the civil society and other local structures that facilitate communication, participation, and inclusion. Our monitor is based on the participatory-liberal model, as this serves best our focus on the local public sphere in Western democracies. The participatory-liberal model emphasizes the (direct) engagement of all citizens in public life in contrast to the representative-liberal model in which voting is the major act of participation. At the same time, the participatory-liberal model is less demanding regarding public discourse practices than discursive models, which set high standards of civility, mutual respect, and emotional detachment. These standards can act as barriers to inclusive participation, even if this is not intended. The participatory-liberal model is less elite-focused than the representative-liberal model: It includes a broader section of the population without focusing predominantly on minorities as the constructionist model does (Ferree et al., 2002a, pp. 229−231).

From the participatory-liberal model of the public sphere and based on the work of Ferree et al. (2002a, 2002b), we derive four core dimensions for a framework to monitor and compare local public spheres: (1) information, (2) participation, (3) inclusion, and (4) diversity (see Figure 1). To assess the quality and the potential of local public spheres we specified the normative prerequisites for a strong public sphere accordingly:

1) Information: Citizens (and other stakeholders in a city's population) should be informed about relevant topics and different perspectives; they must have access to information that enables them to make informed political decisions.
2) Participation: Citizens should have multiple possibilities for political participation, to articulate their opinions, consent, or dissent.
3) Inclusion: Minorities, including those who are not eligible to vote, should be encouraged to participate in politics and society; their points of view, concerns, and interests should be heard and ideally represented in political decision making.
4) Diversity: A pluralist society should be represented in the local public sphere, enabling positive attitudes towards different and diverging perspectives and backgrounds.

All dimensions are valued equally and are linked to one another: people need information to participate in local public discourse; to articulate their needs and concerns, there need to be different formats that enable citizens to participate in their community's decision making; to guarantee the inclusion of minorities and the consideration of their demands, it is necessary to implement institutionalized procedures accordingly. If those requirements are met, we would expect to see a broad participation of the population in the local public sphere and as a result, we should see diversity in local media, the local parliament, and public administration, as well as the cultural public.

The local public sphere differs from national or transnational public spheres as "civic, public, and media ecologies" (Friedland et al., 2007, p. 46) are intertwined and "rooted in local communities" (p. 45), which serve as "schools of democracy" (p. 43). We, therefore, go beyond media ecologies and apply a non-media centric approach, aiming to measure other aspects of the community in relation to public communication, such as civil society engagement.

Based on these normative dimensions of local public spheres in Western democracies, we need to define categories, indicators, and variables that are accessible for empirical comparative research in the next step. These variables need to reflect on the information provided by local mass media and online platforms as well as on communication of the actors in the intermediary system. As implied by the specifics of the local public sphere and accounting for the digitalization of public communication and civic life, a monitoring framework should go beyond assessing mass media supply and information provided by city administrations, and also include the actors of the intermediary system and new digital intermediaries. The monitor includes variables to indicate mere opportunities to participate in the local public sphere (e.g., institutionalized opportunities for participation offered by the local government) as well as variables that indicate the extent to which any such opportunities are made use of (e.g., voter turnout). Indicators of the actual performance regarding the number of people participating in that opportunity have been chosen wherever comparable information was available.

3. Monitoring the Local Public Sphere: Case Selection and Data Collection

Our monitoring framework is structured along four dimensions, 12 categories, 36 indicators, and 84 variables. We have grouped the data into the four key dimensions derived from the participatory-liberal model of the public sphere and attempted to include data from all levels identified in Chapter 2. Dimensions and categories are displayed in Figure 1, while the complete set of indicators and variables is provided as a supplementary file in the online version of the article. The inner ring of Figure 1 depicts the four core dimensions, the outer ring denotes the three categories of each dimension. We have chosen this illustration to emphasize that each dimension is valued equally while also being interdependent.

To evaluate the information dimension, we analyze the local hybrid media landscape (Chadwick, 2011), the communication by local city administrations, and local actors of the intermediary systems such as political parties or welfare organizations that articulate and aggregate individual interests. In the participation dimension, we look at both institutionalized and non-institutionalized participation (Elstub, 2018; Rosanvallon, 2018; van Dijk & Hacker, 2018; Weßels, 2018), as well as participation formats of civil society (Theocharis & van Deth, 2018). The inclusion dimension presumes that no identifiable social groups should be excluded from the public sphere (Habermas, 1992). Thus, we focus on fora to include social groups in the political decision-making process and the support that local administrations and society offer to include vulnerable or disadvantaged groups. Concerning the diversity dimension, we take into consideration the representation of minorities in the public sector, cultural publics, as well as the diversity of media (Bohman, 1998; Zhang et al., 2013).

We then selected cases to empirically explore the four dimensions in four German cities, balancing the need for comparable units of analysis and the aim to develop a monitor, which can also account for variation, e.g., regional peculiarities. To identify cities of the same type regarding size and function within their respective regions, we referred to the regional statistical spatial typology RegioStar, developed for the German Ministry of Traffic and Infrastructure (Bundesministerium für Verkehr und digitale Infrastruktur, 2020). We selected four cities of the same type, 'regiopolises,' in different

Figure 1. Monitoring the local public sphere: Dimensions and categories.

geographical regions of Germany: Cottbus, Kassel, Osnabrück, and Pforzheim. 'Regiopolises' are cities with a population of at least 100,000 which lie outside the core area of metropolitan regions. They have an outstanding economic and cultural significance for their larger surrounding area (Aring & Reuther, 2008; Regiopolregion Rostock, n.d.). In addition, we excluded state capitals, as this would add a further political dimension and take the focus from the local to the state level. We also excluded cities with an unusually high proportion of university students ('university towns'), as they would skew the demographics of the 'normal population,' for example, concerning media usage or voting behavior. We chose to include one city each from the north, south, west, and east of Germany to account for possible regional differences.

We followed a four-step approach to developing our monitoring framework: (1) operationalization, (2) selection of indicators, (3) data collection, and (4) construction of the framework.

3.1. Operationalization

In an iterative process, we identified and determined potential categories and indicators to operationalize our four dimensions of local public spheres. We reviewed the existing literature from various disciplines such as communication science, political science, sociology, and urban planning to detect potential indicators. At the same time, we located relevant actors as well as publicly available statistical data for our case cities to check for the availability of data. In multiple rounds of discussion within our project team and drawing on expert feedback, we considered, discarded, and then determined a range of potential categories and indicators.

3.2. Selection of Indicators

A preliminary collection of data on the four cities served to check the availability of data for the chosen indicators. Availability here means coverage, scalability, timeliness, and feasibility (see Montalto et al., 2019, p. 171, for a similar approach). In terms of coverage, we dismissed indicators for which we could not find data relating to all four cities in our sample. Since the core idea of a monitoring framework is to extend it to more than the initial four cities (scalability) and possibly to other countries, we did not include information from (qualitative and single) case studies. We compiled a unique collection of publicly available datasets for the years 2017 to 2020 (timeliness), preferring variables which had sufficient data to allow for a comparison over time. Since this monitor is designed for application outside of academia, once it is up and running, we sought to ensure easy data collection (feasibility), focusing on readily available data instead of that which needs to be gathered and processed using complex methods (e.g., content analyses).

3.3. Data Collection

Because we aim to include the different levels of social interaction, old and new intermediaries, as well as different forms of participation in the local public sphere, we used various sources for our data collection. The majority of the data used for the monitor was gathered by accessing existing data in various archives, annual reports, bureaus of statistics, and initiatives through desk or secondary research, while other information was collected for the specific purpose of the study through primary research. A central data source for our monitor was official statistics, as they usually meet all the availability criteria mentioned above. For the indicator of *gender equality* in the diversity dimension, for example, we used the indicator *proportion of women in parliaments*, collected under the United Nation's Sustainable Development Goals program and available at the public database regionalstatistik.de. An example of the use of public registers for our data collection is the register of associations (*Vereinsregister*), from which we have drawn information on the number of associations in a city, an indicator of the *civil society* in the participation dimension. We also used data provided by the municipal statistical offices, for example, to collect data on the number of theatre visitors, one aspect of the *cultural participation* indicator within the diversity dimension. Moreover, part of the data collected are search engine results. We used desk research mainly for the information dimension to capture the local media landscape, as data on most digital media (e.g., the number of local podcasts) are not systematically recorded in statistics. For the distribution of the local daily newspapers or advertising gazettes, we relied on systematic evaluations of the industry, e.g., the German Audit Bureau of Circulation (Informationsgemeinschaft zur Feststellung der Verbreitung von Werbeträgern) and the German Federal Association of Advertising Papers (Bundesverband Deutscher Anzeigenblätter). To map the digital communication of key actors of the intermediary system, we evaluated their presence on social media in the information dimension. To capture online participation in civil society we collected activity data on social networks, such as public groups on Facebook and neighborhood groups on Germany's largest digital neighborhood platform nebenan.de. We also made use of existing monitors and indices whenever we found overlaps with our categories, e.g., an evaluation of the procedural rules of citizens' initiatives (*Bürgerbegehren*) published by the University of Wuppertal in the participation dimension, or the *European Charter for Equality of Women and Men in Local Life* by the Council of European Municipalities and Regions (2006) for the category *representation of diversity*.

3.4. Construction of the Framework

Finally, we developed a scoring system for our monitoring framework: From the participatory-liberal model of the public sphere (presented in Chapter 2) we deduced that all four dimensions were to weigh equally; this also applies to the three categories subordinate to each of the dimensions. The first two levels of our model's hierarchy are shown as a sunburst diagram in Figure 1. The inner ring shows the four dimensions, the outer ring visualizes our 12 categories. In a full display of our monitor, there would be two additional rings: a third ring displaying the 36 indicators of our monitor, and an outermost ring displaying the 84 variables. The proportions in the sunburst diagram represent the assessment of the local public sphere: In the full circle, the four dimensions are each represented at 90 degrees which equals 25% of the total score. The dimensions are each divided into three equivalent categories. As we cannot describe all 36 indicators and 84 variables in detail, a list of all variables of our monitoring framework with a short description and their evaluation is available as a Supplementary File.

4. Results: Similar Cities—Distinct Public Spheres

To build and explore our monitoring framework, we gathered data on four German cities of similar size and function across different areas of Germany. We present these results to illustrate the application of the proposed monitor and as an example of what kind of insight could be gained by applying it to a larger number of cities. The most significant differences can be observed in the information and participation dimensions, whereas there was less variation in the overall results for inclusion and diversity (see Figure 2). While it is utopian to assume a city could reach a full score in all variables (because the dimensions represent normative ideal types), the value of monitoring (over time) and comparing (across cities) local public spheres regarding information, participation, inclusion, and diversity lies in identifying strengths and weaknesses, room for improvement, and best-practices. As expected, we found variation across the cities in all four dimensions.

As the treemap diagram (Figure 3) shows, each city has its own 'profile' of the local public sphere. The size and position of the rectangles show how the city scored in the different categories. If a city had a full score in all categories, all rectangles would have the same size. Osnabrück achieved the highest scores across all dimensions, as shown by it having the largest area in the treemap diagram. In particular, Osnabrück performed comparatively well in the dimensions of information (red) and participation (blue), while in diversity (green) the other cities achieved better results. Even with almost identical overall scores for Pforzheim and Cottbus, the results show differences in their local public spheres. Similarities and differences in the categories of the four core dimensions are explained below.

4.1. Information

Local newspapers' readership figures are declining in all four cities. This has been a challenge for the newspaper industry for years, despite the continued relevance of local newspapers for local information. Only Kassel was able to score in this category, due to the comparatively high local newspaper circulation. We found free advertising gazettes and local radio stations in all four cities. Overall, Osnabrück was the frontrunner in the information dimension reaching 74% of the possible score, while Pforzheim reached only 39%. The reason for Osnabrück's high score is its rich supply of alternative media channels: In Osnabrück, citizens can access magazines, blogs, online portals, podcasts as well as apps for local information—in contrast to all the other cities, which lacked at least one of these channels.

Our findings in the category of municipal sources show that all four cities have active accounts on various

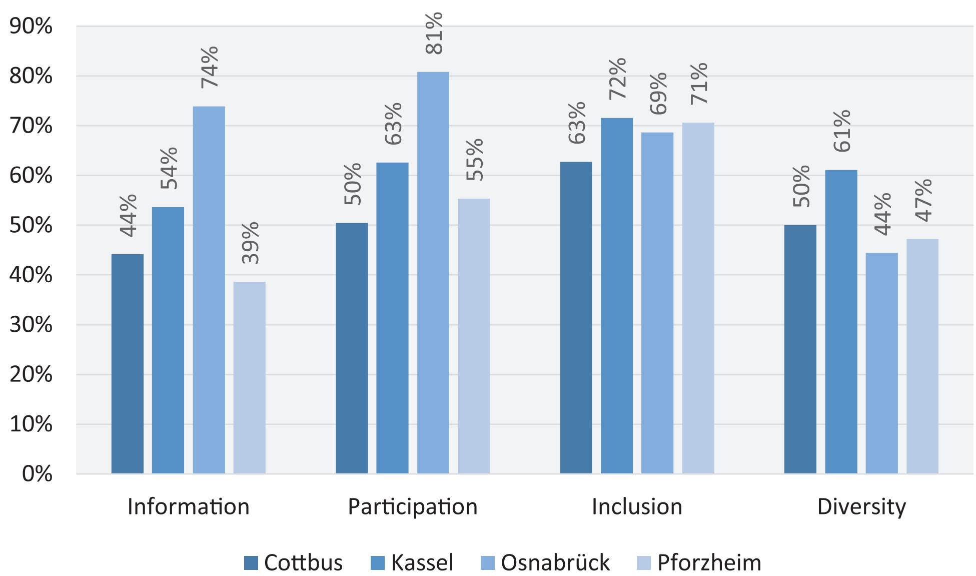

Figure 2. Results in the four dimensions in percentage for each city.

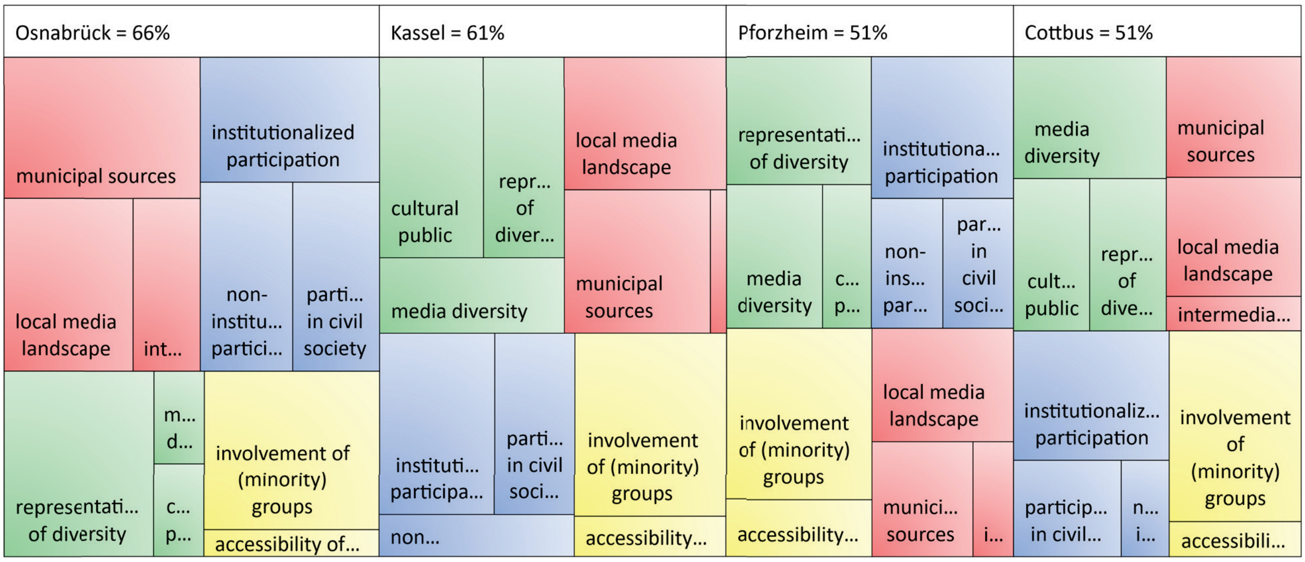

Figure 3. Four cities: Four distinct 'profiles' of the local public sphere. Note: The size and order of the rectangles represent the score in the respective categories.

social media platforms. However, they demonstrate different degrees of openness to other digital instruments, such as e-government and open data, or are at different stages of their implementation. In the category of municipal sources, Osnabrück was the only city to score the maximum possible score.

The results regarding the information provided by political parties, welfare associations, and churches, are quite mixed. None of the cities reached more than 42% of the possible score. Local intermediary actors with more resources, like the Diocese of Osnabrück, seem to offer more online and offline information channels, which partly explains Osnabrück's comparatively good performance in this dimension. Other local intermediaries do not provide much information about their organizations which might reflect their lack of resources and their dependence on voluntary work.

4.2. Participation

In the category of institutionalized participation, all cities scored over 72%. There was a growing voter turnout over the last two local elections in all cities. However, the level of the voter turnout in Pforzheim was rather low compared to other cities in the sample as well as compared to the average voter turnout for local elections in the state of Baden-Wurttemberg, where the city is located. But the city of Pforzheim scored high on the number of candidates, as their local elections proved highly competitive: In 2019, 520 candidates competed for just 40 seats in the local parliament. In this category, we also looked at other forms of institutionalized participation: As local popular initiatives and referenda are rather difficult to initiate due to legal restrictions set on the regional levels (Rehmet et al., 2018), all cities in our sample have found alternative ways for their population (eligible to vote or not) to be heard and to get involved. We found various institutionalized settings such as discussion groups, question time in the local parliament, or opportunities to participate in political assemblies held in suburbs regularly. In addition, there are forms of participatory budgeting and participation processes for building projects.

In the category of non-institutionalized participation, we found notable differences in the indicator 'protest': while Pforzheim, Osnabrück, and Kassel provide ample information on how to register protest marches (indicating the city administration sees them as a legitimate way to express different opinions, valuing the freedom of speech and offering simple, low-threshold registration), there is no information provided on the website of Cottbus. In Cottbus, protest marches need to be registered with the regional police and the registration process is less transparent.

Within the indicator of online participation, we analyzed the use of public Facebook groups and the use of the online neighborhood platform nebenan.de in the sample cities. The results show that public Facebook groups are used extensively in Pforzheim: There are 78 active public groups compared to 12–13 groups in the other cities. In this context, it is also interesting that communication between large foreign-language population groups takes place via this channel: Roma, as well as the Polish and Romanian populations in Pforzheim, maintain very active forums on this channel, each with well over a thousand members.

4.3. Inclusion

In the category of access to information, we collected data on the city's public library (Vårheim et al., 2019) as well as the city's efforts to make their websites more accessible by providing documents in foreign languages, easy language (*Leichte Sprache*, directed to people with low reading competences) or audio formats. We found that most cities provide (some) information in foreign languages; few documents are provided in easy language, and none of the cities provide audio formats. However, Pforzheim offers an option to enlarge the contrast and size of the texts provided on their website for the visually impaired.

All cities attempt to include foreigners, seniors, young people, and the concerns of the different suburbs in the local political decision-making process. The most common form of group inclusion is the organization of representative bodies that have an institutionalized access to local politics to make their specific concerns and interests heard. In addition, to facilitate access for those directly affected, administrators often serve as commissioners (*Beauftragte*) who advocate for, and represent, the concerns of affected populations.

Fighting racism and discrimination is a challenging area, and it is difficult to find reliable data on the local level, e.g., statistics on hate crimes. Fortunately, the European Coalition of Cities against Racism (ECCAR) has established a network that tackles racism at the local level. Member cities have developed an action plan to fight racism and discrimination and engage in working groups to further develop the proposed measures. Membership is open even to smaller cities. We have included the ECCAR membership as well as six of the proposed actions (ECCAR, 2004) to combat racism and discrimination in our framework. So far, none of the four cities studied here is a member of this network.

4.4. Diversity

Our data on media diversity reflect the overall trend in Germany, with municipalities increasingly being served by only one local newspaper (Schmitt-Beck, 2014): Only in Pforzheim, are there still two local daily newspapers. However, media diversity can be sustained through other formats as well. In Cottbus, we found a newspaper for the Sorbian minority, various media produced by citizens (as amateurs) as well as a collaborative city wiki.

Regarding political diversity, specifically the number of political groups in the local parliament, we found distinct differences. This finding is affected by the history of the cities and indicates both pluralism and fragmentation. The citizens of Pforzheim are (currently) represented by 13 different groups and parties (across 40 seats in their local parliament), whereas the citizens of Kassel are represented by eight different groups and parties (in a parliament with 71 seats). The diversity of political groups surely influences political discussions and competition in local parliaments, whilst posing a range of challenges for policymakers. In three of four cities, the diversity of political representation indicated by the number of political groups increased from the previous to the current legislative term.

To sum up, even in cities that are similar in size and serve the same function in their specific region, there are manifest differences in the local public sphere. Future case studies could investigate the reasons for and the effects of those differences. Our framework for a comparative monitoring of local public spheres has already shown distinct variations across only four sample cities. As a next step, this framework should be scaled up and extended to compare more cities, cities of different types and sizes, and cities over time.

5. Conclusion & Discussion

In this study, we developed a framework to monitor and compare local public spheres, based on a participatory-liberal normative understanding of democracy (Ferree et al., 2002b; Martinsen, 2009), which led to four core dimensions of the framework: (1) information, (2) participation, (3) inclusion, and (4) diversity. We operationalized these dimensions into 12 categories, 36 indicators, and 84 variables and collected a unique set of publicly available data and data sources. We aimed to provide an instrument that enables researchers to conduct comparative studies of the local public sphere on a larger scale. The monitoring framework could be a starting point to compare a substantial number of cities but it should also allow one to conduct longitudinal studies of the local public sphere. This could enable researchers to measure the developments and quantify changes in the local public sphere over time.

To test the applicability of the monitoring framework, we developed and tested it on four German cities of similar size and function. We were able to identify differences in the social structures of the local public spheres, discernible as distinct profiles of the cities (see Figure 3). The results can indicate in which dimensions and categories a city's local public sphere is—normatively speaking—stronger or weaker (compared to other cities or over time), but the monitor cannot evaluate the quality of discussions or the quality of the participatory processes. In those dimensions and categories where the monitoring framework indicated deficits or peculiarities of a city's local public sphere, we suggest case studies to investigate the reasons for them and to further analyze the quality of local public communication. Large scale comparisons could also provide insight into differences or similarities between local public spheres in distinct regions or countries and might even lead to a new categorization of local public spheres if distinct clusters were to be discovered.

There are of course limits to monitoring the public sphere based on statistics and other available data. While developing our monitor, we faced several challenges concerning data availability. Many data sources, whether public statistics, data on media use or results from representative surveys, are not available at the local level. In other words, they are lacking spatial depth and are often only available at the national level. Another reason for data being unavailable is the inconsistent data collection strategies between the federal states and cities (yielding incomparable data). Accordingly, some variables that might have been relevant for the monitor had to be discarded, for others, we looked for alternatives and workarounds. These proxies must be understood as “measurable aspects [that] have been selected to represent against notions or processes for which more comprehensive data is unavailable” (Montalto et al., 2019, p. 175). For example, we could not get data on the number of demonstrations in a city within one year, so instead we assessed how easy and accessible (or difficult and inaccessible) it is to register a demonstration in the cities as a proxy variable. In this sense, it is important to underline that the monitoring framework—like any indices in general—cannot provide a perfect and comprehensive representation of the local public sphere of a city, but that it is one out of many possible ways of measuring a latent construct. Data access and the empirical analysis of local public spheres might become an even more severe challenge in the future, with increasing digitalization and importance of digital platforms. When local public communication is more and more dispersed and fragmented across black-boxed and algorithmically curated platforms, scholars will face a hard time to trace and monitor how publics and the public sphere emerge and develop. When public spheres become more and more dissonant (Bennett & Pfetsch, 2018) and unedited (Bimber & Gil de Zúñiga, 2020), this complexity, confusion, and lack of transparency also affects the local level.

For the further development of the monitoring framework, we suggest obtaining additional survey data from the cities regarding participation in local citizen’s initiatives and actions taken by the local government to fight discrimination and racism. We would also suggest adding survey data on the perceptions of information access, which is not available but would have to be collected in the cities under study. Another important step would be to validate the indicators and variables in interviews or focus groups with actors from the city’s administration, local journalists, local NGOs, and intermediary actors (local parties, churches, associations, etc.).

So far, the monitor is tailored to German cities classified as ‘regiopoles.’ It has yet to be adapted for a wider application to cities of different sizes or cities in other countries with different legal foundations. This could take into consideration that some indicators do not apply to smaller cities, such as local broadcasting, a local parliament, or a multilingual city website and that the possibilities of participation depend on the legal basis of the respective country. However, some of the variables were taken from European or International databases (e.g., data taken from the United Nations sustainable development goals) and could be used when adapting the monitor to other countries, some data such as the voter turnout will be available in all countries with local elections. In addition, our monitor demonstrates that applying a non-media centric approach and including data sources not typically investigated in communication studies produces interesting insights. Thus, we encourage research on the local level to explore new data sources and hope that the collection of indicators in our monitor framework serves as an inspiration.

Another challenge is the application of the monitor to conduct longitudinal studies. On the one hand, we aim to quantify changes in the local public sphere over time, on the other hand, it is challenging to develop a tool that measures a field that is in flux: Media and communication are constantly changing. The monitor probably needs to be adjusted from time to time. While we expect dimensions and categories to be more stable over time there will be the need for adjustment, especially on the level of variables where new media or new opportunities for local participation might develop in the near future and traditional ones lose their significance. To illustrate this claim, we can look at the indicator of *online groups for engagement* which belongs to the category of *civil society* in the dimension of *participation*: At the present, we take into account the existence of, and engagement in, public online groups on the most widely used social media and neighbourhood platforms. In our exploratory study, these were Facebook and nebenan.de. Those two networks could be easily replaced by other platforms. If new relevant platform types developed, it would be possible to add these as additional variables to the monitor. The weight of the indicator of online participation would still count as one third of the category *civil society*, but the weight of a single platform would diminish.

Even if monitoring the public sphere on a local level has its limitations due to the constricted data available for our four core dimensions, the monitoring framework is a highly relevant and valuable contribution both to the scientific debate about the local public sphere and for practitioners to analyze the structure and potential of their local public sphere. Ideally, the monitoring framework presented here will further encourage the collection of local data and research on public communication at the local level. This monitoring framework is a small, initial, but innovative step on the long road to a better understanding of local public spheres, and how they can be sustained and nurtured.

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Conflict of Interests

The authors declare no conflict of interests.

Supplementary Material

Supplementary material for this article is available online in the format provided by the authors (unedited).

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