Webnography 2.0

Eric Lettkemann

Nowadays, if I launch a quick web search for my whereabouts, my smartphone provides me with a wealth of digital information. On Instagram I can browse through photos that are linked to my current GPS coordinates by means of a geotag; the Wikipedia app offers me a digital map with entries about my surroundings; numerous Twitter hashtags refer to my location, etc. The fact that the Internet is a rich source of information is nothing new. What is new is that smartphone users can use location-based information from the Internet to appropriate their everyday spaces in novel ways, thus giving rise to new ways of perceiving and using space. For example, many people use their smartphone as a social radar in order to keep an eye out for friends or potential dates nearby. Digital maps guide them in real time through unknown streets, and mobile games introduce virtual creatures into their perceived space. In a nutshell: Hybrid spaces are being established whose perception and use are based on mobile digital information, while at the same time being anchored in physical space.

This article discusses which methods of qualitative research can be used to gain access to the growing hybridization of spaces. I will start by outlining the basic spatial and social theory underlying the concept of hybrid spaces. Afterward, I will use several exemplary studies to demonstrate how the use of mobile apps has changed the appropriation of space in everyday life and which methodological problems have arisen for qualitative spatial research as a result. I will argue that the investigation of hybrid spaces requires a combination of qualitative approaches because hybrid spaces cannot be observed from a purely ethnographic perspective. The hybrid constitution of space is based on digital information, which is accessible only to the users of specific apps. The last section will address how different methods can be combined in order to study the use and perception of hybrid spaces in qualitative terms. Building on Strübing's (2006) combination of methods in "webnography," I refer to the approach presented here as webnography 2.0.[1]

1 The webnography approach is known mainly in German-speaking social media research. It differs from the more prominent "netnography" approach (Kozinets 2010) in that webnography does not focus solely on online activities, taking place *on* the screen, but also systematically investigates the associated offline activities, taking place *behind* the screen.

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1 Theoretical basics: Physical, virtual, and hybrid spaces

In parallel to the "real" space of physical face-to-face interactions, the Internet has created a "virtual" space for digital communication. In the early stage of digitalization, this virtual space was mostly separated from the physically palpable reality of day-to-day life and could be accessed only sporadically and temporarily—via the computer workstation. The much vaunted term cyberspace expressed the need to draw a linguistic line between "real life" in physical co-presence and the allegedly illusory worlds of virtual space. Early ethnographic studies on Internet usage postulated that virtual parallel spaces took root in chat rooms, online game worlds, and social media. In other words: During the beginnings of digitalization, people experienced virtual space as a reality of its own, as a separate domain of discourse, and as an experimental field for new (digital) lifestyles (see Turkle 1995).

The impression that there is a clearly perceptible gap between virtual and physical reality has been drastically relativized within the last decade. With the rise of Internet-enabled mobile devices, especially smartphones, access to virtual space has become possible at (almost) any time from (almost) anywhere. Mobile Internet is a key element in the current stage of digitalization. Within just a few years, countless software applications for mobile devices (abbreviated as apps) have infiltrated our daily routines, supporting us with all sorts of tasks relevant to our lifestyles, ranging from performing bank transactions to monitoring menstrual cycles. The observable consequences of mobile Internet include the fact that the strict distinction between online and offline communication in the everyday lives of many smartphone users has lost its practical relevance. These days, young people in particular integrate social media communication into numerous everyday physical activities with the help of Internet-enabled mobile devices (see Parisi 2015; Tomita 2016).

In the course of this development, there has been a growing "convergence between real-world and virtual spaces" (Löw et al. 2008: 81, own translation) in which the borders between face-to-face interaction and mediatized interaction are becoming blurred. The screen of the mobile device gives rise to a "hybrid space" (de Souza e Silva 2006) that superimposes information from the Internet onto physical space. Hybrid spaces arise where apps localize the physical location of the mobile device and display digital information adapted to the current location. Such location-specific information is generated when users either post digital content about their whereabouts themselves or allow the app to track location-related information in the background. For example, the *Waze* navigation app provides up-to-date information about traffic jams and alternative routes by tracking the movements of all mobile devices on which *Waze* is installed, aggregating these data, and displaying the data as flows of traffic in real time on a digital map. At the same time, the users can actively generate information by notifying other users on the app map where they have seen roadwork, accidents, or traffic hazards. Based on this information, *Waze* users navigate through a hybrid space that is constructed equally from physical, social, and virtual elements.

In social science research, the apps described here, which provide location-related information using the current GPS coordinates of a mobile device, are referred to collectively as *locative media* (de Souza e Silva/Frith 2012; Frith 2015). Locative media are the re-

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sult of combining social media with mobile telephony, geopositioning techniques (e.g., GPS and WiFi triangulation), georeferencing, and digital cartography to create a new infrastructure context (Buschauer/Willis 2013). Qualitative studies based both on new forms of using space and altered forms of perceiving space illustrate the consequences locative media entail for society in day-to-day processes of spatial appropriation.

2 Exemplary findings on the appropriation of hybrid spaces

A multidisciplinary research field whose methodology is based primarily on (auto)ethnographic observations addresses how users of locative media appropriate hybrid spaces and what the repercussions of this are. The following sketch of key findings and methodological approaches can serve as an initial tool for designing your own qualitative research design. Researchers should be aware of two aspects in this regard.

2.1 Keeping up with progress: Studying types of use, not apps

Early studies on the use of mobile apps were often confronted with the methodological problem that their findings were related to app versions that had become obsolete by the time the studies were published—that is to say, the apps had been modified or replaced by competing apps. Therefore, many researchers no longer focus on specific apps but rather search for recurring use types and describe their social impacts. They highlight the motives and practices of app use instead of losing themselves in describing the details of the software. This consideration of use and consequences captures sufficiently abstract phenomena that can be observed regardless of which specific apps are being used in everyday life. As a result, qualitative analyses can be compared and generalized to a greater extent, beyond the immediate present (Frith 2015: 9 et seq., 66).

Three use types (at least) can be derived from case studies on locative media to date. The difference between these types of use is of an analytical nature since a wide range of mobile apps offer features that include all three uses. The purpose of this typology is to ensure that the empirical phenomenon of locative media is manageable despite the rapid developments and multitude of existing apps:

1. In the context of locative media, *annotation* refers to linking GPS coordinates with virtual references in the form of comments, photos, or reviews (de Souza e Silva/Frith 2012: 94 et seqq.; Frith 2015: 81 et seqq.). As a rule, users annotate personal experiences, photos, and opinions on a location, orienting themselves on everyday communication formats of "authentic self-representation" from the field of social contact between friends and acquaintances, which also dominate social media (Schmidt 2013: 23 et seqq.). Expanding these communication formats to potential strangers has given rise to a new form of "personal public spheres" (ibid.) in virtual space. With the spread of annotation services such as *Foursquare City Guide* and *Yelp*, this type of public sphere is now gaining traction in physical urban space (Frith 2015: 75 et seqq.).
2. Numerous apps in the field of locative media assist their users in navigating through unknown and unfamiliar spaces. Apps such as *Hollaback!* or *Waze* help their users

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move through space based on defined criteria, for example, in the interest of avoiding areas with high crime rates or high traffic (see Frith 2015: 45 et seqq.). Users display different route options on a digital map and decide on their itineraries based on these recommendations, often while still en route. In terms of the motives for using the apps, aside from saving time, many people mention the possibility to skim off the annotated "insider knowledge" from the locals without finding themselves in situations where they have to expose themselves as outsiders, for example, by asking for directions (Sutko/de Souza e Silva 2010: 813 et seq.).

3. Opportunities can be managed via and with locative media, for instance, when apps refer their users to friends or potential dates nearby. Such apps visualize socio-spatial opportunity structures on a map of the surroundings and help their users seize the opportunity to meet like-minded people (Frith 2015: 68 et seqq., 74 et seqq.; Sutko/de Souza e Silva 2010: 809, 815). For example, *Swarm* or *Zenly* users can share their current GPS location within their personal network of friends. Mobile dating apps such as *Tinder* and *Grindr* behave similarly, aiming to establish contact between strangers. Akin to visiting a club, bar, or other urban meeting place, the use of such algorithms signals a willingness to talk between users whose interests and preferences show a "match." However, in contrast to a bar, the socially approved, physical meeting place for this type of use is becoming less important since simply crossing paths in physical space—for example, in the subway—is enough to initiate contact (Licoppe 2020).

2.2 Exploring spatial perceptions: Using combinations of methods

In addition to investigating new ways of using space, qualitative research is an appropriate tool for gaining access to perceptual patterns that constitute space. With regard to app users, for example, qualitative studies discuss which consequences the increased use of locative media have for everyday spatial perception. Two different trends can be identified, in which the hybridity of the space is clearly reflected. For example, users of locative media interact more and more with new types of actors who can only be encountered as such in hybrid spaces. These include, for instance, "pseudonymous strangers" (Licoppe/Morel 2017). This type of actor appears when users display the digital profile of people located nearby. For users of locative games, such as *Ingress*, or mobile dating apps, such as *Tinder*, this situation is an everyday occurrence. Even before the first exchange of words, users find a short description in the profile of their fellow players or potential dates that contains information ranging from the—usually pseudonymous—name to all kinds of personal preferences and often serves as a conversation starter. Another group of apps that is often referred to as "location-based social networks," such as *Zenly* or *Swarm*, offers users digital maps in order to keep their "virtual acquaintances" (Licoppe/Morel 2017) in the loop about their location. This actor type includes acquaintances who are not in view but who share their GPS coordinates and/or location information via an app. This results in spaces of mutual observation in which users can find out about the daily commutes of their friends or the current location of their partner, for example. As a consequence, new modes of spatially coordinating meetings and of space-related *impression management* are being established. Moreover, looking at the map of locations creates a feeling

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of spatial connection with the circle of friends, which is appreciated within "hyperconnected" adolescent cliques in particular (Parisi 2015: 11 et seqq.).

It follows from the aforementioned examples that hybrid spaces expand our perception, make us aware of our environment, and create increased opportunities for social interaction. Be that as it may, empirical studies also show that hybrid spaces can act as a catalyst for increasingly fragmented spatial perception. Although physical space can be perceived quite differently by different groups, hybrid spaces radicalize this experience in that they do not even appear the same "on the surface" for all those who are present. A great deal of location-related information is visible only to the users of specific apps, and personalized filters and search algorithms exacerbate this still further, with even users of the same app receiving different information about the same location. Mechanisms of communicative closure and social homogenization of groups that are prominent in virtual space, referred to as "filter bubbles" (Pariser 2011), can now gain a footing in physical space by means of locative media, leading to the fragmentation of everyday reality into personalized filter bubbles (Frith 2015: 140–41).

The fact that hybrid spaces are the result of both media-expanded and algorithmically filtered spatial perception represents a methodological problem for conventional qualitative approaches. As a rule, qualitative researchers follow the dictum from sociology of knowledge that a widespread "reciprocity of perspectives" prevails between co-present actors in everyday reality, which, among other things, is based on the idealized assumption of the "interchangeability of standpoints" (Schütz/Luckmann 1989: 109): "we take it for granted that objects in my reach (with few exceptions) are also objects in his reach and that his experience of these objects (with few exceptions) is like my experience of the same objects" (ibid.: 109–10). During ethnographic site visits, this reciprocity of perspectives enables participating observers to understand the actions of their fellow human beings (broadly speaking). The assumption of interchangeable standpoints, however, does not apply when actions take place in hybrid spaces, which are sometimes specifically tailored to the profile of the respective users and remain invisible to outside observers. In the following section, I will argue that researchers must combine different qualitative methods in order to make valid statements about the reality and impact of hybrid spaces. Only by combining methods, which represents an enhancement to the webnography approach, will it be possible to overcome the blind spots in past studies and to develop an appropriate theory of hybrid space for the future.

3 The qualitative study of hybrid spaces: Webnography 2.0

Understanding and explaining the possibilities and consequences posed by the hybrid acquisition of space with and via locative media requires a combination of methods that encompasses both physical interactions and digital communication. The (ethnographic) site visit remains the starting point for many space-related research methods, but only the starting point. In addition, the qualitative exploration of hybrid spaces is based on a combination of the walkthrough method, guided interviews, and diary studies. This approach was inspired by Jörg Strübing, who proposed the concept "webnography" (2006) early on as a method for studying dispersed interactions that take place simultaneously

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in virtual and physical space. Of course, Strübing's proposal to combine multilocal and focused observation techniques with artifact analyses of digital infrastructure systems must be adapted to the context of locative media. At this juncture, I will refrain from speaking about the original webnography technique in detail, and instead I will integrate Strübling's arguments into the description of the key methods used to collect and analyze data related to hybrid spaces. I will start with two techniques in which the researcher adopts the role of an observer and finish with two techniques in which the users are given a greater opportunity to express themselves.

3.1 Observation techniques

To start with, there are two complementary methods that address hybrid space from different perspectives: first the site visit and second the walkthrough analysis of mobile apps. Both methods are limited. If the topic of interest for a certain research project is focused on how mediatized spatial acquisition takes place within a specific youth culture, for example, it is advisable to visualize the locations at which the youth prefer to hang out and the apps they use to coordinate their activities in order to concentrate the observations on this hybrid context. I will start my description of the combined method with the site visit before discussing the walkthrough method in more detail—however, in principle, the order in which these two methods are used is not important.

3.1.1 Ethnographic site visits

Conventionally, ethnographic site visits start where the action is: in other words, at specific sections of physical space to which social groups ascribe concrete meanings and at which they gather in order to perform location-specific activities. Because such sites are increasingly interconnected on a translocal scale in the age of digital media and mass mobility and they often owe their specific meaning to the fact that they serve as intersections of (global) flows of people and things, today site visits are usually carried out along the lines of a mobile or multi-sited ethnography (O'Reilly 2009: 144 et seqq.). For example, if you intend to study spatial acquisition based on the mobile game *Pokémon Go*, you should visit the various sites across which the game is distributed—starting with points of interest where trainers meet, the PokéStops and Gyms, all the way to the far-away server farms that provide the virtual content for the game (see Liboriussen 2019). In order to increase awareness for the observation of the physical aspects of space, it can be advantageous to first explore select locations without the aid of locative media and then to consider the same locations again through the lens of different apps. A comparison of the observation notes from before and after the use of mobile apps can provide important indications regarding which additional layers of meaning locative media add to a location and how they modify the purely physical perception of space.

3.1.2 Technical walkthroughs

Complementary to the observation of physical space, the "walkthrough method" (Light et al. 2016) focuses on mobile apps that add virtual layers of information to the hybrid space. The term *walkthrough* comes from the fact that the features of an app are tested step by step in order to decipher the use guidelines (e.g., affordances, scripts) and cultural con-

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cepts of users objectified in the digital user interface and algorithms. The basic idea behind the walkthrough method is exploring and narrowing down the impacts of apps that structure our actions and the latitude of actions for potential users. The topic of interest is focused on gender-specific coding or algorithmic pre-screening, for example, aimed at guiding use behavior in a specific direction. For the purpose of spatial research—as explained above—a detailed analysis of the concrete user interfaces of the apps is less important than questions regarding fundamental possibilities and restrictions of spatial appropriation. It might be interesting to determine whether the range of features in an app offer users the option of sharing their location information only selectively or whether the app is configured to track all movements in the background in order to keep the current location of the users up to date and visible at all times (see Frith 2015: 65 et seqq.).

3.2 User surveys

Both ethnographic site visits and the walkthrough method offer important indications of how hybrid spaces *could* be appropriated. The ways in which spatial acquisition *actually* takes place and asserts itself can only be understood and explained if the perspectives of the users who regularly visit the site are integrated into the study. In doing so, researchers take into account the fact that hybrid spaces are always embedded in social interpretative schemes and contexts of action, with which physical and virtual spatial elements are connected. Interview techniques and diary studies from the social sciences have proven to be effective tools for assessing user perspectives. They are indispensable for documenting user perspectives and interpretations that are as rich in contrast and as comprehensive as possible. These tools can be used to gain a methodological understanding of the extreme fragmentation and transience of hybrid spatial perceptions. Instead of relying on the personal autoethnographic perspective, as is the case for both the site visits and walkthrough method, the numerous observations and interpretations of the users are expressed in interview recordings and diary entries.

3.2.1 Expert interviews

Whether the perspectives of the users are collected by means of "expert interviews" (see Bogner et al. 2009), "diary methods" (see Bolger et al. 2003), or a combination of the two depends first and foremost on the amount of time and personnel resources available for the research, how much information is acquired, etc. Second, how experienced the informants are in dealing with locative media and to what extent they make use of the features of mobile apps also plays a role. One particularity of hybrid spaces is that app users can create digital content, such as photos, comments, or reviews, and link it to their location in a matter of seconds. Many mobile apps feature a typical use pattern in this regard: namely, the majority of users only share content occasionally, but there is a small number of very active users. The group of active users often operates their own websites and social media channels, which makes it easier for researchers to initiate contact. Active users are valuable key informants because they are generally willing to talk about their experiences in detail and can frequently supply additional information about the rela-

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tionships between the technical features of the apps and social use types. Guided expert interviews are the method of choice for collecting this information systematically.

3.2.2 Diary methods

In order to collect the spatial knowledge and perception of occasional users who do not actively produce digital content but who regularly access the range of information from mobile apps on a daily basis, diary methods have proven to be an effective tool. For this purpose, it is recommended that researchers use their own websites and social media channels to acquire a sample of study participants that is as diverse as possible. The participants then document their experiences at regular intervals over a certain period of time (Boellstorff et al. 2012: 57 et seqq.). A more naturalistic design relies on the participants visiting the locations that they would access anyway with the help of the apps. For a quasi-experimental design, in contrast, it can be useful to send the participants to locations they do not know in order to collect an inner perspective from outsiders. Working on smaller tasks by creating what are referred to as "cultural probes" (Gaver et al. 1999) can help elicit impressions from the study participants regarding their spatial perception and usage. Both quasi-experimental and naturalistic designs involve collecting data that reflect everyday interpretative schemes and use practices. Because the appropriation of hybrid spaces by means of mobile apps is the focus of the webnographic approach, it makes sense for the participants to use a mobile messenger service for the documentation instead of paper notebooks. The everyday character of app usage described above encourages users to collect their experiences first based on the situation at hand in the form of digital "snippets" (Brandt et al. 2007), such as photos, screenshots, and chat histories. This ensures that not too much time passes between the use situation and the collection. They can also forward these snippets directly to the researchers, who respond promptly and can request the study participants to comment briefly on their use behavior or to answer follow-up questions (Kaufmann/Peil 2020). Afterward, the collected data can be used as a memory aid for more detailed diary entries and to stimulate conversation for "problem-centered interviews" (Witzel/Reiter 2012), which provide further information about the use behavior (Boellstorff et al. 2012: 113 et seqq.).

By using interviews and diary entries, it is possible to reconstruct how users link perceived physical space and digital information to a hybrid action context. These data serve as the basis for correlating the ethnographic observations and walkthrough analysis. All data are transcribed and incorporated into the body of data. The field notes, interview transcripts, screenshots, chat logs, and other documents produced in the course of the data collection process can then be coded using various text analysis programs (QDA software) and analyzed using different analytical techniques, from grounded theory to qualitative content analysis.

4 Webnography 2.0 is teamwork

This chapter has illustrated that the use of the Internet can no longer be described as a retreat to a virtual parallel space; rather, the rise of mobile Internet and the advent of locative media have resulted in new forms of appropriation of physical space. On the ba-

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sis of younger smartphone users in particular, these appropriations result in new ways of perceiving and using space, which various authors have summarized in the concept of hybrid space. This hybrid space eludes the simple dictum from qualitative spatial research of visiting the study site and observing the events as they unfold since hybrid space is manifested in extremely personalized forms, shaped by personal interests and coordinated search and matching algorithms. In order to gain a methodological understanding of the new forms of appropriating hybrid spaces, I proposed a combination of methods, which does not dispense with ethnographic site visits but rather complements pure observation with walkthrough analysis, expert interviews, and diary studies. This approach, which I call webnography 2.0, sheds light on the blind spots of ethnographic site visits and takes into account the steps involved in constituting hybrid space that take place in virtual space yet cannot be observed from the outside. The combination of different techniques demands of qualitative researchers a certain degree of flexibility and diverse skills, which can be developed best within the context of a team. Teamwork makes it possible to unite the skills of individual researchers effectively, such as observation or conducting interviews.

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