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ANNOTATING PLACES

A critical assessment of two hypotheses on how locative media transform urban public places

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Locative media and their impact on urban public places

This chapter investigates social implications of a new form of media-facilitated transformation of places, which is arising from an increased merging of urban places with digital information, driven in particular by locative media. Locative media is an umbrella term used to describe a new form of mobile apps that utilize a device's location awareness (e.g., GPS, WiFi triangulation) to retrieve digital information annotated to a particular physical location (Frith 2015, 2). For example, a mobile recommendation app displays a map of restaurants located in the vicinity, including their menus, experience reports, and ratings from previous customers. A much-debated implication of using locative media is that public places no longer appear the same to all people present, because their perceptions of these places are now based on additional information, which is represented only digitally. Depending on which apps are used and which personalized settings are selected, users may receive quite different information on the same physical location. Our chapter discusses whether the increasing use of locative media leads to the creation of new inclusive meeting places or—on the contrary—reinforces the tendency towards urban segregation by creating exclusive places of retreat. The discussion is based on the results of a pilot study on locative media users in Berlin.¹

Public places: physical, virtual, and hybrid

By places, we refer to distinctive locations in space defined by their physical settings as well as by the people who frequent these locations and ascribe some sort of meaning to them (see Gieryn 2000, 466–467). Places nest in larger social territories, transcending immediate experience. In the case of urban places, this larger social territory is usually conceptualized as the “public space” (Lofland 1973). We

follow Lofland's definition that the public space of cities consists of freely accessible places in which large numbers of mutual strangers pursue their activities—sometimes together, often in parallel (*ibid.*, 19). These activities are expressions of different social worlds populating the city. According to Anselm Strauss (1978), social worlds organize around core activities, concerned, for example, with the production of certain goods or collective identities. Large cities in particular are a mosaic of the most diverse cultural, ideological, occupational, or leisure time-oriented social worlds. Each social world is a relatively independent “universe of discourse” assembled from specific symbols, lifestyles, and stocks of knowledge. All social worlds have some kind of spatial reference points where participants share knowledge and perform activities, making them a recognizable place.

One of the reasons why the diverse social worlds within a city coexist mostly without conflict is that just a few places in the public space are frequented equally by all social worlds. Only in subway stations, on city plazas, in shopping malls, and other such areas does the entire spectrum of social worlds meet and mingle. In contrast, most places in the public space are accessed *de facto* only by small portions of the city population. Examples of such places of retreat are churches, cafés, sports venues, parks, or similar sites, which serve as places of encounter for one or very few social worlds. Although access is not restricted legally, there is little probability that outsiders would seek out the dedicated meeting places of other social worlds. According to Anselm Strauss, this is due to the fact that urban places are endowed with different meanings, attracting some social worlds while repelling others (Strauss 1961, 59–67). These meanings establish a spatial order that determines which locations act as places of encounter or retreat for which segments of an urban society.

Numerous activities that give a public place its specific meaning make use of media. The consumption of mobile media such as newspapers or the Walkman have long been commonplace in public life, but digital media did not play a role until recently (de Souza e Silva and Frith 2012, 59–74). In the early days of the digital revolution, the virtual space of the Internet was largely separated from the physically experienced reality of urban life. Digital information was accessible only intermittently and temporarily—via the computer workstation at home. In other words, people experienced virtual space as a reality of its own, as a separate universe of discourse and as an experimentation site for new (digital) lifestyles (Turkle 1995). This separation has undergone a drastic change within the past decade. With the emergence of Internet-capable mobile devices, particularly smartphones, digital information is now accessible at any time and anywhere. Instead of drifting further apart, physical and virtual space are increasingly converging (Löw, Steets, and Stoetzer 2008, 81).

The mobilization of the Internet is a core element in the current phase of mediatization of space, which is increasingly permeating our everyday life. The continuously accessible digital information infrastructures result in an increasing superimposition and merging of virtual and physical realities to form so-called cyber-physical systems (Rajkumar et al. 2010). One of the observable consequences

resulting from the proliferation of cyber-physical systems is that the strict distinction between online and offline communication loses its practical relevance in the everyday life of many smartphone users. In particular, today's younger "hyperconnected digital media users" (Parisi 2015, 6) quite naturally integrate social media communication as part of their daily routine into a number of physical activities. In this way, new forms of cyber-physical reality arise that are currently spreading in urban life, predominantly through the adoption of locative media.

The term locative media arose in the 2000s within the context of location-based computer games. The original aim of merging virtual and physical reality was to turn public urban places (back) into playgrounds (see de Souza e Silva and Sutko 2009). This genre of locative media is presently enjoying great popularity, as in the commercial variant *Pokémon Go*. In the meantime, the same basic process of the location-based merging of virtual and physical reality is taking place in many other smartphone apps as well, which are also referred to collectively as location-based services (LBS). Today, these services include navigation, search, and advertising as well as tracking, dating, and many more.

The potential of locative media to transform places gains plausibility in ethnographic studies focusing on the microlevel of social interaction. These illustrate how the smartphone screen becomes a sensory extension: The melding of virtual and physical spaces takes place on the screen of the smartphone; here, cyber-physical reality becomes visually accessible. As conveyed on the screen, a "hybrid space" (de Souza e Silva 2006, 261) arises, whose constitution is equally physical and virtual, and which links the social media communication online back to the current physical location. In this hybrid space, the boundaries between physical and virtual reality and between face-to-face interaction and media-based interaction become blurred. For example, the Waze navigation app provides information on traffic congestion and alternative routes by automatically tracking the movements of all mobile devices on which Waze is installed, aggregating this data, and displaying it in real time as traffic flows on a digital map. At the same time, users can also manually enter information, showing other users on the app's map where they have seen construction work, accidents, or other traffic obstacles. Based on this information, Waze users navigate through a hybrid space constructed of physical, social, and virtual elements.

This cyber-physical merging has many consequences for how people experience public places. Popular locative media include navigation apps as well as recommendation services like Foursquare and Yelp or hybrid reality games like *Ingress* and *Pokémon Go*. Via the screens of their smartphones, users have access to digital annotations attached to their environments. From a technical standpoint, the term annotation refers to the linking of GPS coordinates with digital information such as ratings, photos, or comments. From a sociological point of view, annotations add new layers of meaning to public places (de Souza e Silva and Frith 2012, 94–96; Frith 2015, 81–95). Annotations make use of a broad spectrum of media-based forms of expression. For example, users check in at places, showing their friends where they currently are. Others annotate personal experiences, photos, and opinions at a place.

Presently, discussion is underway as to the extent to which the advancing diffusion of locative media in urban everyday life is altering the interaction between strangers in public places. Two predominant strains of discussion can be identified here, which we term inclusion hypothesis and exclusion hypothesis. The typical proponents of the inclusion hypothesis assume that the use of locative media increases the *de facto* accessibility of public places and leads to more encounters and to more participation in public life. Locative media are considered to encourage the playful and participative reshaping of public places because they circumvent urban rules of civil indifference and facilitate communicative exchange between strangers (Keijl, Klaassen, and op den Akker 2013, 10–11). According to the inclusion hypothesis, locative media increase sensitivity for the urban environment and stimulate communication within neighborhoods as the users carry the “participative culture” of the Internet into public urban places (Hamilton 2009, 393).

In contrast, the exclusion hypothesis maintains the position that the *de facto* accessibility of public spaces is decreased and the decline of urban public life is accelerated. Mechanisms of social closure, already familiar from social media as “filter bubbles,” are thought to fragment everyday reality into customized experiences of a “splintered space” (Frith 2015, 140f.). The filtered, selective perception and appropriation of places could result in a further intensification of urban tendencies towards social segregation. Instead of promoting socialization and the emergence of new forms of public life, locative media are considered to simply foster dialog between those city dwellers who already share common interpretive patterns and lifestyles (Crawford 2008, 91). It is expected that locative media contribute to the emergence of subcultural and private places of retreat within the public urban space, invisible to outsiders.

From an empirical standpoint, the question currently remains open in which direction—inclusion or exclusion—the use of locative media will transform urban life as a whole. To date, no systematic investigations have been conducted to more accurately determine the implications of the two hypotheses and to describe the mechanisms of inclusion and exclusion. Though locative media is a recent phenomenon, the number of corresponding apps is already too large to examine the field as a whole. Hence, we propose investigating typical forms and consequences of the use of locative media. In this chapter, we focus on two popular annotation apps. The results will serve as a reference point for comparative case studies on mobile gaming, dating, and more. Naturally, the results unveiled by our research are influenced by how broadly or narrowly we define the terms inclusion and exclusion. No empirical research is necessary to demonstrate that locative media do not perform inclusion in the sense of integrating society as a whole. In view of the future of urban life, we deem it more interesting to pose the question of to what extent the digital native generation of hyperconnected users itself is impacted by the inclusive or exclusive effects of locative media. Although the members of this generation are bonded through their affinity with locative media, they also inhabit different social worlds, some of which are quite heterogeneous, each with its own lifestyle. In reference to Hitzler, Bucher, and Niederbacher (2001), these

various social worlds can also be designated “scenes.” Our primary focus of interest is on how the users of locative media, as inhabitants of their specific social worlds, their scenes, appropriate public places and how they perceive the hybrid space of annotations.

Two case studies: Foursquare City Guide and Swarm

In our research, we have approached the phenomenon of digital annotations using a mix of qualitative methods to investigate how smartphone users receive, create, and share spatial annotations. Inspired by the “walkthrough method” of Light, Burgess, and Duguay (2016), we carried out auto-ethnographic self-observations to explore the affordances and restrictions of two apps: Foursquare City Guide and Swarm. Furthermore, we interviewed different types of users.² The sample of interviewees ranged from experienced fans of the apps to inexperienced users. The latter group tested both apps for about four weeks, documenting their experiences in the form of digital diaries. The aim of the analysis was to obtain a typology of using annotations with regard to their inclusive or exclusive effects.

Swarm and City Guide are good examples for studying the effects of digital annotations. As both apps are developed by Foursquare Labs company, they can be used either in combination or independently. Foursquare Labs is a pioneer in the field of annotation services, exceeding over 50 million registered users in 2014 (further information is available from Frith 2015, 96–111). A comparison of City Guide and Swarm is worthwhile because the two apps represent contrasting design principles of locative media:

Foursquare City Guide contains mainly search-and-recommendation functions. The app collects location-based information, which is annotated in the forms of comments, ratings, and photos. This information is freely accessible to all registered users.

Foursquare Swarm combines a location-based social network with gaming elements. The app offers the option of connecting and competing with friends for in-game rewards. The users of Swarm also annotate information such as their current location (“check-ins”) or location-based comments.

Given the fast pace of digital media markets, it is not yet clear whether these apps will prevail in the long term. Social media platforms such as Google and Facebook, however, increasingly integrate similar annotation functions into their app versions, imitating the interface design of Foursquare’s apps. Therefore, an analysis of Swarm and City Guide promises more readily generalizable insights into the use of annotations, regardless of whether these specific apps will survive in the long run or will be supplanted by larger platforms.

Foursquare City Guide: lurking and editing

Foursquare City Guide suggests two complementary forms of use. When you open the app, the City Guide screen initially offers various search-and-discovery options. For example, users can search maps, categories, or lists to obtain information on

their GPS location. In contrast to similar services, there is also the option of making full text searches within the archived annotations. After a brief period of familiarization, City Guide is a suitable tool for what is termed “lurking.” Within the context of social media, lurkers are typically considered users of an Internet platform who retrieve content but do not actively participate in generating it.

An eye-catching interface feature that makes lurking easy is called the Foursquare score. Every location that is created in Foursquare is rated by the app with a score from 1 to 10. This Foursquare score is derived from various pieces of information, such as user ratings or the total number of check-ins. The score helps the mobile user to quickly assess the popularity of a location at a glance. In our interviews, experienced users considered a score above 8.0 to be a sure indication that a location is worth visiting. Lurkers, who spend more time searching for interesting locations, can read the comments left by other users. These comments, which City Guide calls tips, typically consist of one or a few sentences (see Figure 15.1). They

FIGURE 15.1 Screenshots of Kollwitzplatz in Berlin as displayed in Foursquare City Guide: the score of 8.1 is shown on the left; on the right is a selection of annotated tips

are often complemented by photos intended to convey an impression of the location's atmosphere. In contrast to purely digital communication, the constitutive point of reference for annotations is the physical location. Therefore, the credibility of tips increases in the perception of many users when the app shows that the writers have already checked in to the location several times.

Although the City Guide uses pop-up windows to repeatedly prompt the user to rate the locations visited and to leave comments, the majority of users belong to the lurker category. For the smaller group, which is willing to share their experiences with a public audience of users, City Guide offers various options for generating content. Aside from rating locations with emoticons and uploading photos and short texts, users can create lists of similar locations or add new locations to a GPS point. In the language of experienced users, these activities are referred to as editing. The most important contribution of the so-called editors to the success of the app is the continuous writing of tips. From conversations with regular writers of tips, we learned that they consider the work of editing to be an authentic form of reporting. Although theoretically conceivable, users are not interested in endowing locations with new meanings or making public places more exotic. The objective of most editors is to share practical everyday knowledge and positive experiences.

Although it is technically possible to explore any location in the environment and to create new meeting places, in practice this is hardly the case. The predominant motivation for using City Guide seems to be the desire to find more places that reflect a user's personal preferences. Instead of looking for unfamiliar or different places, users set the various search filters such that most of the locations in their environment are made invisible. Many interviewees confirm that they only search for places that resemble those that they already know and that match their lifestyle. For example, users report that they always search for vegan products, free WiFi, or special brands of coffee. Even though the majority of interviewees insisted that they were definitely interested in discovering new places, their use of the app was mainly motivated by the desire to find more of the places they already favored than by the desire to discover completely different places. The sheer curiosity to obtain access to unknown locations is not a very common motivation for using City Guide—at least not in our sample.

However, we also found indications in our empirical material of increased accessibility to public places. The fact that many experienced users have “blind faith” in high Foursquare scores is a source of surprising encounters from time to time. For instance, a tax consultant who is a longtime fan of the app reported that while searching for pancakes he ended up in a restaurant with an unusually high score that he had hitherto avoided:

A restaurant, from the outside it looks like a rocker bar. So I probably wouldn't have gone in there. But on the inside it looked like my grandma's living room and they had delicious pancakes! [Laughter] Well, I really would never have gone in there. I had based my search on the score as well.

(Experienced user, age 37)

Repeatedly, our interviewees referred to City Guide as a “window” that allows them to look behind the walls of unfamiliar places. For example, a young historian reported that she often feels uncomfortable entering new places. Normally she enters unfamiliar places only in the company of friends. But reading the annotations of other users also helps her to overcome social barriers:

Places you don’t otherwise go into, it’s a kind of barrier, I don’t really know what would make me go in there, especially not alone, and I think the app does give you a different feeling about what you can expect there. And so it can kind of remove the barrier a little, or you just see, yes, no, it confirms my impression, but in a certain way, sure, it also takes over the role of people who might say to you in such a case, “hey, it’s worth going in there”, but they aren’t always around and not all your friends have been everywhere. . . . So I do believe that it [the app] is a door opener.

(Inexperienced user, age 25)

In other words, comments and pictures on City Guide make it easier for users to slip into the role of explorers discovering unknown places within their close environment. They reduce uncertainty about what to expect.

Swarm: lifelogging and following

Turning to Swarm, we notice that the user interface of the app has little in common with the design used for City Guide. In Swarm, everything revolves around the check-in function. As soon as a user clicks on the check-in button in the bottom center of the user interface, Swarm displays a list of possible locations that share the current GPS coordinates. Every time a check-in is performed, the user is prompted by the app to enter a brief comment or upload a photo. However, users can easily bypass this prompt. For each check-in, users receive points, referred to in the app as coins, and stickers. First-time and periodic check-ins are rewarded with additional coins. The stickers relate to the function of a location. For example, users receive a gas tank sticker for their first check-in at a gas station, a shopping bag sticker for a shopping mall, a cocktail sticker for a bar, etc. Users can collect up to 100 stickers that reflect the variety of the places they have visited (see Figure 15.2).

Swarm offers two options for using check-ins. First, Swarm offers a new location-based form of lifelogging. A digital lifelog is a detailed chronicle of a person’s everyday activities that typically encompasses large volumes of technically protocolled data. Originally, lifelogging apps recorded fitness- and health-related data. In the case of locative media, lifelogging involves protocolling the locations visited. For instance, Swarm can show its users a list of their check-ins in chronological order or make them visible on a map. In this way, users can track how often and on which days they checked in to a health club or a supermarket, for example. In tandem with the comment function, this list becomes a digital journal and photo album. The purpose of this function is not to exchange information with other

FIGURE 15.2 Screenshots of stickers available in Foursquare Swarm (left) and a list of places checked in

users or to augment the accessibility of a location. Rather, our interviewees were motivated primarily by their personal desire to preserve fleeting recollections of locations visited and to retain such memories. For instance, an insurance agent who visits many places on his business trips told us that he greatly appreciates the lifelogging functions of Swarm:

For me it's a kind of memory function. A type of localization that tells me: You've already been here. And I've checked in to locations where I could swear I'd never been before, but then it seems I actually had been there before! And checked in there.

(Experienced user, age 36)

Aside from lifelogging, Swarm offers a second function typical of social networks: following the activities of other users. As in social network websites similar to

Facebook and Instagram, users can send messages to befriended members. Far more important, however, is the fact that the users of Swarm can follow check-ins in order to keep track of their friends' current locations. As in conventional social networks, the number of Swarm friends normally extends beyond the close circle of personal acquaintances to include other users whom they rarely if ever meet face to face. The inclusive potential remains low, however, as users generally follow people who share their same lifestyle and tastes. In her interview, an experienced user reported how she chooses friends and what constitutes her community of Swarm friends:

Interviewer: "Do many of your friends use Foursquare [Swarm], too?" Interviewee: "Nah, not many. I have my friends and my Foursquare [Swarm] friends. I mean, my friends from the office or my boyfriend's friends and people I know. And then I have Foursquare friends, and they think like me. They have similar tastes. And I trust their taste. So I wouldn't consider them to be friends, but rather acquaintances. But I trust their opinions. And that's why I follow what they say and I believe in their ratings. But the communities are separate. Not all of them. My boyfriend is a Foursquare fan, too. And other friends, who I would consider friends. But not all of them. Some are very 'random'. And I know them through Foursquare and not through anything else."

(Experienced user, age 34)

In short, the emphasis of the functions in Swarm is on personal life and the network of contacts that encompasses either personal friends or acquaintances with similar preferences. Thus, the app has more potential for intensifying exclusive social interaction constellations because it emphasizes and strengthens existing social bonds and lifestyles. It offers only a few opportunities for interaction with unknown users in the immediate vicinity.

The future of urban public places: neither inclusion nor exclusion

Our two case studies, presented earlier, show that neither the inclusion hypothesis nor the exclusion hypothesis can adequately describe social reality. Both apps, City Guide and Swarm, encourage the exploration of unknown places. City Guide's annotated pictures and tips as well as the check-ins of Swarm friends display nearby places that are worth visiting. In accordance with the inclusion hypothesis, these apps tempt users to extend their own mobility radius and to visit new places. Contrary to the inclusion hypothesis, users rarely encounter representatives of unknown social worlds when they visit these places. Filtering digital annotations and following the check-ins of like-minded friends increase the likelihood that users remain within the borders of their own social worlds. With respect to this effect, the use of locative media is more in line with the exclusion hypothesis. For the future of

public space, this could mean that the places where certain scene worlds meet no longer need to concentrate in certain streets or neighborhoods to ensure social exchange between like-minded people. With the help of locative media, it is conceivable that the meeting places of urban scene worlds will become more scattered physically across public space.

In the first step of our analysis, we successfully demonstrated that the City Guide app supports the location-based use forms of lurking and editing. Although these forms of use have the potential to increase accessibility to public spaces because they make it easier for users to obtain information on their physical surroundings firsthand, many users filter the annotated information according to lifestyle-related criteria, with the result that they rarely cross the boundaries of their own social worlds. Empirical reality (presently) seems far removed from the expectation of earlier studies that digital annotation might contribute to social inclusion by creating cyber-physical arenas that make the diverse voices of urban life heard. The proponents of the inclusion hypothesis took the fact that more and more public places are being annotated to draw the premature conclusion that users receive this information unfiltered. But, just as something as trifling as legal access to public places is sufficient to make them into urban meeting places, general accessibility of annotated information alone is equally insufficient to counteract the segregation of social worlds. On the contrary, many users apply the annotated information in order to maneuver more unerringly within their own urban scenes.

The results of our second analytical step, which focused on the social network functions of annotation services using Foursquare Swarm as an example, also seem to indicate that it would be wise to exercise caution with respect to the expectations reported in the literature regarding the inclusive potential of locative media. The primary purposes of location-based lifelogging and following are private recollection and the communicative exchange between like-minded people. However, we do not view Foursquare Swarm or other similar services as a significant motor of social exclusion. In fact, lifelogging and following reflect the already existing lifestyle of users who create social-spatial distance and distinctions independently of their media use. Swarm and other similar services offer tools to more strongly emphasize the location-based aspects of its users' lifestyle. In this way, the physical contours of social world lifestyles can be stabilized and may become more obvious. However, as we have demonstrated, existing social barriers are not raised, either. Based on these statements, it becomes clear that the inclusion and exclusion hypotheses denote extreme poles of social development trends that outline a space of possibility within which the actual development takes place. Both the fears of the exclusion hypothesis and the euphoria of the inclusion hypothesis seem exaggerated. In fact, locative media tend to modify the existing physical pattern of public space. The spatial segregation of social worlds is likely to decrease, but that does not mean that the social boundaries of different scene worlds will become more permeable than before.

Notes

- 1 We performed this study as part of the project “Locative Media: Inclusion and Exclusion in Public Spaces” (B04), which is part of the Collaborative Research Center “Re-Figuration of Spaces” (CRC 1265) funded by the German Research Foundation (DFG) (project number 290045248). Aside from the authors, student project team members Nina Meier and Johanna Weirauch also participated in the collection and evaluation of data, and we are indebted to them for their support.
- 2 We recruited users via the project website. The sample consisted of fourteen users, six of whom were female and eight male. Six users had years of experience with Foursquare apps, while the others had little or no experience. The users ranged in age from 21 to 43; the average age was 29 years.

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