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EXPERIENCING A PERSONALISED AUGMENTED REALITY

Users of Foursquare in urban space

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Introduction

Several scholars have recently reported on the emergence of a geoweb (Crampton, 2009; Leszczynski and Wilson, 2013; Graham, Zook, and Boulton, 2013) or the explosion of new ‘spatial media’ on the web (Crampton, 2009: 91) to describe the abundance of content associated with places which is currently available online. The mass distribution of smartphones and the rise of mobile Internet have made access to this content almost ubiquitous, allowing us to ‘augment’ our experiences of places with an additional layer of digital information (Graham, Zook, and Boulton, 2013). Finding a café near to where we are, checking availability at a restaurant to book a table, making sure we took the right road to get to our next appointment: these small everyday problems are increasingly resolved using a smartphone and a variety of software running on this interface and providing geographic information.

These ‘apps’ often filter their content based on our location (the so-called ‘location-aware apps’ or ‘location-based services’). Increasingly, they also filter information according to the user’s profile. This personalisation of geographical information is not an isolated phenomenon, but part of a larger trend towards the personalisation of web content. As proposed by Pariser (2011), the algorithms used to provide us with targeted advertising when we browse the Internet, today also define the informational content of many of the sites we visit regularly. Facebook newsfeeds, Google search results, Netflix or Amazon recommendations: these online services analyse a series of signals about the behaviour of their users (e.g., links they click, their search or purchase history, the content of their emails) to infer the type of information that they may want to access next.

Online services providing geographical information are not left out of this trend. The director of Google Maps for mobile, Daniel Graf, has recently

announced the personalisation of Google's cartographic service, justifying this shift by stating that the maps he consults do not necessarily have to be the same as those consulted by the journalist interviewing him, as they are unlikely to frequent the same places (Lardinois, 2013). Whether we are using Google Maps for directions, Foursquare for recommendations, or getting information from Mynd or Google Now, several geoweb services differentiate their content depending on what their algorithms understand about what we want.

In order to personalise their content, these applications must have an idea of 'who' we are. To do this, they analyse a number of pieces of data pertaining to us. Which links we click, the people who make up our circle of friends on Facebook, the content of our calendar, the addresses we have previously looked up on Google Maps: these "capta" – "units that have been selected and harvested from the sum of all potential data" (Kitchin and Dodge, 2011: 5) – are used as a type of indicator of who we are and what we like. Taken together, these digital traces that we leave behind form what Kitchin and Dodge call a "capta shadow", a kind of digital shadow of ourselves, which, rather than just following us, also precedes us, defining the choices and opportunities that are available to us (Stalder, cited by Kitchin and Dodge, 2011: 104). These profiling techniques could, therefore, be considered to be predictive technologies, working on the assumption that knowledge about the future is already present in the analysed data (Amoore and De Goede, 2008: 174).

This personalisation of geoweb services, therefore, defines different "regimes of visibility or invisibility" (Graham, Zook, and Boulton, 2013: 470) of geographical information. Thus, by differentiating their content, these services create different accesses to the information that users rely upon to resolve some of their navigational problems within urban space.

In this chapter, I examine the issue of geoweb personalisation by studying uses of the smartphone app 'Foursquare' in New York City. This application allows receiving targeted recommendations about places to visit nearby (cafés, restaurants, bars, etc.). Through the discourse of users of this application, I seek to understand how receiving personalised content mediates the relationship that these users have with their urban environment. The discussion proceeds in four stages. The first section aims to situate geoweb personalisation within the context of its emergence and also within the scholarship on concerns regarding profiling and the personalisation of web content. The second section presents the privileged theoretical perspective and concept for approaching the object of the study (the concept of 'mediator' as discussed by Bruno Latour (2005)). The third section puts forward the case study (Foursquare) and outlines the methodology. The last part – the analysis – is divided into two main subsections. First, it seeks to understand what specific mediators shape the augmented spatialities enacted by Foursquare users. Second, the analysis focuses on how users of Foursquare experience the differentiated "informational landscapes" hence emerging (Crang and Graham, 2007).

Situating the personalisation of geographical information

Context of emergence

In his work on new media, Manovich states that:

If the logic of old media corresponded to the logic of industrial mass society, the logic of new media fits the logic of post-industrial society, which values individuality over conformity.

(Manovich 2001: 41)

The personalisation of web content could thus be read as a trend that epitomises our contemporary society and the dynamics of individualisation that have spanned the past few decades. Today, a person's life course is increasingly destandardised, becoming more and more the result of choice and personal development (Beck, 2001), giving rise to a

significant transformation in the economy of individuality.

(Castel, 2010: 125, my translation)

It is within this context that we must situate the development of the technological tools that increasingly seek to target individual needs.

However, the personalisation of consumer goods and services must also be read as a manifestation of the “political economies of ‘unbundling’” (Graham, 2005: 564) that characterise the current neoliberal logics of governance. The decline of the Keynesian modern state and the shift to neoliberal regimes are accompanied by the phasing out of the idea that major infrastructure services (telecommunications, rail, roads, etc.) are ‘public’ services that should be available to all at standard tariffs (Graham and Marvin, 2001: 96). We are moving, therefore, from a universalist model of services for the population to a model in which the basic infrastructures, spaces and services of everyday become commodities that can be differentiated and adapted to the profile of the consumer (Graham, 2005: 565–66).

‘Software-sorted geographies’ and ‘filter-bubbles’

Within this general context, consumer goods and services become ever more customisable commodities. Consumers are increasingly involved in the production of what they buy, becoming “prosumers”, able to customise the goods they acquire by choosing options, materials or colours (Kitchin and Dodge, 2011: 187). Digital geographical information has also become a service that users can customise according to their desires at the time. Thus, de Souza e Silva and Frith (2012) show how some location-aware smartphone applications allow their users to ‘browse’ the space around them to locate the type of place they are looking for.

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Beyond this direct personalisation by the user, here I focus on the ‘automatic’ personalisation performed by computer algorithms by analysing the digital traces that individuals leave behind in the course of their various operations online. According to Graham (2005), computer code plays a vital role in the neoliberal logics of service differentiation. Software has the ability to distinguish various types of situations based on the data that it captures and analyses, thus creating differentiated geographies according to those specific situations. These “software sorting” operations are problematic because they often define different rights, accessibilities and speeds; they may well be the basis of new forms of social sorting, dividing individuals and social groups “into categories, assigning worth or risk, in ways that have real effects on their life-chances” (Lyon, 2005: 1) and channel their choices and opportunities.

The personalisation of web content can be read as a software sorting operation defining differentiated access to online information. Although these different regimes of visibility or invisibility of information do not necessarily give rise to the abovementioned discrimination, they can nevertheless pose a series of problems that should be addressed. According to Pariser (2011), by rendering visible only that which corresponds to our tastes, our interests or our political views, these systems lock us into “filter bubbles”, where we are constantly served

a kind of invisible autopropaganda, indoctrinating us with our own ideas ... and leaving us oblivious to the dangers lurking in the dark territory of the unknown.

(Pariser, 2011: 15)

By hiding anything we might find unpleasant, disturbing or just different from our views, this filtering process is, in Pariser’s opinion, a threat to the exchange of ideas that characterises democratic debate. Pariser (2011) denounces these systems not just for the way in which they shrink the world to what is familiar, but also for their opacity, which prevents us from understanding why we are accessing the content provided, and from assessing whether the algorithms were able to understand us correctly.

When these filtering processes are applied to the geographic information that we use to make sense of the world around us, the contents that we receive represent only part of the city: that which is supposed to please us and correspond to us. The consequences of these various visibility and invisibility regimes are problematic for at least two reasons. First, these software sorting operations can potentially reinforce homophily patterns:

the principle that a contact between similar people occurs at a higher rate than among dissimilar people.

(McPherson, Smith-Lovin and Cook, 2001: 416)

Thus, reinforcing specific forms of togetherness, accentuating pre-existing socio-spatial fragmentations. Second, unlike the customisation evoked by de Souza e Silva and Frith (2012), the users of this software do not choose the filter which is used to interpret the world. Although users obviously maintain a degree of flexibility with regard to the information they receive (they decide whether to rely on it or not), they cannot really judge the accuracy with which they have been profiled. Thus, the opacity with which software functions “raises huge issues in agency terms” (Klauser and Albrechtslund, 2014: 276).

In what follows, I outline the conceptual framework and examine the underpinnings of the experiences of Foursquare’s personalised “augmented realities”, this latter term being defined as “the material/virtual nexus mediated through technology, information and code, and enacted in specific and individualised space/time configurations” (Graham, Zook and Boulton, 2013: 465).

Mediators

Broadly speaking, this chapter seeks to understand the role played by ‘things’ (smartphones, apps, information filtered through algorithms) in the relationship that users have with space. For this purpose, I employ the concept of the ‘mediator’ in the way used by Bruno Latour and Actor Network Theory (ANT). One of the aims of Latour’s ‘sociology of associations’ is to slowly disentangle the node, knot and conglomerate of the many surprising sets of agencies (Latour, 2005: 44) that are involved in the course of action. The concept of mediator has to be understood in this context. For Latour, a mediator is not a mere intermediary conveying “meaning or force without transformation” (2005: 39). It is, instead, an agent of translation, which transforms the meaning of what it is supposed to transport (39). In this vision, the mediators are agents involved in an action, only a small number of which are human (50). Since an actor is “what is made to act by many others” (46), the mediator is an agent that makes other agents or mediators do unexpected things. In this perspective,

ANT pictures a world made of concatenations of mediators, where each point can be said to fully act.

(Latour, 2005: 59)

Resolving a navigational problem using a smartphone application involves different agencies: the agency of the user, of course, but also the agency of software and the “concatenations of mediators” that underpin it:

Capta standards, file formats, interfaces, conventional statutes, protocols, intellectual property regimes such as copyrights, trademarks, patents ... ways of doing, coding cultures, hacker ethos, norms of sharing and stealing code.

(Kitchin and Dodge, 2011: 24)

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The ‘things’ on which this chapter focuses must therefore be seen through this perspective. In much the same way as

an association with God is not substitutable by any other association.

(Latour, 2005: 36)

An association with a smartphone application, whose content is personalised through numerous computations, cannot be likened to an association with another navigational instrument. It is, therefore, necessary to understand how the various mediators, involved in the association between the user and an app, such as Foursquare, act. To understand what augmented realities emerge from the association of these various agencies, the analysis is divided into two main parts: the first seeks to understand what the main mediators that underpin Foursquare’s functioning and contribute to make the user act are; and the second part focuses on users’ experiences of these augmented realities.

Foursquare

The personalisation of geospatial information is investigated here by way of a case study into the uses of the smartphone app Foursquare and its recommendation engine. Foursquare is a location-based social network, created in New York City (NYC) and launched in 2009. Until recently, Foursquare allowed its users to post ‘check-ins’ in various locations (bars, cafés, restaurants, museums, public spaces, etc.), informing their social network of their whereabouts. In addition to check-ins, users could also rate these locations by posting a comment accessible to other members of the network. The content of the application is, thus, largely user-generated.

To encourage its users to post ‘check-ins’, Foursquare was, in its infancy, presented as a game, awarding points and badges to users when they ‘checked into’ places. Over the years, the company has accumulated millions of ‘check-ins’ from its users. With this huge amount of data on users’ spatial practices and habits, Foursquare has gradually started to profile itself as a local search engine providing personalised information about nearby venues. The first step in this direction, in 2011, led to the creation of a recommendation engine indicating bars, restaurants and cafés near to the user. In August 2014, a new step was taken by the company with the launch of an entirely rewritten Foursquare app, focusing solely on local search and personalised recommendations (the social and fun aspects associated with ‘check-ins’ being transferred to a new application called ‘Swarm’). This chapter focuses on Foursquare’s recommendation engine before the recent revision of the app, the one that operated in the following way. When the user received a list of recommended places, the information provided was filtered based on her location, and also according to the time at which the search was performed (for example, cafés and bakeries were more likely to be recommended in the morning than in the evening). Foursquare also personalised

its recommendations by analysing users' check-in history and that of their friends. Thus, if users searched for a bar in a neighbourhood that they did not know, Foursquare would primarily recommend bars where their friends had previously checked in. At the time of my fieldwork, the service was also personalised through collaborative filtering methods, comparing the profiles of users who had checked into the same places and then recommending places to user A on the basis of the places frequented by users B, C and D, whose check-in habits were similar to A's.

Foursquare recommendations, therefore, relied on the system's capacity to analyse the vast database of users' 'check-ins' (in 2014, these had reached six billion, according to the company's website). From check-in data, the system computed the similarity between venues and between users, and highlighted contents that were tailored to the user's profile. In this version of the app, for each of the recommendations shown to the user, Foursquare specified why the recommendation had been made. The recommended location was thus accompanied by a short explanation, such as: "three of your friends have been here"; "people go there after Café X"; "people who like Café Y go here"; and so on. The personalisation performed by the software was, therefore, not completely opaque to the user. In its new version, Foursquare focuses more than ever on personalisation and – in many respects – it continues to be based on users' past 'check-ins'. But first and foremost, the emphasis is now on the reviews written by users.

The data analysed in this Chapter was gathered during the field work in NYC in 2013 and 2014, when thirty semi-structured interviews were conducted with users of smartphone applications and, in particular, Foursquare. The majority of my respondents were using the app in order to receive recommendations about places to go in their area. The semi-structured interviews allowed me to appreciate the way my interviewees perceived the fact that they were receiving such highly tailored information; and how they interpreted and used this information to make decisions about where to go. This method presented a limitation, however, arising from the fact that some of the respondents were not aware that the results they obtained were personalised. This lack of knowledge about the profiling performed by the application is in itself an interesting result, showing how computer code influences our daily life, sometimes without us even noticing it. Although these people were brought in to express their opinions on the personalisation of information, they had not developed conscious uses of these tailored recommendations and, therefore, were less able to discuss the ways in which this profiling mediated their practices. As the discussion developed better with interviewees aware of the personalisation at the time of the interview, I am drawing mostly on these interviews.

What mediates users' augmented realities?

In their paper, Graham, Zook and Boulton (2013) mention different types of power involved in the shaping of augmented realities. Those different types of

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power result from the activity of social actors, and from the actions performed by software and code (2013: 468). In what follows, I refer to these two broad categories of mediators that shape the informational landscapes of Foursquare.

The first mediator: the activity of other users and the content they produce

When reporting their experiences of the app, several interviewees explained that Foursquare had allowed them to discover an exceptional restaurant or café in an area of NYC, or in another city, that they didn't know well. Mark, for example, mentioned that it would have been difficult to see the restaurant he was looking for from the street, if the application had not revealed its whereabouts:

The [restaurant] that Ellen and I were going to was like ... you have to go down this alley ... it's behind this building and you can't see it from the street. I would have never seen it otherwise.

(Mark, interview, 5 September 2013)

The application makes visible those places that the materiality of the city would otherwise keep hidden from the eyes of the uninitiated. This feeling of being able to see through walls reflects the “dreams of urban transparency and omniscience” (Crang and Graham, 2007: 812) associated with the emergence of augmented space. These authors point out, however, that this dream of transparency is a myth, since those technological systems always produce new shadows and opacities (207: 814). Graham and Zook (2011: 129) make a similar argument when they write:

the cloud of virtual information superimposed over place is thick and dense over some parts of the world, and little more than a wisp over others.

(Graham and Zook, 2011: 129)

For a city the size of New York, the layers of digital information provided by Foursquare are far from uniform. As the content is largely generated by users, the density of available information can vary from one area of the city to another, depending on how often it is frequented by users. One of our actors gave her opinion about the limited information thus available on the bars and restaurants in her neighbourhood, explaining:

[My neighbourhood] is pretty far, pretty remote. And not a lot of the people that are out there use Foursquare. So sometimes, a restaurant ... even if it's popular ... it will have like three tips and ten check-ins ... It is a Mexican neighbourhood ... So I think that's part of it.

(Ellen, interview, 13 August 2013)

Ellen's interpretation is consistent with the "distributed power" argument proposed by Graham, Zook and Boulton (2013). According to these authors, only a relatively small group of people is involved in "authoring representations in augmented reality", which gives these people "a corresponding high power to influence representation of places" (2013: 469). The profile of Foursquare users, and the neighbourhoods these people principally frequent, contribute to the creation of different densities of content for the various parts of the city. If the information provided by Foursquare makes some things visible, other places or neighbourhoods remain more or less in obscurity due to the low density of content available about them. The availability of content is, therefore, an important mediator shaping the augmented realities enacted by my interviewees.

The second mediator: Foursquare's personalisation algorithms

Foursquare's informational landscapes are also shaped by the action of algorithms, orchestrating the visibility or the invisibility of contents. These algorithms filter information based on criteria such as location or time of the day. On Foursquare, the ranking of recommended places is also based on the status and activities of other users. In particular, algorithms prioritise two 'alterities' in order to personalise recommendations.

First, Foursquare's results are ranked via collaborative filtering methods, which involve cross-referencing check-ins made in the same places. This principle – made famous by the company Amazon.com – consists in recommending to user A those venues frequented by users X, Y and Z, who have checked into similar places than A. Thus, by looking for those patterns between users, the application highlights a relationship with a form of alterity that Neil describes as "people like me":

This neighbourhood, I've never checked in here before. But ... other people have checked in ... Finding ... using an algorithm to find the places that people like me go to most, nearest me, and then listing those.

(Neil, interview, 14 August 2013)

Second, the algorithms also highlight the places in which the user's friends on the platform have checked in. Recommendations are therefore accompanied by indications such as "Your friend, X, left a tip here" or "Three of your friends have been here". According to my interviewees, seeing the places frequented by some of their friends represented another way of obtaining information that they could generally trust.

Once you see there is a shared interest, I feel like ... You have the history of what they like, you know what you like and you see a lot of commonalities, everything matching up ... If I go to visit somewhere that they have been ... I would say "hey, Jim and Maria were here, let's try that!"

(Mark, interview, 5 September 2013)

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By highlighting those two categories of users (friends and ‘people like me’), Foursquare prioritises information endorsed by people with whom users potentially have affinities. In doing so, it displays a certain representation of the city and its places: one shaped by a community of users who may well share similar tastes. Although it seems reasonable that someone should be able to find a restaurant or bar that suits his/her aspirations, the social distribution of tastes is not completely left to chance, but reflects different positions within the social space (Bourdieu, 1979). The creation of those ‘bubbles’ of personalised information might therefore accentuate homogeneous forms of togetherness. To understand the socio-spatial implications of these filtered informational landscapes, it is necessary to further examine how those personalised augmented realities are lived and experienced. In the next section, drawing on the discourses of my interviewees, two problematic aspects of these experiences are addressed.

Living in ‘bubbles’: users’ experiences of personalised augmented realities

Personalised augmented realities and the consumption of places and neighbourhoods

By personalising the content of the application on the basis of his/her tastes, Foursquare’s algorithms define different regimes of visibility and invisibility of geographical information for each user. While some may dislike the fact that some information is rendered invisible, many see it as a necessary evil. Thus, Neil, while recognising that he might miss something because of the profiling to which he is subjected, thought it was preferable for the information to be filtered. Without filtering, the surplus of available information would likely be counter-productive, preventing him from making a decision about where to go.

I think I would prefer something that gives me fewer results ... more accurate results. I’ll be willing to make this sacrifice. It’s very possible that I could miss a hidden gem ... because [Foursquare] knows that I like new American ... fancy places ... So it picks those. But then [if] there is a really good noodle shop ... it’s like two dollar noodles nearby and it’s not my typical place, but it is still really good ... maybe I’ll miss that.

(Neil, interview, 14 August 2013)

By using Foursquare, the interviewees – those who were aware of the personalisation – generally knew through which lenses they approached the world. Thus, the augmented space that they were accessing was not exactly the same than the one they would have accessed via Yelp, a local search engine whose rankings are based on other criteria, and which prioritises the most popular and best rated venues.

So Yelp is not filtered as well ... I look [at Yelp] if I want a wider range of results ... In Foursquare it's, like, more filtered and usually the results are better but sometimes ... if [the places] are too far away ... or if [they are] too expensive or not what I am looking for at the moment [I would use Yelp].

(Ellen, interview, 13 August 2013)

Mindful of how these search engines function, Ellen strategically used one or the other to obtain a more or less filtered representation of what was around her. Adam, meanwhile, deliberately used Foursquare to access content tailored to his needs. He paid little attention to Yelp or Google results, judging that the places most people defined as popular were not necessarily those where he wanted to go. His use of Foursquare allowed him to sustain his distinctive practices and do away with the more mainstream information that it deemed to be of no use to him.

If you search on Google or something ... the first thing that pops [up is] always Starbucks Café ... Because they are everywhere and, you know, they are popular. But because I don't go to Starbucks, I go to places ... like Gorilla Café ... I go to small business cafés ... If I go to a new town, [Foursquare] is going to find that small coffee shop that is not a Starbucks.

(Adam, interview, 5 August 2013)

From Adam's point of view, the fact that an algorithm masks some of the information is useful, allowing him to exclude from his field of vision places that don't suit his tastes:

Like I said... I don't want a map to show me all the Starbucks. I don't care where they are.

(Adam, interview, 5 August 2013)

The comments of these interviewees – who are particularly knowledgeable about how Foursquare works – seem to indicate that choosing which bar or restaurant to go to is seen as a mere consumption practice that can be personalised to suit each person's lifestyle. Because bars, cafés and restaurants belong to certain neighbourhoods, the spatial practices mediated by Foursquare can thus be seen as a manifestation of the “consumption of neighbourhoods” described by Burrows and Ellison (2004) and Graham (2005). This selective consumption of recreational places adds to “the consumption of housing, education and all manner of geographically specific services and attributes” (Graham, 2005: 570–71). From this perspective, the distinctive consumption practices mediated by Foursquare can be seen to enable the “strategically inclined” (571) and “technologically literate groups” (572) to free themselves from the common experience of urban space, reinforcing the splintering geographies that characterise our contemporary cities.

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Experiencing augmented realities in qualitatively different ways

As previously argued, the relations to space that Foursquare enables depend on users' relationships with different types of alterity. To provide personalised content, the app's algorithms filter information based on the activity of two categories of users ('my friends' and 'people like me'), whose tastes may well be similar to those of the user. However, access to personalised content is not only mediated by algorithms, but also by the different densities of content produced by friends and 'people like me'. As expressed by Ellen below, when there is a lack of assessment by people she knows, she must settle for less personalised information. She thus commences a relationship with another type of alterity – "strangers".

My neighbourhood ... is off the beaten path ... For instance, if I look up some place to go in my neighbourhood ... the recommendations aren't as robust as they are here [in Manhattan]. There are still a lot of places that they suggest but they don't always have ... you know ... "ten of my friends have gone" to each one ... and it's usually "one person has gone here", "one person has left a tip there". But it's not ... as data-rich ... So you know in that case that you have to go by the tips of strangers ... which is not as personalised but it's still useful.

(Ellen, interview, 13 August 2013)

It is interesting to see that the augmented space, which Ellen navigates, consists of both "data-rich" areas (where her friends within the network also spend time) and blank data fields, neighbourhoods for which the information could not be personalised as finely due to a lack of check-ins by friends and peers. While acknowledging the usefulness of "tips of strangers", Ellen's discourse seems to indicate that recommendations endorsed by her friends would be considered as more useful. Because they are mediated by these "alterities", to which users assign more or less value, Foursquare's augmented spaces seem to be experienced in qualitatively different ways.

For Mark – Ellen's boyfriend – all of NYC is experienced as a blank field, or at least as much less "data-rich" than for his girlfriend. Having just arrived in New York, and not having used the application as assiduously as Ellen, Mark found himself in a quite different augmented space than that of his girlfriend:

Because I would do the same thing with Ellen ... like we both pull out the same thing and she would have a different list because her friends have been to places and recommended things that I ... I don't have those friends ... She has maybe hundreds of friends on [it] ... So there is much more data in there about what her friends like and where they have been. Mine is more limited. So we would both pull out Foursquare Explore and she's like "let's try this" and I am like "ah I don't know what that is!" ... [So I tell her]

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“You’re going to have a much more data-rich experience so go ahead and ... you search and find what people are saying because ... for me I have like ten friends”.

(Mark, interview, 5 September 2013)

Although they are a couple and are likely to share similar tastes in many fields, Ellen and Mark are immersed within different informational landscapes. If Mark is to be believed, the personalisation of the service is in some way reserved for “premium” users who, like Ellen, have a vast network of friends and a long history of check-ins. To receive personalised information, it is necessary to feed the system with data, to allow it to collect and store these ‘capta’, which allow it to profile its users. As Mark had not yet left enough digital traces behind him, he felt like Foursquare did not know him well enough:

They definitely want to personalise it to me ... but ... they don’t know me that well.

(Mark, interview, 5 September 2013)

Graham, Zook and Boulton (2013) argue that augmented realities are always unstable, and context-dependent. By showing that augmented space is experienced in qualitatively different ways, my case study also points in this direction. Indeed, access to personalised content is not guaranteed evenly across the territory. When in an area frequented by people with similar tastes to their own, users can more easily access recommendations that are tailored to their needs. Failure to access the same quality of information in neighbourhoods less frequented by their peers could, therefore, highlight a divide between areas with which they could easily become familiar and areas which are unknown, different and more difficult for the user to approach. The example of Mark and Ellen also shows that the differentiation of content based on the user’s profile can also be experienced as an access to a lower quality augmented space.

Conclusion

The chapter focused on the algorithmic personalisation of geographical information. It aimed to understand what is at stake when the information used to make sense of one’s environment is differentiated for each user by various computations. This issue was investigated by way of a case study into the uses of Foursquare, a smartphone app providing personalised recommendations about nearby venues. Through the discourses of users interviewed in 2013 and 2014 in NYC, I sought to explore how Foursquare’s personalised recommendations affect users’ relations to their urban environment.

As we have seen, these relations to space are, at the same time, relations to the other users of the platform – referred to by using the term ‘alterity’. In other words, users’ spatial knowledge is mediated by the densities of contents produced

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by other users. Drawing on the argument of a “distributed power” shaping augmented realities (Graham, Zook and Boulton, 2013), I have shown that some parts of the city are less visible than others due to the low density of contents produced about them. Furthermore, the visibilities and invisibilities of places are also shaped by Foursquare’s personalisation algorithms, which prioritise two specific alterities: users’ friends on the platform and people whose behaviours are similar to theirs. By highlighting recommendations on places frequented by these two alterities, Foursquare enables its users to make informed decisions and go to places approved by people who have tastes similar to their own. It has been argued that, by reducing alterity to these two figures (‘my friends’ and ‘people like me’), Foursquare could potentially accentuate homophily patterns and strengthen specific forms of togetherness. The ‘bubble’ metaphor, proposed by Paris (2011), has proved to be useful in describing those homophilous communities mediated by software sorting operations.

As users’ augmented realities are mediated by alterities (‘my friends’, ‘people like me’, ‘strangers’), to which users assign more or less value, these augmented realities are experienced in qualitatively different ways. Thus, the fact that some neighbourhoods are richer in personalised information than others could accentuate a divide between areas that the user could easily become familiar with and areas that are unknown, different, and therefore more difficult for the user to approach. The quality of augmented realities largely depends on algorithms’ aptitude to understand who the users are and what they want. Importantly, the question of Foursquare’s ability (or inability) to know who they were was frequently addressed by the interviewees. This raises the question of the accuracy with which users are profiled. Is the ‘self’ that Foursquare shapes throughout the analysis of user’s check-ins an accurate representation of who she really is? In this regard, one interviewee pointed out that, although his check-ins reflected where he went, they didn’t say anything about his experience of these places. He gave the example of a café, which he didn’t particularly like, but where he went and checked in almost every day because it was close to his work and, hence, convenient. By pointing out that his check-ins data were not sufficient to characterise what he felt or thought about the places he frequented, this user showed the fragility of these profiling operations (interview, Charles, 21 April 2014). Nevertheless, it is this ‘Foursquare self’, built from scattered and incomplete digital traces, that shapes users’ personalised informational landscapes. In the face of the profiling performed by the personalisation algorithms and the figures of the self that they present, it is important to ask ourselves what the risks are that are associated with the possible misinterpretations made by software, and how these errors are then enacted or overcome by the users when they are confronted with personalised content.

The recently launched new version of Foursquare seems to be trying to correct this weakness by encouraging its users to write reviews on the places they frequent instead of checking in. The augmented realities shaped by this brand new version of the app – and by the new mediators that are involved in the personalisation of its contents – are yet to be examined and understood.

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