New technological localisms: a comparative analysis of two case studies

Novos localismos tecnológicos: uma análise comparativa de dois estudos de caso

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Abstract

The following paper is concerned with elucidating an account of forms of new localism as they relate to the concept of 'habitele', a conceptual framework that helps us understand new forms of relatedness in the digitally mediated world. In doing this it will also reflect back on the concept and draw out as yet unconsidered elements based upon issues of fluidity, mobility, and what we will call 'distal-locals'. The paper is centred around two case studies: the first is of a smart phone app, vouchercloud and details the way that the offering of money-off vouchers rests on particular notions of the local; while the second is of a environment organization who uses information technology to promote their activities. It is premised upon a history of work in the sociology of science and technology studies (STS) and in particular a set of conceptual and methodological resources that helps to reveal the complexities of notions such as "the local".

Keywords: Localism. Technology and society. Mobile phones. Urban spaces. Science and technology studies.

Resumo

Este artigo tem por objetivo esclarecer uma série de formas de novos localismos relacionados ao conceito de "habitele", um estrutura conceitual que nos auxilia a compreender as novas formas de relacionamento em um mundo digitalmente mediado. Ao fazer isto, os resultados irão refletir sobre o conceito e revelar elementos ainda não considerados, tendo por base questões de fluidez, mobilidade e o que chamamos de 'local-distante'. O trabalho concentra-se em dois estudos de caso: o primeiro relaciona-se a um aplicativo de smartphone (vouchercloud) e detalha a forma pela qual a oferta de vouchers recai sobre as compreensões particulares do local; o segundo concentra-se em uma organização ambiental que se utiliza de tecnologia da informação para promover suas atividades. Tem-se como premissa uma trajetória de trabalhos na área de estudos sobre ciência,

tecnologia e sociedade (CTS) e, em particular, um conjunto de recursos conceituais e metodológicos que auxiliam a revelar as complexidades de conceitos como "o local".

Palavras-chave: Localismo. Tecnologia e sociedade. Celulares. Espaços urbanos. Estudos de ciência e tecnologia.

Introduction

The following paper is concerned with elucidating an account of forms of new localism as they relate to the concept of "habitele", a conceptual framework that helps us understand new forms of relatedness in the digitally mediated world. In doing this it will also reflect back on the concept and draw out as yet unconsidered elements based upon issues of fluidity, mobility, and what we will call 'distal-locals'. It is premised upon a history of work in the sociology of science and technology studies (STS) and in particular a set of conceptual and methodological resources that helps to reveal the complexities of notions such as 'the local'. By drawing on two distinctive case studies, generated as part of a European project exploring contemporary uses of information technologies, we will seek to unpick two important areas relating to the use of mobile phone applications and the interaction between the online and offline behaviour of individual human users.

Firstly these two case studies will illustrate the fluid construction of multiple concepts of the local, and related to this the flattened relationship between the local and global this multiplicity of localities serves to highlight. Secondly the paper will explore the dynamics of representation and performativity in these two studies in the tension between their outward appearance and the metrics by which they function, and the wider political discourses they each tie into. In so doing we will begin to detail a form of 'new localism' in the configurational dynamics of new information communication technology, specifically as it is deployed as part of a form of 'digital envelope' or 'habitele' (BOULLIER, 2011). This outline and provide the basis for further exploration of the relationship between personal and portable technologies, and the notions of "locality" they enable or create.

New localism

The term "new localism" was used by Amin and Thrift (2002) to describe the realisation in urban studies that the economic relationships between the local and the global were not necessarily destructive (seen in for example 'local economic disintegration' (AMIN; THRIFT, 2002, p. 55). They sketch out a process of globalisation and the realisation in the 1990s of the integration of local and global, a concept supported with academics such as Piore and Sabel (apud AMIN; THRIFT, 2002, p. 55) claiming that "a growth in demand for design-intensive goods favoured a return to local networks of specialised and interdependent firms". In focusing on the proximate nature of existing conceptions of the local, Amin and Thrift (2002, p. 55) assert that "The new localism is producing a new "urban governmentality" [...] centred on the powers of spatial proximity (intensity of face-to-face transactions, local knowledge transfers, agglomeration economies)". While we recognise the origin of this term, we would adapt its application and definition to incorporate an STS framing, and in doing so move away from the above emphasis on spatial proximity to show that distality is, in certain situations, an equally important factor to our understanding of locality. In doing so, we would like to engender a 'performative' approach to what we will call "multiple locals".

This conception of multiple locals is tied to the theoretical framework of mobilities, which "argues against the ontology of distinct 'places' and 'people'. Rather there is a complex relationality of places and persons connected through both performances [...] and performativities" (HANNAM; SHELLER; URRY, 2006, p. 13). Whereas prior understandings of new localism emphasized both a geographical and an economic aspect to the term, we instead refocus upon the importance of movement, connectivity, and the fluidity of both personal and collective identities. In this vein, Nigel Thrift (2003, p. 3) reminds us that "the world is not a reflection, but a continuous

composition" — what constitutes localities is in constant flux. Likewise Law and Urry (2004) point us towards the 'enactment' of society, much as the mobilities turn in sociology (HANNAM; SHELLER; URRY, 2006), and social geography, understands the previously construed static urban space as a continually composed and enacted phenomenon.

Such complexities are captured in the idea of 'motility' — the potential for mobility (REED; WEBSTER, 2010) — and twin notions of performances and performativities, where the first is afforded by the latent character of the second. We thus understand "new localism" to be situated within this conceptual and epistemological domain. Rather than a predictor of urban economic change, we re-orient the term to the practical instantiation of the local in, and through, actor-networks. This is to say this paper will show the methods by which "the local" is created by, and within, specific kinds of actor-network, and what effects the creation of these localities has on those who either live within the geographical domain they enclose, or those who are distal to the locality's geographical region but are nevertheless able to connect to it using personal digital technology. This term of "new localism" is meant to do two pieces of work: Firstly it notifies the reader of a novel state of affairs (made possible by the advent of mobile digital envelopes, for example), and secondly the continual novelty and newness of (and hence frailty) of the activities of making some set of arrangements local. Both case studies and their attendant actants, trade on and off what Lippard (1997) has coined as the "lure of the local", that is the local as both potential and desire. It is in the *realisation* of the local that we find our analytic insight.

Background

The Habitele project, as conducted by Sciences Po Paris in conjunction with research institutions around the world, provides a theoretical and conceptual framework for better understanding the management of social worlds in the 21st century. Building on the traditions of Bruno Latour and Pierre Bourdieu (among others) the concept of Habitele allows us to perceive the ways in which we, both as individuals and as groups, attempt to manage, control, and systematise our interactions in an increasingly connected planet. Habitele "is used to label the various distant

connections with various social worlds that we are able to handle by carrying devices (phone, credit cards, IDs, keys and access cards) and traces that keep us in touch with these worlds" (BOULLIER, 2011, p. 3). The word is premised upon 'habit' translated in English as 'outfit', 'habitacle' meaning something like 'inhabited compartment' (BOULLIER, 2011). This emphasis upon the ability to wear certain kinds of devices — and the affordances they provide — is key to our understanding of new localism and the ways in which multiple localities are created, managed and navigated. The Habitele project involved a series of one-to-one interviews premised upon extracted mobile phone data. This was a two-stage process. The first part involved gathering information about typical usage of the mobile as it relates to relationships and practices and extracting use data from the phone in the first interview, and then reflecting on visual presentation of that extracted data in the second interview. This was done by presenting visual statistical data derived from the phone to the interviewee in the second interview. In addition, and based on the full range of interviews, the UK team drew up five case studies which exemplified or more closely studied the features exhibited in the interview.

An understanding of Habitele rests upon various information communication technologies (the mobile phone for example) as series of 'universal terminals' (BOULLIER, 2011) for various mechanisms of 'affiliation', 'accessibility' and 'traceablity' and looks to combine this understanding with existing analysis of digital artefacts such as the credit card, identity card, and the like. These elements of affiliation, access and traceability are seen to combine to form an 'envelope' or container for complex digital identities that, due to the mobile nature of the phone, become 'wearable' in way not seen before: we physically carry this digital identity with us and it becomes an interface between the world and those collected digital affiliations, access points and traces.

The theory of habitele, around which the case studies are organised, is premised therefore upon the changing status of the 'connected being' in society (BOULLIER, 2011, p. 4). There is seen an anticipated change to 'an alert state of mind', born of continuous connection and accountability; the foregrounding of the 'everyday interaction' based on continual mutual 'awareness'; and the need to attain new skills of coordination due to the inherent 'traceability' of digital behaviours. As we will show these factors all play

their roles in constructing the new localism we seek to explore. In addition, this connected being is able to switch between 'social worlds', understood as the various separate trans-proximate affiliations afforded by digital technologies (or intimacy at a distance), a significant break from the existing understandings of new localism covered earlier in this paper. The following case studies respond to this conceptual foundation by drawing on particular elements of the habitele conceptual model.

The habitele model proposes the following hypotheses, which are useful when thinking about new forms of localism (Table 1):

Table 1 - Showing four habitele "hypotheses"

Hypothesis 1: Habitele is a "personal globalization process"
Hypothesis 2: Habitele is a process of "commutation between social worlds"
Hypothesis 3: Habitele is a "specific and shared regime of attention (alert or watch)"
Hypothesis 4: Habitele is part of a "new mode of privacy as shared?"

Source: BOULLIER, 2011.

Case studies

The two case studies reported here were part of the UK team's efforts to investigate the habitele concept[1]. The first is based on a software application called Vouchercloud, the second on a local community group called St. Nicolas Fields. Both the case studies elucidated upon here connect the individual to wider "society" in distinct (though very different) terms and produce different forms of traceable online behaviour:

- Vouchercloud generates user data which follows the user and serves to contribute to hidden metrics, thereby leaving a lasting mark on the application which can be traced;
- the St. Nicholas Fields organisation meanwhile tethers digital behaviour to a particular local region, whilst creating an historical archive through the documentation of its activities online.

The chosen case studies both have an interesting spatial/geographical quality, with the first situated in a 'real' urban space, while second situated in the 'virtual' space of interactive software. The 'affordances' (GIBSON, 1977) of the spatial/geographical in one case and the algorithmic/interactive in the other are foregrounded as firstly active (in that they constrain and direct opportunities to act) but also dynamic (in that they change over time). A key element of these affordances is the ability to connect, record and track 'affiliates'. In the first case study this involves the software tracking of users activities, while in the second case study this amounts to the various lines of communication (open days, web page etc.), registers (e.g. visitor books, email lists etc.) and memberships of the organisation. We will draw these elements together to talk about various forms of 'metrics'. In the case of Vouchercloud these metrics are attached to individual 'profiles' as identity (LATOUR et al., 2012) while the St. Nicholas Fields case study they will be attached to issues of (political) identity.

We will bring our analysis to life by conceiving of a novel analytic strategy. We will start by identifying the 'promissory' nature (MICHAEL, 2000; BROWN; MICHAEL, 2003) of the software in one case and the service in the other and then pursue this promissory foundation through a projection of its logical outcomes. In so doing we will move from a notion of identity as something inherent in the software or service, or something tethered inseparably to a geographical location, to one that that sees identity as the outcome of agency and practice. We will move from a representational to a performative idiom in the terms set out by the theorist Andrew Pickering (1994) in order to understand the performativity of new localism. In following this methodological path we will reveal the complexities of understanding the 'local' in contemporary instances of identity formation and performance through technologies. Each study exemplifies various forms of 'affiliation', 'accessibility' and 'traceablity' in line with an appreciation of the changing status of the connected being as positioned within novel envelopes of digital activity and identity, and these in turn serve to highlight the fluidity and constant changeability of "the local".

Case study one: Vouchercloud

The number of applications available for smartphones has grown significantly in recent years

into a profitable and diverse market. One subset of this is the rise of the so-called 'voucher application' such as Groupon, Wowcher, Vouchercodes, Dealcloud and the application focused on in this paper, Vouchercloud. These are designed to save the user money by either giving them access to money-off vouchers, or alerting them to the 'special offers' of businesses (primarily retail and service outlets). Vouchercloud itself is a relatively new voucher application for iOS (iPhone) and Android-based smart phones.

Vouchercloud geo-locates the user through the Global Positioning System (GPS) software in their mobile phone, and subsequently the deals in the user's vicinity, allowing shoppers and users to find deals near them. The actual transaction occurs through various practices, including passing a alphanumerical code, or pictorial QR (Quick Response code), to a physical retailer, or making a payment via the mobile phone application to an online retailer. Most voucher applications are national or quasi-global in range, and use GPS mapping to alert users to deals within their vicinity, serving as a more modern variation of printable vouchers and producing a personal envelope of vouchers which may be redeemed at any time. The most important aspect of the voucher principle is the 'local deal', i.e. the opportunity to receive reductions on products and services in places proximate to the user. As above, the Habitele project rests in large part upon understanding the mobile phone as a "universal terminal" for several key mechanisms (BOULLIER, 2011, p. 3), which are reflected in such software. We can pursue these mechanisms through the concepts of "affiliation", "accessibility", and "traceability", which this section will now explore in relation to the Vouchercloud application.

Affiliation

Understanding the concept of *affiliation* for this application comes down to three forms: (i) a triangle of affiliations between the user, the company offering the voucher, and the Vouchercloud software; (ii) a relationship between the user and the particular "locale" (whether 'real' or 'virtual') they are occupying at any given time; and (iii) that between users and non-users (with the potential to generate new users). Each affiliative format centres around a particular configuration of numerical metrics.

(i) The first form of affiliation begins with a pair of interrelated metrics which determines whether big companies — likely to be the early adopters of the application — will sign up to such a service. Large national outlets will only sign up to a service such as Vouchercloud if they have a reasonable expectation of profitable return from the increased numbers of visitors. To expect an increase that will offset the cost of signing up to the service, a large outlet must be of a sufficient size, a sufficient level of visibility, and have a sufficient number of people across the country who visit that outlet to make it worthwhile to boost their attendance (though they may also bring new attendees in via the app). Hence an initial issue for such companies is how many users there are of the application. Conversely, the most important part of this equation – the users – will only be motivated to sign up if there exists at least one outlet which they attend regularly enough to merit the effort of signing up to Vouchercloud. For each locality (and as we will see, the application rests on a formulation of multiple local-ities) within Vouchercloud, therefore, these dual, and mutually affirming, metrics are at work to "get the service started".

Once this takes place, another metric comes into play which affects the ability and willingness for individual outlets (or small chains) to sign up; being smaller means they may be unable to afford the initial costs, but once the number of signups in a particular *locality* exceeds a certain number, it may be profitable for them to join the service. In this sense, the 'local offers' are initially the consequence of national or global business, and only later do the 'local businesses' become involved. The social space of the Vouchercloud is thus constructed by significant amounts of localised data. Hannam, Sheller e Urry (2006, p. 11) point out that dynamic social spaces are increasingly composed of 'information flows', "[m]obilities research thus also includes movements of images and information on local, national and global media". The 'smart' or 'sentient' city is an assemblage of information, practices and people and the technologies that sustain these information practices are nodes and moorings in complex relationships, in this case between the user, Vouchercloud, and services of different 'sized' businesses.

Whilst national companies will naturally focus upon national metrics and local companies upon local ones, the relationship between national and local companies shows more complexity. As the above paragraph shows, the metrics for local companies are dependent on those generated by larger national companies. They will require sufficient engagement and interest from large companies to join Vouchercloud themselves — small companies or individual outlets are unlikely to be able to "take the risk" of offering vouchers across such a wide network without a network of sufficient size already in place. This network is ultimately dependent on the data gathered by users from their personal data ecosystems. In this way specific forms of local Vouchercloud services arise via the utilisation of user data. This forms a two-step progress; firstly "data generation" takes place on the individual mobile phones of users based on where they are, what vouchers they browse, and what vouchers they purchase and use. Secondly, this data is relayed to Vouchercloud so as to develop forms of locality without the express knowledge or understanding of those within that locality (although users are required to consent to this process to use the application).

Such processes result in a *recursive construction of the local* — the potential for local vouchers entices new users into the system, who generate data which is then used to adjust "the locale", which is then used as the basis of the software when other users join. This back-and-forth construction of "the local" is essential to Vouchercloud's success and must be done anew in each locality, even if the larger companies with which the process "begins" differ. A snowball effect is generated where the more actors there are contributing to the creation of one locality, the greater the number of actors (either individual users or small business users) will either be inclined to join or investigate the service or sign up themselves. In this way the service's proclamation of global reach and global applicability remains true, but only by generating an accumulation of smaller local versions of the service. The software in the Vouchercloud application thus works to organise and define location. It overlays the geographical space with 'code' and 'algorithms' in line with what has been called 'software sorted geographies' (GRAHAM, 2005) and turns the urban space into a performative space (CRANG; GRAHAM, 2007; GRAHAM; MARVIN, 2001).

(ii) The second form of affiliation is between the user and the "locale" that the software locates them within. Vouchercloud claims a national or global identity but as we have seen its software constructs a multiplicity of different localities. Each different area has its own locale within the software which users may move between, and the user's interaction with Vouchercloud and service companies is enabled only by the user associating with one of the software's many localities. However, the claim that 'deals' are tailored entirely to "the local" is equally false, for they are influenced by users, and users do not restrict themselves to a single locality. This is not because the data itself is global, but that rather the same pieces of data — those pertaining to individual users — circulate between multiple localities along with their users. Much as Law and Urry (2004) point us towards the 'enactment' of society, the broader realm of "society" is enacted in multiple localities by users who move between them. This fluidity of local identity is interesting to example due to the way Vouchercloud deals with it. On the one hand it is expected that users will move between localities — the application can be manually or automatically updated to change offers based on the user's location. However, this changing of locality means that the metrics of user data that make up each locality within the software are not limited to those truly "local" to the area. As well as those who are not "local" to an area but merely passing through, there will also be those who still consider themselves "local" or particularly connected to a specific city, but who are no longer geographically proximate.

This could take two different and opposite forms. There are people who become newly local to a city — for example, students moving to a city for university, and now wish to keep up to date with the city after returning or home, or when home during the holiday — or those who are temporarily local under certain conditions. These conditions might include those who commute to, or through, the city, or those with a partner in a city who they routinely stay with. On the other hand, there may be those who have lived within a city for a long period but have moved away to work elsewhere, but still consider the previous city to be their home, and may use offers when they return to their city temporarily. It could also include people passing through a city who wish to get a single meal.

All of these groups, although not "local" in the sense of maintaining geographical residence within the area, are included in Vouchercloud metrics.

These nuances point towards the potential for future work examining varying forms of "locality" beyond merely living in a city, or having familial connections to a city which are renewed during holidays, visits, etc, and how these "non-proximate locals" (as a description of groups of actors) interact with services and goods which are ostensibly local in nature. This kind of mobility allows users to switch between different social worlds created by the application, whilst simultaneously the temporary worlds created by the user's mobility are recorded on the application.

The fact that multiple localities can be accessed based on the user's geographical location makes the ability to use vouchers via such an application a "wearable" feature; it is physically attached to the user, travels with them, and becomes an interface between the user and the collected digital affiliations it gives access to. Lastly, a particular form of affiliation is created between users and non-users. Many of the savings Vouchercloud offers are either designed to be redeemed in groups — for example, restaurant offers — or are redeemed by an individual within an activity which is often performed by social groups, such as shopping. If a group of individuals uses a voucher one of them acquired, that implies all within the group may have had use for that same voucher; this group-usage of vouchers allows for the application to generate interest and gain new users.

Accessibility

At its root 'access' is the opportunity afforded by a material or nonmaterial set of a arrangements to link from one place or person to another. It has become a term applied to the development of technologies and architectures (such as web browsers, transportation, and the built environment) for people with impairments (see, for example, SIERKOWSKI, 2002; EVANS, 2005; CZAJA, 2006, respectively). In the habitele concept, access relates to the opportunity afforded an individual or company to interact with a large number of people, due to the ubiquity of smart phone use, digital data infrastructures (such as current 3G technologies), and single point software distribution services such as the apple 'app store'. Yet, it quickly becomes clear that just because a piece of software is easily accessible, doesn't mean that it is either downloaded or used.

We therefore need to understand how 'access' to something translates into the conduct of accessing and using. As STS points out technology use is deeply entrenched in social and historical matters through which a technology gains meaning and value (McLAUGHLIN et al., 1999). The concept of access for Vouchercloud is based upon its development as a service from prior notions of offers, paper vouchers and discounts. We might assume that the voucher application is a new innovation made possible by Information communication technologies (ICTs), yet it is interesting to note that the essential characteristics of the voucher application are to be seen in a social history of austerity. The idea of the paper coupon was created by Asa Candler, a partner in Coca Cola Ltd. In 1887, handing out handwritten coupons for free Coke (http://www.davisad.com/dont-fear-the-mobile-coupon/). This led to "clip out" coupons in newspapers and packaging which entitled users to a small percentage off future purchases, whilst also acting as enticements to try new products or services at reduced prices. The 1990s led to a growth in coupons that could be printed from the Internet and were therefore not limited in supply (though potentially still limited by time, where they could be redeemed, under what circumstances etc.).

The idea of an electronic "e-coupon" was registered in the United States in 2006 by Sprovieri and Malinis (2006), where they describe the possibility of attaining and utilising vouchers through "cell phones, PDAs, or any device with Internet capabilities" (SPROVIERI; MALINIS, 2006, p. 1) as well as PCs. The development of vouchers premised upon the inbuilt location-based facilities of the smart phone meant that rather than having to pre-plan the use of a voucher, a voucher can be *found* (in most cases) *whilst in a retail environment*. This lends a level of accessibility (for the user) to using vouchers that is unique to this form of software. This accessibility is further bolstered by the fact that a major part of the appeal of the smartphone voucher is the ability for it to be used in a number of geographical locations. They can be used by all within a certain country; for example, Vouchercloud operates within several other European nations as well as the United Kingdom.

The Vouchercloud application functions in such a way that it creates distinct local social worlds for each city, town or area, populates them with data from its users, then enables those users to switch between multiple social worlds whilst on the move (each of which the user will contribute to). This switching between virtual worlds based on physical location is not itself a new concept. For example, search engines will take you to the appropriate top-level domain name for the location of your IP address (.co, .uk, .com, .fr, etc.) and, whilst most search engines do not release the details of their specific search algorithms, the geographical differences that the search engines implements on the user's behalf are known to affect the outcome of search results. This is both in trivial ways, such as preferring search results in the user's language, and also in more subtle ways, where multiple countries sharing a language will generate varied search results. Similarly, mapping applications locate a person's current position, centre the map around this location, and there are a number of applications which 'geotag' a person's mobile phone (or other ICT) for various purposes, either to alert others to where the person is (in the 'find my phone' feature on the iPhone), or to allow the application to identify restaurants, parking and services that are close by. In this way phones with the capability to automatically update and adjust themselves based on a user's geographical location will also adjust the vouchers displayed during a voucher search if the user moves from one city to another. This means that as a person travels, a new "local" is chosen for them from the database of the phone or application, making "localism" a very mobile and fluid feature.

This crucially means that those who do not reside in a locality nevertheless influence the metrics governing that locality when visiting or merely passing through. The mobilities turn in sociology (HANNAM; SHELLER; URRY, 2006) and social geography understands the previously construed static urban spaces as a continually composed and and enacted phenomenon, and in this way ideas of consumption, cost and the boundaries of locality are changed via each new piece of data that is contributed to the ecosystem. The accessibility of vouchers is thus developed by two related aspects — the ability to move between localities and (in most cases) subsequently secure a voucher, and the ability to

secure the voucher when already present in the retail environment, rather than having to plan ahead.

Traceability

The concept of traceability is also crucial to examine. The software develops an algorithmic "personalisation" of the information broadcast to each user, a system based on the method by which the software acquires user data. Vouchercloud first requires the user to create a profile to access deals. This requires a postcode, email address, gender and date of birth, which are subsequently used in two distinct ways. Postcode information allows for the concept of locality to be connected to the individual user (although this is also done through geolocation, the idea of "home locality" may factor into the software's algorithms), whilst demographic data may similarly have a non-visible algorithmic impact on the deals and offers highlighted by Vouchercloud (in so far as they may target people of a particular age and/or income, etc.). Traceability is the engine of 'personalisation' for the application, which in turn is key to user retention. Knowing who prefers what kind of deal allows for sorting of deals and targeted advertising, but more it provides valuable metrics for the software providers to sell back to the retailers. This form of data doesn't even have to relate to 'outcomes' such as purchasing, but can be indicative data born of the browsing habits of each user (and by extension groups or categories of users). Knowing for example that people of a particular demographic tend to browse certain kinds of deal (those in their 30s looking at particular fashion brands for example) would allow for a marketing strategy tailored to converting browsers to buyers.

Secondly Vouchercloud requires access to the user's location, in that the user cannot use the application without acceding to this request. Geolocation is then used to identify deals in the user's proximity, a service that can only be achieved by limiting the user's privacy and sharing geolocated data. Importantly then the software knows where the person shops, eats etc. Browsing takes on a real world character, with latent or potential retails habits open to scrutiny. The application monitors individual taste and gathers details on both regularly-attended venues and the movement of the user,

opening up user data to be utilised by companies. In this way significant trace data builds up for both the application and the user. The application uses the data to develop and refine its metrics unseen to the user, and a user's purchase history may be easily tracked; for the user, on the other hand, they may develop profiles, favourites and a browsing history that can be used to readily access the samedeals again, find more deals of the same sort, or simply keep track of their actions within a certain locality via tracing the vouchers and offers used. Thus, taken as a whole Vouchercloud is an application, which generates a range of affiliations, enables high accessibility and generates multiple traces of action.

Case study two: St. Nicholas Fields

St. Nicholas Fields in York, in the United Kingdom, is a nature reserve and environment centre with a strong community and educational agenda. A former rubbish tip, the site now operates as a 24-acre green site uniquely located in the middle of a number of different residences: a traveller's camp, a housing estate with high levels of social deprivation, student residences and more upmarket apartments. At the centre of the nature reserve is a 'environment centre', which is staffed predominantly by volunteers from the city, but with a core of full time people, who maintain the grounds, operate a local recycling service, run tours and talks at the reserve, conduct educational programmes on environmentally sustainable living and host regular events for local residents and their children. The organisation has a strong online presence with an active Twitter feed, Facebook page and Tumblr page. The organisation's website contains static information pages, a blog, and page of videos. Each staff member and volunteer carries mobile phones and have individual staff email addresses. We can draw out particular features by characterising St. Nicholas Fields in terms of "affiliations", "accessibility", and "traceability".

Affiliation

The first term 'affiliation' has a particular resonance with SNF, and by extension other charitable organisations. The notion of various forms of association — as opposed to say 'users' or 'friends' — works well with an organization with a small organising cohort and a dynamic associate membership. Many of those interested in 'getting involved' are students and local people who do not make an ongoing commitment but instead form a dynamic flow of motivated individuals. Indeed, many of the activities of the group are built upon forms of fleeting contact and involvement, although the organization itself interacts with the global and the local in a very different manner. By developing a local source for environmental awareness, sustainable living, the reuse of land and community participation, the organisation is heavily focused on those who live in the geographical proximity of the centre and are interested in the area itself. This generates a form of *affiliation* that is very different to that of Vouchercloud. Where Vouchercloud is "loose" and contains multiple localities, those interested in St. Nicholas Fields are oriented to a notion o singular locality, a respect of and for the place they live. Unlike users of the Vouchercloud service, the St. Nicholas Fields network places no particular requirements on its users and lends itself to a more informal form of affiliation.

We can make a distinction between 'members' (both static and dynamic) and visitors. The latter are comprised of local individuals, groups of school children, and the like, who have a time-limited affiliation, perhaps on one occasion only. One central objective of the organisation is to 'convert' these single point affiliations into longer term relationships. Likewise the various 'outreach' activities of the organization, such as the collection of recyclable materials, is another form of dynamic affiliation. Currently this is limited to 2400 residential properties within the city. Benefiting from the recycling service entails knowledge (about what kinds of materials the service can deal with) and preparation (separation of the items by type, bagging, putting out on appropriate day). The idea is again that initial single point affiliations (and other forms of promotion) will lead to the ongoing affiliation of a client, and from there the development of a community client base.

The community identity and outreach is in good part accomplished, coordinated and sustained through the use of information communication

technologies. For example, the core members coordinate their own activities through the use of mobile phones, while the various social media used by the members (both core and peripheral) ensure a form of informational churn, a continual performance of loose affiliations. The various ICT facilities used by St. Nicholas Fields have their own forms of affiliation in terms of hyperlinks, "friending" (on Facebook etc.), and forwarding (e.g. "retweets"). An email facility, for example, provides a means to record and qualify 'interest' (or even 'memberships'), and each of the other formats provide means to form various metrics.

There are higher levels of affiliation that are relevant to St. Nicholas Fields. The network of ecological activist has various levels, from the affiliations between ecology groups at a city and county level, to looser but more formal associations with national bodies and organisations. St. Nicholas Fields has been awarded various prizes for the services they run. They have been awarded, for example, the 'green flag' award for environmental responsible (http://greenflag.keepbritaintidy.org.) business four times. This 'recognition' becomes part of the story told about the success of the service (see below) for the national, and international audience afforded by the organisation's web site, and uses of social media.One important aspect to stress here is the relationship of the local network to global discourses of environmentalism and groups similar to St. Nicholas Fields' network across the globe. While the focus is on the activities and relationships at a local level these contribute in a very real way to the global ecological movement, which - it could be argued - is merely the conglomeration of a multitude of local groups' activities. In this way the 'local' and the 'global' are of similar scale. As Latour (2005, p. 177) says: "the macro is neither 'above' nor 'below' the interactions, but *added* to them as *another* of their connections, feeding them and feeding off them. There is no other known way *to achieve changes in relative scale*". Any sense or notion of the global is a consequence of following the traces of and transformation in networks of relationships.

By its very nature, global environmentalism and sustainability are closely related to local initiatives (HESS, 2008) and many emphasise a tension between wishes of local regions or citizens and policies of states or transnational organisations (ALBO, 2007).

Nevertheless, the connectivity of local initiatives generates their own global narratives and social life cannot be understood solely in local terms (KOFMAN; YOUNGS, 1996). This connection between wider narratives and the specifics of the local group are important to example in relation to the Habitele theory. The social group interested in St. Nicholas Fields is one connected by their geography, a strong contrast to the quotidian discourse of *mobile* and internet technologies that stress the "end of geography" and the increasing irrelevance of geographical ties to one's social network. One potentially interesting avenue for further research is whether you could call such networks geolocalization of a different sort – rather than one "master" network, the *user* instead performatively generates aspects of the local network which in turn ties into wider and broader discourses, whether intended or otherwise. Whilst there exists a "global environment of digital identities", as the Habitele study notes (BOULLIER 2011), groups such as this are specifically tying their digital identities (at least to a certain extent) to their local area rather than the global equivalents of the same campaigns and rhetoric.

Accessibility

If we turn our attention to the issue of 'accessibility' we quickly start to build a picture that contrasts with the Vouchercloud case study. The centre is, at least in theory, accessible by anyone. In practice it is those in the proximate urban households and perhaps the member of the local university who access the centre directly by visiting or indirectly through the outreach programme and events. Indeed, given the enormous amount of information on the internet, it is unsurprising that the majority of the readers of the website are people who have been drawn to it through physical contact and word of mouth. Open access of the website in many sense is besides the point; it functions for those 'in the know', and through lines of communication that extend beyond individual participants. For example, St. Nicholas Fields benefits from the attentions and interests of the student body who provide a motivated, if transient, dynamic membership and audience for the activities of the centre. The use of various forms of social media connects with this cohort, either at an individual level in through other

activist university societies. But the simple fact of a set of relationships between student organisations and the nature reserve, the environment centre and the environment department, means that 'access' has institutional structuring.

Traceability

The forms of traceability extend across the offline and online domains with various forms of trackable connectivity. For example, as we have seen the online the centre has a flourishing emails list membership who receive monthly newsletters and the utilised social media are comprised of various traces (of 'friending' or retweeting). Offline the traces are more informal, however. There are mechanisms in place (a visitor book, various ticketing mechanisms, and the like) but the lack of accountable tie in is part of the appeal of the voluntary community group. People can 'drop in' without invitation and can take part without record.At the same time of course, the gross presence of the centre within a city means for users of the centre, the perceptual link with, and hence traceability of the organisation is unquestionable.There is also another more powerful way that the organisation has a presence in the community and that is through the various contingent stories it tells itself and those who will listen (or more particular 'read'). The web site for St. Nicholas Fields contains a page dedicated to telling the history of the nature reserve and Environment Centre:

> The earliest records of St. Nicholas Fields come from the 12th century when the land was leased to the nearby hospital of St. Nicholas. The hospital was founded in the reign of Henry I to accommodate up to forty patients, mostly suffering from leprosy. At this time the Fields were meadows, surrounded by remnants of ancient woodland. The monks of St. Nicholas Hospital probably grazed cows here to supply their community with milk and they owned a windmill which stood near the present day entrance to Tang Hall Lane (ST. NICHOLAS FIELDS, 20--).

This history tracks the uses of the area and its role as grazing land and in relation to the local church's role in battles in the English Civil War. Stone used

for various buildings — including the church — was reused on other construction works in the City. More recent elements include the site's transition from a place of building clay production to a rubbish tip, with the holes left behind from the excavation of the clay used to store domestic waste. In the 1970s onwards the refuse site fell into disuse (after a local campaign to have it shut down), later becoming the focus of regeneration, and then finally a protected site of natural beauty. The formation of the 'friends of St. Nicholas Fields' was one foundation stone for these developments. In addition to this geographical and archeological history, the web site contains the biography of a one particular 'friend' of the site and a local environmental activist, John Lally. On the occasion of his death, the group decided to plant a wood in his honour (and named after him). A locally made video documentary details the development of the wood, connecting the activities to the personality and wishes of the activist. This allows for a development narrative of the site and the organisation that has a 'human face'. The identity of the centre is then closely aligned with the identity of its membership. In addition to these efforts to invest the centre and site with a past, the environment centre hosts education programmes that look to the future. By creating programmes for school children, the centre aims to influence future opinion and practices.

These retrospective and prospective elements of the nature reserve and environment centre while shared informally by word of mouth amongst the membership, is materialised and written down on the web site. The technology becomes a means to form and present a text, which in turn becomes the official story of the organisation. As we can see affiliation, accessibility and traceability work in a more informal manner in this case study than in the previous case study. Indeed, as we will see in a moment it is through forms of informal localism that they function.

Discussion: performing new localisms

Our discussion of the two case studies have spoken to a series of issues and ideas, which we will now develop by bringing together the two examples. In so doing we will move from a notion of local identity as something inherent in social geographical

spacing, to one that sees identity as the outcome of human and nonhuman agency and socio-technical practice. Such concerns are premised upon a particular understanding and formulation of the local and the global.

While traditional sociological approaches begin with society — in this case, the idea of the local — and attempt to explain its makeup, STS, and especially those aspects oriented to actor-network theory (ANT), aims to trace the connections, associations and components which collectively give rise to these phenomena. ANT is aimed at both technological or social determinism and reductionism (RADDER, 1992) and argues that our mental connections of 'social' and 'non-social' must be regularly rearranged in light of new phenomena (LATOUR, 2005, p. 6). Actor-Network Theory thus rejects the distinction in the social sciences between the 'micro' and the 'macro' of social life (what precisely ANT means by 'social life' will be further explored in the next subsection). It shuns the default explanatory power of the "context" (ASDAL, 2012); while old sociological approaches began with society and attempted to explain its makeup, ANT instead aims to trace the connections, associations and components which collectively give rise to what we traditionally designate as "society". Nor does it consider technological factors to be the most crucial, and around which social factors must fit themselves (LEE; BROWN, 1994). Where existing notions of new localism stress pre-existing localities and specific forms of the social, we instead draw upon ANT to explore the construction of these ideas of the local. Further, understanding of "the local" is an important topic for STS and social science more generally to address — Radder (1992) argues the term "local" has become the most "unclear and abused notions" in STS, and the question of "how 'local' is local?" — and how the local is constructed — must be answered before anything can be done with it.

For ANT, scale or locality in ANT is not automatically given to abstract concepts. A railroad may be local at all points, but a global reach is attained because it can shift one around the world; it forms "continuous paths" to lead from local to global, but only when each local component is 'paid' for. The trait of being "global" is not inherent but only achieved from the length of the network and the number of local components (LATOUR, 1993, p. 117). In the same way the ability to use Vouchercloud across the entire country is only possible due to the number of algorithmic localities it contains, and similarly global ecological and sustainable living movements are constructed from a multitude of sights and projects akin to St. Nicholas Fields. As part of a programme of questioning commonly held dichotomies (especially dichotomies of scale), Latour (2005) thus argues for a 'flat' appreciation of the local and the global. While simultaneously denying the primacy of either local interactions or global structures, he advocates the form of analysis we follow in this paper - one that traces the necessary networks of associations and transformations that make possible any idea of the micro and the macro. "Scale is the actor's own achievement" (LATOUR, 1993, p. 185) and any component in a network may be of any size (CALLON; LAW; RIP, 1986, p. 224).

Any sense or notion of the global is a consequence of following the traces of and transformation in networks of relationships. As an aside, Latour advocates a focus on "deliberate erasure" of the macro, at points where the global is being "painted over" as a means to identify and track those traces, "try, as an exercise, to locate places, the theaters (sic), the stages where globalisation is being painted over. You will soon realise that, in spite off so much 'globalonney', globalisation circulates along minuscule rails resulting in some glorified form of provincialism" (LATOUR, 2005, p. 190). In short, he advocates inquiry that looks to see how the global is assembled by targeting those instances where the local is a priority. Our two case studies exemplify this in distinct ways.

Each of the case studies proclaims itself as adhering to a particular side of a global/local dichotomy, whilst constructing the opposite. Vouchercloud stresses its ubiquity and national/European applicability, but can only achieve this by developing a large number of local networks and taking advantage of the personal data provided by the *individual* digital envelopes of each citizen in each locality. By contrast, St. Nicholas Fields is a predominantly local initiative, but one that contributes to international rhetorics of environmentalism and sustainability. Both combined exhibit the dynamics of a 'fluid' and 'mobile' production and performance of locality, that crucially involve an opportunity for 'local-at-a-distance' or what we would call the 'distal-local'.

The more "successful" such an application becomes, the greater the number of localities it serves and thus it becomes increasingly localised and specialised to each region. In this way the more "global" Vouchercloud's reach becomes, the more "local" it will become — which is to say, the number of different locals the service can provide will only increase. Local companies use a global service to promote their business, whilst the user accesses a global service for local deals, generating a specific kind of "glocalisation" (BECK, 2002). The global/local dichotomy is undermined and the service demonstrates its dependence upon discourses of both the global and the local. However, whilst Vouchercloud is made up of multiple localities (which form something akin to a "global" database of information), the users themselves *contribute* their data to multiple localities due to a function of many modern phones and personal devices which change their settings according to your physical location.

Tracing the local

Both case studies contain multiple localities, though in different ways and with different orientations with respect to the user. Vouchercloud contains a number of different localities, tailored to cities or other geographical reasons. These are each distinct (though the companies extant in one locality may be in another) and all combine within Vouchercloud as a single unified application. By contrast, the multiple localities in St. Nicholas Fields are harder to identify, but nevertheless present. Although the website itself only refers directly to a single geographical region within York, many aspects connect to other localities. Awards on the website implicitly reference other similar projects - each likely to define itself as explicitly "local" — whilst the project is connected to global discourses of ecology and sustainability, both of which stress "the local". The 'becoming local' of the fluid and dynamic voluntary member — including students who adopt the city as their new home — is a continual process, with each person 're-finding' their own localness.

As we have seen, both case studies relate to many localities, that is, 'multiple locals'. Vouchercloud does this more overtly by allowing the user to switch between multiple algorithmically-generated

localities as a setting in the software, whilst the St. Nicholas Field is connected to a number of other similar groups via political networks, the allocation of awards, and the wider political discourse to which they contribute. These localities are not inherent properties of the physical, geographical locations described and to which they are assigned. They are rather constructed — Vouchercloud generates them according to metrics and user data, whilst St. Nicholas Fields creates an understanding of the area related to its history and the biographies of those who contribute towards it.

The form of "new localism" imagined here is a kind of localism that is not fixed to specific localities. It is one which moves from an interpretation of locality as tied to geographical location towards one which stresses the work of agency in creating localities which are *fluid*, *mobile*, potentially *distal* from those "connected" to it, and one where users of the locality are highly mobile. Locality is a form of 'work' done agentially by actors and actants within networks: users and companies, activists and supporters, softwares and algorithms. Such an understanding in turns sheds new light upon the Habitele framework and the importance of the personal digital envelope to understanding notions of "new localism".

Human and nonhuman construction of the local

Latour (2005, p. 10) points out that non-humans are nevertheless "actors, and not simply the hapless bearers of symbolic projection". The non-human algorithms at play have significant influence on definitions of locality — which is to say, where one locality "ends" and the next begins — and also on the vouchers and offers presented and featured for each user. The data the algorithms use is in turn generated by human agency, by users downloading the application, signing up, and generating data, thus showing the recursive nature of agency for Vouchercloud. The algorithm influences user actions, and the user actions feed back into the algorithm (BEER, 2009).

By contrast, the role of agency in St. Nicholas Fields is not concerned with a recursive algorithmic construction of the local, but rather by a recursive construction of social, historical, geographical and political *meaning*. The relevance of this kind of site and the actions performed on the site are given meaning

by connecting them to concepts of ecology and sustainability, each of which comes with a specific set of expectations and — most importantly — is clearly tied to the local. Ideas of local action and local projects are key to both of these movements. In addition to defining the site by relevance to the local, it is also understood within a context which itself stresses the crucial role played by locality. Our case studies are presented therefore in a way that conveys their narrative potential and 'promissory' qualities — they are 'on the move'. In this sense the local and the global are not containers or contexts but discursive resources for getting stuff done — whether that be buying products or engaging with ecological politics.

In both case studies, then, 'the local' is not an essential quality of geographical space (although, such 'realities' becomes a software resource for a discourse of location) but is instead a socio-technical construct. This releases it from claims of inauthenticity, and enables its pursuit as an artefact of culturally relationality. No longer is the term grounded in consensus, nor indeed composed of a consistent and calibrated set of components, but is instead free floating, a marker of identity elevated to the status of identity. Far from an empty sign, it travels and is continually repurposed. Any future understanding of the local should be premised upon the dynamic configurational nature of technologies and organisations. That is to say, it should not be concerned to convey a static picture, but more a kinetoscopic appreciation of relational change. Localism in this sense is an incipient but achieved outcome of techno-human relations.

Conclusion

This brings us full circle back to the centrality of the Habitele framework. Our analysis of these two case studies has shown that far from being stationary and unchanged, connected to single geographical locations and relevant only to those that are geographically proximate, locals are rather fluid, mobile and distal. They are fluid because they are the result of work done by involved and invested actors, not of spontaneous generation nor an inherent property of geographical place, and they are in constant flux due to recursive algorithms or the gradual and iterative creation of political and social meaning. They are mobile because they are tethered to individuals and the electronic

devices individuals take with them; in some cases this is not just due to increased access to "the local", but also by contributing to the construction of the local as in the case of Vouchercloud. They are potentially distal because geographical proximity is no longer a prerequisite for connecting with a given locality; electronic devices both enable us to move between localities by adjusting our physical place, but also by letting us connect to locales which are potentially distant from the one in which we physically find ourselves. These three understandings are tied crucially to understanding the capabilities of the personal digital envelope, and the ways in which it allows users to respond to, and help construct, multiple localities.

Reflecting back on the Habitele model, the concept of new localism speaks to the processes underlying the various hypotheses. In that, for example, 'Habitele is a personal globalization process' it is accomplished through a form performative instantiation of the distinctions between the global and the local. The contrast between the 'personal' and the 'global' in the hypothesis speaks to the potential for the individual-as-global, the motility of the individual person acting through the 'digital envelope'. In this way the user may use the digital envelope to connect to distant localities, allowing the individual to attain a type of global connection previously unknown. The existence of these distant localities is one aspect of the notion, in Habitele Hypothesis 2, of "separate social worlds". As we have seen the concept of new localism and multiple locals allows for distinctive places, formed from the affordances of the digital envelope (despite its fluid and mobile character), resulting in 'distal-locals', the construction of locality at a distance.

Considering other Habitele hypotheses, it is in the 'specific and shared regime of attention' that we find the recursive constructive algorithm of Vouchercloud and the meaning-making identity work of St. Nicholas Fields. Indeed, without this shared illusion of collective longing for the local neither would survive. In a strange way it is easier to perceive the digital interface as entrance to this shared attention, but it is no less present in the concerted efforts to carve out an archaeological and biographical history for the centre, as seen in the contents of the centre's web pages. Finally the hypothesis that habitele — the personal digital envelope — is a 'new mode of privacy as shared' works well in terms of the metricisation

of human action and interest. What were once individual moments of thrift and saving, are now a necessarily public and shared endeavour. This is only made possible by the tracing and quantification of user activity made possibly by the traces of data users leave within the system. Without this collective character Vouchercloud would not exist (due to the necessary recursive nature of the business model). Equally, St. Nicholas Fields could not become a node in the national and interaction ecology movement without a level of "openness" to the global despite its emphasis on the specific geographical locality to which it pertains. In these ways the two concepts stated at the opening of this paper become clear — the ways in which connectivity, movement and fluid identities are essential to understanding forms of new localism, and the ways in which local identity, far from being an inherent or unchanging aspect of geography, is rather constructed via agency, practice, and the metricisation of human actions.

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