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Of Coffee Shops and Parking Lots: Considering Matters of *Space* and *Place* in the Use of Public Wi-Fi

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Abstract. Wireless local area networks – or Wi-Fi networks – are proliferating in some societies. Our interest in this exploratory essay is to illustrate how ostensibly free, publicly-accessible Wi-Fi requires users to apply conventional understandings of space and place (particularly commercial spaces and places) as they make sense of some ambiguities about proper use in those places. We show, through an examination of the metaphorical terms used to describe Wi-Fi, how spatial notions are employed in an attempt to define *ownership* of the signal and rights to its use. We consider how place-behaviors require evaluation of *legitimacy* of users in public places and of *hospitality* of Wi-Fi providers. We observe that commercial interests underpin notions of ownership, legitimacy and hospitality of social actors in public places like coffee shops and parking lots. As researchers considering matters of participation in virtual places, we must first have some appreciation for the normative constraints and conventions that govern the commercial public places in which users access "free" Wi-Fi.

Key words: Wi-Fi, wireless, space, place, information access, internet access

1. Introduction

Wi-Fi, the popular term for a wireless local area network, is enabling people to get on-line from more locations than they could connect from just a couple of years ago. In addition to the kinds of digitally supported interactions we have become accustomed to – email, instant messaging, voice over IP, shared calendaring, e-commerce and so on – the growing presence of Wi-Fi in public places is creating opportunities for new forms of digital interaction. A person can sit in a cozy downtown wired coffee shop while coordinating with a far-away colleague by email. Perhaps later he will use a social-networking application to find a new acquaintance among the co-located strangers who surround him.

The opportunities to collaborate, coordinate and communicate are continuing to grow. At their root, the innovations that support these kinds of interactions create new places and spaces that might have both physical and virtual

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dimensions. Drawing on the theories and practices of sociology, psychology, geography, architecture, and so on helps us innovate and study these new technologically supported spaces and places.

But what of the very basic matter of access in this increasingly connected world? Considering matters of access has been an important thread in the information science literature (Keniston 2004; Kling 1998; Norris 2001). Our work builds on that tradition while considering new issues that conceptualizations of space and place help us understand. Getting online has never been easier, but this increasing ease has not been met with scholarly attention to how users wrestle with fundamental conceptualizations of space and place, and how those are changing in the presence of Wi-Fi signal. The very opportunity for digitally supported interactions, be they familiar (email) or newly minted (mobile social-networking applications), raises critical questions about how we conceptualize and operate within place and space, although these conceptualizations are hard to get a lock on because they are rooted so deeply in our Western culture and ways of thinking.

2. Analytical interest

Our analytical interest in this paper is at the point of access or digital connection – of simply "getting online" – and the nature of the complex interactions that reside there, particularly when the point of access is located in and associated with a commercial public place. We propose that although shifting from implied notions of space to explicit notions of place is often helpful in our design and analysis of collaboration and communication technologies (Harrison and Dourish 1996), in everyday practice, users must combine notions of place and space when making use of Wi-Fi in public places. We focus particularly on how the proliferation of Wi-Fi has created situations in which users frequently confront issues related to the ownership of Wi-Fi service provided in a public space and of their own legitimacy as users in that place. To that end, we first invoke spatial notions inherent in the metaphorical terms used to describe Wi-Fi (clouds, blankets, hotzones) that are problematic to users as they seek to define for themselves and accommodate the rights of Wi-Fi owners and the obligations of those who use the services they provide. Then, we show how notions of place and appropriate place-behaviors contribute to ascription (or non-ascription) of legitimacy to users. We hope to show that notions both of space and of place are invoked by users to untangle ethical problems of fair usage of Wi-Fi in public places – which, although it appears to be free of charge, actually does not escape the consumerist, capitalist environment into which it has been introduced.

We would like to note that this exploratory essay is Goffmanesque in its emphasis on norms rather than laws and regulations. This emphasis seems to us to be justified in that at this point laws and regulations concerning fair use of Wi-Fi are few and mostly ad hoc. Crucially, what laws exist may not be generally familiar to the Wi-Fi-using public, so users are left to decide ethical issues of fair use with little to rely on

besides normative understandings. The kind of exploration that we have undertaken would seem to be an essential preliminary to the development and codification of any future regulation of Wi-Fi in commercial public places.

3. The implications of the proliferation of Wi-Fi in public places

Wi-Fi is becoming available in a growing number of public places in many parts of the world. In the last 4 years in the USA especially, free and for-fee Wi-Fi access has proliferated in public places like shopping areas and community centers, some parks, but most notably coffee shops (which themselves have wildly proliferated in the last decade or two). Even just a few years ago, the lone laptop user in a coffee shop would have to have been working offline (perhaps delighted to escape the pinging of email to focus deeply on some writing). Now, in US cities, more coffee shops than not provide some form of Wi-Fi access. Step into a coffee shop and it is not unusual to see half the tables or more with laptops flipped open on them, power cables snaking across the floor. Regulars know where to sit, often clustering around the few electrical outlets available in the room, as if huddling around a fire trying to keep warm, or in this case, fully charged. (The space, after all, was designed before the availability of Wi-Fi and the need to keep laptop batteries adequately charged.) The wired coffee shop is the domain not only of students but also of mobile workers, of people who often work at home looking for a change of scenery, and of corporate workers in between meetings or wanting to escape hallway interruptions. It is no longer unusual to hear accounts of people running private internet-based businesses out of coffee shops, buying drinks and food throughout the day in lieu of rent (e.g., Kahney 2005).

In this paper, we begin our exploration of the ways we think of and interact with Wi-Fi in public places by considering the metaphors that are often invoked in popular articles to describe what, for the time being, is a novel and amorphous thing. Like the expansive growth of mobile phone use in the last decade, the proliferation of Wi-Fi in some societies[1] raises questions about how social order, particularly in matters of ownership and commerce, is maintained as new technologically abetted social behaviors appear. How do we think about the relationship between the owner of the coffee shop/Wi-Fi space and the coffee shop patron/Wi-Fi user?

Wi-Fi challenges us to reconsider spatial awareness and existence in spaces where Wi-Fi is available. There are various ways in which we delineate space, some with physical boundaries but many others through lived experience. Space and its expanse are experienced physically, emotionally, psychologically, culturally, and architecturally (Tuan 1977). Architecturally, we are comfortable with the obvious boundaries that walls provide, as they help delineate the space and suggest what it is we are meant to do in that space – activities that give that space meaning. Although we experience and sense space and spaciousness in a variety of ways and through multiple modalities (through sight, sound, smell and skin sensation – think a bright sunny room with warm rays streaming through a window), we tend to talk about space in terms of the built environment. Place, on the other hand, as Tuan tells us, is an "organized world of meaning" (p. 179) usually – but not necessarily – associated with space. Place can be experienced as moments in time, and in relationships to people or even things such as music or art, as well (Tuan 1977). Places can also be virtual, where interaction with others is represented digitally in some form (Harrison and Dourish 1996).

The goal of our exploration here is to contribute, albeit modestly, to our collective understanding of what it means to operate in space and place in the presence of increasingly ubiquitous information and communication technologies. Wi-Fi challenges us to reconsider space and place theoretically and practically because it offers another layer for possible interaction in spaces, yet its boundaries are not well-articulated. In fact, the reach of Wi-Fi varies,

[1] We note that this phenomenon is not happening everywhere. We consider our own current countries of residence. In Denmark, which has enjoyed early and widespread use of mobile phones and other handheld computational devices well in advance of the USA, use of laptops in public places is almost never seen, never mind camping out for hours at a time in downtown coffee shops with one. Dining out is much more expensive in Denmark than in the USA, and it would be unrealistic for most to pay for coffee all day long for the privilege of sitting in a coffee shop where the shopkeeper needs to have adequate turnover to cover her high cost of rent. In Malaysia, Wi-Fi seems to appear only in the coffee shops of wired high-end hotels and in "imported" US coffee shop chains that regularly offer Wi-Fi in the USA (and which charge US prices for their coffees, effectively excluding anyone who balks at paying for a cup of coffee an amount that would feed meals to the entire family in local eateries). These cultural examples highlight some of the essentially commercial/economic matters of Wi-Fi access that we propose to unpack in this paper.

determined by signal strength, which itself is subject to climatic and environmental conditions. Unlike architectural space, Wi-Fi boundaries are not visible, as they exist in the airwaves. Wi-Fi signals can be sensed with certain software applications, but they cannot be sensed with bodily sensations. Like the wind that makes itself visible through its effects on objects on which it blows, Wi-Fi's presence can be sensed only by seeing its effects in that space where Wi-Fi is available. We do know something is different about a space, after all, when a bevy of laptops are flipped open at the coffee shop we've just entered.

In the presence of Wi-Fi, we argue, the way we sense the placeness of a space requires additional calculation. Because the boundaries of the Wi-Fi region are not well-articulated, the scope of the space is not easily graspable. The problem lies in not being able to use conventional ways of discerning space and place. Does the space of the wired coffee shop (and the extent of the owner's rights) end at the walls of the shop, or at the furthestmost reaches of the signal? Do the social expectations of what should appropriately be done in a coffee shop – buy a cup of coffee, especially when the customer is going to use free wireless service – extend to the walls, or to the parking lot, or to the edges of the signal? How (if at all) is the Wi-Fi user to interact with the signal beyond the bounds of the physical space of the coffee shop? Does the nature of Wi-Fi create a place whose boundaries do not coincide with the place of the coffee shop? Does Wi-Fi create a place whose behavioral expectations of the people there are not the same as those of the coffee shop where it originates? And if so, what are the rights of the owner of the Wi-Fi signal beyond the spatial boundaries of the coffee shop?

4. Emerging conceptual referents

As a launching point for revealing some central assumptions about what Wi-Fi is and what it does in a society, we first consider the language that is being used to explain the Wi-Fi phenomenon and its reach. We consider the way it is made to fit in the social order of commerce, the omnipresent but usually taken-for-granted context for Wi-Fi use in public places.

We begin by noting a perhaps curious absence in our treatment: the analogy of Wi-Fi to water. Attempts to formulate laws regulating Wi-Fi rely considerably on thinking of Wi-Fi like water: a resource needed by the public whose rights have to be considered in determining the legal rights of the owner of the source. From a legal point of view, this is a powerful metaphor, but we would like to propose that our everyday understandings of Wi-Fi rely little on this metaphor. While water is tangible and containable and its supply finite, Wi-Fi signals are intangible and resistant to containment, and generally users are not aware of there being less signal as more people use it. (If the signal could easily disappear when many people are using it, it would hardly be a very useful lure to customers for coffee shops whose commercial success depends so much on having many

customers.) Therefore, we limit our discussion to the kinds of concepts that seem to guide users as they make everyday decisions about fair use of public Wi-Fi: Wi-Fi as *cloud*, *blanket* or *hotzone*.

Consider these examples drawn from reports (Sutherland 2003) of municipal installations of free Wi-Fi networks:

> Wi-Fi Clouds Over New York City," reads one headline. New York City intends to "blanket" all 843 acres of Central Park with free wireless service.

> The city of Long Beach, California, hopes to spur on urban renewal and economic growth by creating a hotzone along a central downtown street.

These examples suggest that Wi-Fi, layered on top of physical spaces and the experientially created places loosely associated with them, is provided with the intention to transform the kinds of place-activities in space (including an expansion of the categories of people who will typically be found in that space). Under a cloud of Wi-Fi, Central Park becomes a space where a new and unfamiliar set of park-appropriate activities can now take place (with the expectation that those new activities will eventually be assimilated into our everyday notions of what constitutes park-appropriate activities). Retailers on a downtown street are now represented on the Wi-Fi plane through location-aware applications on handheld PDAs indicating that only a few steps away you will find them—and they are the best place to buy this season's trendiest clothes. Wi-Fi changes the kind of place-behaviors that can happen in particular spaces that lie in its shadow. Not only is the coffee shop now a space where workplace activities can occur, the coffee shop's parking lot ten spaces down is, too, although the 11th parking space may not be, depending on the effects of weather conditions on the Wi-Fi "cloud," whether one's window is rolled down, and so on. The boundaries of Wi-Fi are shifting and uncertain.

Other features emerge from an examination of terms like clouds, blankets, and hotzones and that have been appropriated from other domains – meteorology, bedding and epidemiology, respectively – to describe this new plane of interactivity. Clouds are nebulous and barely substantial. They shift and change shape with changing weather, but are substantial enough to cast cooling shadows on the geographic surface below. Clouds, then, cannot be pinned down or measured, but their effects can be.

Blankets spread generously, usually meeting and often surpassing (to our pleasure) the bounds of the surface they cover. A blanket provides a thorough covering – and often then some.

Wi-Fi hotzones, like their viral counterparts, arise when a powerful substance arises in and radiates from an origin. Like clouds, hotzones have boundaries that are nebulous and uncertain. In a viral hotzone, everyone, sick or not, is dramatically affected by the spread of the virus. Similarly, everyone in the Wi-Fi

hotzone, connected or not, is subject, in one way or another, to the effects of the Wi-Fi substance on that place (for example, if the power outlet just happens to be in the sunniest corner or the corner "claimed" by a group that meets there regularly). The term, hotzones, then, conceptually describes an area of effect, whether desirable or otherwise, on all within that area.

5. Notions of space and ownership

Each of these terms – clouds, hotzones, blankets – contributes a particular sense of the nature of Wi-Fi as a new dimension of space. Some contribute a notion of layering of something quite insubstantial on top of some physical surface, with only a loose mapping to the covered physical area but with undeniable effects. Others contribute a notion of spreading from a focal point, a spreading bounded only by limitations of the strength of the source and how freely it radiates.

The notion of ownership is usually associated with the boundedness of an entity in space. Boundary disputes arise because ownership of real property, for example, is only meaningful when there are definable boundaries between what belongs to one person and what belongs to another. This uncertain, unpredictable, unconfinable space of the Wi-Fi signal has no clear boundaries and therefore is not very amenable to ownership as conventionally determined by measuring and delineating space. However, the defined boundaries of the ownable spaces in which the signal originates and the ownability of the sources from which it spreads do encourage thinking of the Wi-Fi signal as something ownable and owned. It is this poor mapping of nebulous signal area to a bounded coffee shop, for example, that gives rise to situations that are ethically and/or legally perplexing to the user. Consider, for example, this scenario that we have constructed from multiple anecdotal reports:

> A mobile worker in the US dashes from one appointment to the next, with no time to return to the office to send off what she feels is an urgent email message to a client. Knowing that many coffee shops do not secure their Wi-Fi networks, she drives to a nearby coffee shop with an ample parking lot, almost assured that she'll find an open connection there. She pulls into a parking spot, and, keeping her car at an idle, opens her laptop, looks for a wireless signal, connects, and sends off the email message. She takes the opportunity, too, of course, to check her incoming email because, well, why not? It will only take a moment, and as long as she is connected...

This example shows how Wi-Fi connectivity creates new opportunities for interaction with some people and deliberate non-interaction with others. Through connectivity, the mobile worker may be seeking interaction with the email recipient, but it is doubtful that she is seeking interaction with the owner of the hub. Indeed, her presence and activity in the overflow of someone else's wireless

blanket almost certainly need to be covert, just in case someone with authority (e.g., the hub owner, a parking lot guard) might consider her use of the signal a trespass into the wireless (and the parking) space. It is true that the wireless space does not have fixed or dependable boundaries that are typically required for claims and rights of ownership. However, because Wi-Fi has a hub that can be situated in space and time and is clearly ownable (someone has a receipt for the hub equipment and internet access), it is reasonable to assume that the owner of the source is also the owner (or a legal occupant) of the space that the signal covers, but what of the part of the signal area that extends beyond the bounds of the owned property?

When Wi-Fi extends beyond the spatial bounds of walls, then, how are we to interact with it in those overflow spaces? To begin, we have some awareness of the signal area as something that is not ours, of something owned, like property. Our mobile worker may feel perfectly free to park in the public parking lot, the physical space in the overhang of the signal blanket. After all, according to conventional understandings of place-behaviors in parking lots, these lots have been designed to be freely used by anyone with a legitimate reason to be there. However, she may be a little uneasy about her right to be in that spot using the overflow Wi-Fi signal, even though it may be entirely unclear from whom she could seek permission, and even though it is unlikely that anyone would challenge her legitimacy as a guest. What we would like to point out here is how intimately our mobile worker's understandings of space-based ownership rights and place-based expectations of appropriate behavior and legitimacy are entwined in her experience of using the Wi-Fi signal.

Hanging out on the edges of a signal area that is not explicitly advertised as free may feel to her a bit like loitering near the candy stands at the front of a store. On the other hand, maybe it feels more benign than that, more like navigating a dark street by the lights shining from porches along the route. After all, taking advantage of the light radiating from porch lights (and, by analogy, of Wi-Fi signal radiating from an uncontrolled hub) does not take anything away from the owner. The light will still guide home those whose steps it has been left on to guide, and the Wi-Fi signal will still serve its owner well – in both cases, the passerby usually makes only momentary and unnoticeable use of what in any case was excess energy.

Whatever reasoning our mobile worker can invoke to question or justify her brief incursion on the Wi-Fi space of another, the point we are making is that from our awareness of physical space as subject to ownership, we understand the ownability of Wi-Fi. A signal area exists only because someone has invested money in equipment and service provision – that is, in paying for the source of the signal, without which the signal space would not exist, the Wi-Fi hub owner has paid for the signal area created and defined by the source of the Wi-Fi signal and therefore could be considered the owner of the signal area, with all the rights of ownership, including the right to define and defend against (or waive the right

to defend against) trespass. In other words, the owner of the Wi-Fi source has some rights to the area affected by the source – but do those rights constitute ownership? What would it take for our mobile worker to be guilty of trespass? Or conversely, what would it take for our mobile worker to be considered a legitimate user of the signal?[2]

From our awareness of the inability of physical space to limit the spreading of such insubstantial things as vaporous clouds, we can begin to understand the ambiguity to claims to rights of particular users within the signal's shifting boundaries. For example, just as the flimsy edges of a cloud still belong to the cloud, the edges of a signal in the Wi-Fi area still belong to the area defined by the reach of the signal. As the signal radiates from its axis point, it may become attenuated, but even the attenuated signal still traces its existence to that axis point and therefore still owes its existence to and hence belongs to its source and, by implication, to the owner of the source. On the other hand, the owner of the signal source would not claim to own all the physical space that lies within the shadow of the area defined by that signal source. Owning signal space, then, is not equivalent to owning the physical space through which it extends; what is not clear is how ownership rights are affected by this discrepancy.

6. Notions of place and legitimacy

As space-based notions lead us to consider ownership and owner's rights, it is our awareness of place-based norms that leads to consideration of issues of user legitimacy and accompanying rights. Legitimacy is a co-creation of two interdependent actors, one who performs place-behaviors conventionally expected in a particular place (the Wi-Fi user sipping coffee at the coffee shop) and another (or others) who judges whether and the degree to which that performance meets those expectations (coffee shop owner or worker and possibly other customers or onlookers). A Wi-Fi hotzone, like an epidemiological one, permeates an area where life already is being lived, where place-based expectations of behavior are already in effect. The introduction of the Wi-Fi service as what customers might see as a "free gift" implies that the user has already met the requirements for legitimacy as a customer – she has made a purchase or clearly shows intent to do so (as when the user keeps watching the door and/or glancing at her watch, or even tells the coffee shop worker that she is waiting for someone and will be ordering soon).

2 We understand that of course the signal owner may have other concerns (particularly security concerns) that may occupy his mind more than issues of trespass. Our focus, however, is on concerns of the Wi-Fi user, who in this case intended only to "borrow" the connection, not to violate the security of the signal owner. We are concerned mostly with how the user understands this "borrowing."

Like the mobile worker whose legitimacy as a user of the parking place and of the Wi-Fi signal remains to be demonstrated, users of Wi-Fi are subject to being challenged to account for their legitimacy as a user or participant in that place where the Wi-Fi is available. In a university campus setting, for example, legitimate users are students and employees; campus guests must often first negotiate legitimacy as users by registering themselves with IT support in some fashion, though rarely do they have to pay for the service. The user must demonstrate legitimacy by association with a known legitimate user to gain access.

In our coffee shop example, a user could have his legitimacy as a customer challenged, especially if he, for example, sat at a table and used the signal without buying a drink or showing intent to buy one. The user has to demonstrate legitimacy as a customer in order to demonstrate legitimacy as a Wi-Fi user in that place. In municipally-provided hotspots in public gathering spaces – like Long Beach, California's downtown street – legitimacy is granted to anyone that the hotspot was designed to attract – citizens and tourists alike – but once there, they must demonstrate legitimacy to the business owners who allow them to dwell for any length of time while checking messages and email.[3]

On the other hand, legitimacy is unlikely to be challenged in contexts where gatekeeping is difficult. Coffee shops rarely challenge the legitimacy of people on their premises – in their space – however likely it is that those people's legitimacy as customers is suspect. Owners of signals in larger establishments may not even be aware that their open signal is being used and will therefore certainly not challenge the legitimacy of additional users. In ambiguous circumstances, users of dubious legitimacy share Wi-Fi with users of impeccable legitimacy. What interests us, however, is less what happens when legitimacy is challenged and how legitimacy is actually established so much as accounting for the ambiguousness and uneasiness that is often experienced by users in these situations.

From our awareness of normative constraints on behaviors within a place, we can begin to understand the voluntary and arbitrary nature of users' self-imposition of normative constraints within the shadow of a signal area. Conventionally, place expectations of coffee shops dictate that buying that coffee

[3] The free public park (and perhaps the public library) may be the only public place where judgments of legitimacy do not involve a commercial transaction; the status of the park will be noted again in the final section of this essay. It should be noted, however, that one of the norms of the public park is that it should not be used as a home, as a private place, so people who want to sleep in the park at night may be asked to "move along" – reinforcing the conventional assumption that the park is a place-away-from-home – that is, from the home that one is presumed to have. One wonders whether the Wi-Fi blanket in a public park might not be shut down some hours of the night to encourage patrons to return home, or whether round-the-clock Wi-Fi might effect a shift in this norm of public parks.

also buys one the right to sit at a table in the coffee shop to drink it (and longer too). It takes some chutzpah, then, to sit at a table and connect to the signal in a Wi-Fi coffee shop without buying from the coffee shop anything to eat or drink; the table and the Wi-Fi service are add-ons, "free gifts" that come with the purchase that is conventionally understood to guarantee legitimacy as customer.

It is a less obvious violation of the "buy something" norm to sit in one's car outside the coffee shop or to do one's laundry in the adjacent laundromat while connecting to the coffee shop's signal. In this case we use *obvious* in its literal sense – no one, neither coffee shop worker nor customer/onlooker, can oversee and judge this performance and agree to or challenge its legitimacy. If one doesn't enter the coffee shop and makes no move to claim a right to a table within that space, it's difficult to say that one is a customer of the coffee shop and therefore subject to the norms of coffee shop behavior. On the other hand, wireless connectivity is offered by the coffee shop as a "free gift" to lure its customers, not as a free service to the community. That is, some financial benefit (typically, increased and/or more regular clientele) accrues to the coffee shop from providing free access. For a user to take advantage of the "free gift" without contributing to the economic well-being of the coffee shop/provider seems churlish and a violation of the norms applicable to the activities of the place.

Alternatively, consider the coffee shop that provides connectivity for a monthly, flat rate fee. Can a customer who has purchased this connectivity, in that case, fairly occupy the tables of the coffee shop without buying any refreshments? What exactly are the goods that make one a customer of the coffee shop? Perhaps the purchase of wireless service is indeed enough, which would then mean that the range of place-appropriate activities for the space of "coffee shop" expands when the coffee shop adds Wi-Fi to the list of things that can be bought there. Something else that would expand would be the clear legitimacy of sitting in the parking lot outside the coffee shop and connecting from one's car. Since access to the signal (in all its extent) has been purchased, neither the coffee shop nor the user need be concerned about where the user physically is when connecting.

The picture remains complicated even in the face of password use. A coffee shop usually provides a password to customers who wish to use its Wi-Fi connection. This practice should limit legitimate use of the service to those who have established themselves as legitimate customers. Without the password, people may be "bathed" in the signal without having access to (or perhaps even awareness of) the Wi-Fi signal. Without the password, people hoping to take advantage of the free service are foiled. Again, it would take some brazenness for someone to ask for the password without showing any sign of buying something. However, unless the coffee shop regularly changes the password (which would inconvenience regulars and create confusion), someone who obtained the password perfectly legitimately could easily use it some other time without having to perform like a legitimate user. The password, unless changed regularly,

would do little to ensure that the Wi-Fi is not being used by former customers of the coffee shop who are at the moment customers of the laundromat or sitting in cars parked in the parking lot outside the coffee shop or even sitting at tables under umbrellas on the sidewalk outside.

7. Notions of space/place and hospitality

There seems, then, to be an expectation that shop owners who provide Wi-Fi as an added service to their customers have the right to expect users to be legitimate customers. However, customers also seem to expect certain things of the place: particularly, they expect that the owners of the shop space will do whatever it takes to lure customers into their shop (and away from the shops of competitors).[4]

The notion of hospitality involves both notions of space and of place. Customers in coffee shops hold the shop owner – the owner of that space – responsible for acting the host, seeing to the comfort of those who enter his space. The shop owner's responsibility is generally taken to extend throughout but not beyond the space he owns or controls (like the entrances and sidewalks). The form that that hospitality takes, however, is guided by place-based expectations of, minimally, decent coffee and certain level of cleanliness. The prices of coffees in coffee shops, however, would indicate that it is much more than coffee that the hospitable coffee shop owner is offering his "guests." Furthermore, it is often the value-added aspects of the owner's hospitality that lure guests into and back to the coffee shop.

If we compare the orientations of coffee shops to that of offices, we observe that the lures offered by offices and coffee shops differ in the degree to which they involve hospitality – making the customer comfortable. While hospitality is a secondary concern for offices, administered to ease the work of the business in focus, in coffee shops hospitality IS the business. What they offer is less the coffee than the experience of drinking coffee, which can be enhanced by also selling foods to be eaten with coffee and coffee-related products and by the no-extra-charge provision of an environment designed to lure a target population of customers. So while the Wi-Fi signal may seem to the customer to be a "free gift," actually it is a lure, an offering of the coffee shop that, while apparently free of charge, exerts some influence on the potential customer to get the customer to enter the coffee shop – the prerequisite for putting the customer in a position to be sold something.

4 The shopping mall that provides free Wi-Fi is acting out this principle on a higher level: it is competing against other malls. While the shops there may be in competition with each other, they also have to deal with competition from similar shops outside their mall, and banding together to lure customers to the mall gives each shop a smaller range of competition and a better chance of getting the customer.

The successful coffee shop is bustling, attractive to new customers for having successfully attracted so many already. Some benefit, then, already accrues to the coffee shop from the appearance of having attracted and successfully hosting a crowd, so the coffee shop owner might be loath to challenge the legitimacy of a customer for fear of the bad-for-business consequences of appearing less than hospitable.

For centuries coffee shops have served as places to read, write, compose, plot, recite, and perform, as well as to interact socially and commercially – and now increasingly those interactions involve laptops and mobile telecommunications devices that rely on access to signal. Coffee shop design is being adapted under the influence of mobile telecommunications by the provision of Wi-Fi and allowing customers to use electrical outlets. An electrical-outlet user with questionable legitimacy as a customer may be more likely to have her legitimacy challenged (if only mumblingly) by other customers who are deprived of the benefits of hospitality (in this case, to stay longer than the life of their computer batteries) than by the shop owner, who has a reputation for hospitality to maintain.

Less hospitality-oriented establishments may still experience this clash between their right to expect legitimacy of their customers and their obligation to show hospitality. We know of a local coffee shop situated in a bookstore, which, after a long while of offering both freely available Wi-Fi and some access to electricity, rather suddenly yanked the plug, so to speak, on the latter. Regular customers who came there to work on on-going projects arrived, bought their coffees and settled in, only to find that the management had taped over all the electrical outlets. Customers were no longer able to charge their laptops as they drank coffee and worked. The owner, then, showed hospitality, but with the denial of access to electricity, it was now limited to the life of a laptop battery – and that limit would not be extended even if the Wi-Fi user continually purchased coffee to extend his legitimacy as a customer. Furthermore, there were occasions when the management sharply challenged the legitimacy of some customers, asking them to leave since they had not bought anything. This challenging caused considerable embarrassment not only to the challenged customer but to the others as well. Some regular customers declared that this cutting back of hospitality had sparked their decision to stop patronizing such a stingy shop.

The shop owner's actions seriously threatened the relaxed and welcoming ambience that is not only so desirable in a coffee shop but also probably expected in this one, given the centuries-long association of coffee shops with literati and artists. These actions did much to indicate the clientele that the coffee shop was wooing: transient rather than regular customers, rapid turnover rather than lingering. It remains to be seen whether this turned out to be good business practice for a coffee shop at the heart of a bookstore. However that may be, what interests us here is the way Wi-Fi usage in this bookstore coffee shop revealed place-based expectations of legitimacy on the part of customers and of hospitality

on the part of shop owners hosting this space and the implications of Wi-Fi usage for the emerging culture of this commercial and public place.

8. Discussion: reflections on Wi-Fi and third places

In this discussion, we have taken examples of coffee houses and parking lots as places where the introduction of Wi-Fi has created situations not adequately provided for in the conventional expectations of appropriate behaviors for those places. Although the introduction of Wi-Fi often is done with high-minded and enthusiastic hopes to create new realms of interaction that can transcend previously insurmountable obstacles to communication and community, we have found its users to still be obliged to consider the conventions (particularly for the regulation of commercial relationships) that are already in force for those places. But parking lots and coffee shops are just two examples of public places that are expected to be transformed by Wi-Fi. Let us turn briefly to consider the implications of Wi-Fi for public places, coffee shops and parking lots and beyond.

It may be helpful to think of these public places as what Oldenburg (1989) calls third places – that is, public places that are neither work nor home and that provide a reprieve from both of those places, and which are necessary to make a community a community, or at least help individual citizens feel less isolated. In the past, this service has been performed by public places like pubs, parks, coffee shops – and libraries.

Libraries permit a range of activities – play (for children), study, reading for whatever purpose, access to newspapers and magazines as well as books, even the opportunity to do one's accounts or write letters. If one were to set up with a computer there, it wouldn't really matter what one was doing – working, surfing the net for hobby sites, researching, shopping, writing a book. Why are libraries free for all in this way? They are set up on a service model (rather than a for-profit, commercial model) which requires their being free of charge at point of access (in reality they are paid for by taxes), the only behavioral stipulation on users being the observance of "quiet" to allow others to do whatever it is they need to do in peace. However, if the library user wants to check out a book, then legitimacy once again becomes an issue – legitimacy must be established by establishing residence (and taxpayer status) with a driver's license or some other proof of residence. The homeless, then, are barred from borrowing from libraries precisely because they cannot prove residence, and libraries (like parks – the other service-based third places) are, as third places, not meant to substitute for residences. But as long as the library user only wants to use the resources of the library within its spatial confines, free Wi-Fi service is just another resource of the library, accessible to all who come.

Of all these third places, parks and libraries that do not charge entrance fees may be the only ones that seem to be truly free to all comers from start to finish, where neither legitimacy nor ownership is an issue for most place-appropriate

behaviors and activities. However, in pubs and cafés, as in coffee shops and other for-profit third places, a would-be user still must establish legitimacy as customer before joining the community being built there. This constitutes one more support, then, for our contention that ownership rights and legitimacy of actors will continue to be user concerns since they continue to be concerns of commercial establishments and, more generally, of the commerce-oriented public at large. In that sense, the communities we are creating in these third places are precisely the commerce-oriented ones that our capitalistic culture requires. Our third places virtually inevitably support commerce and socioeconomic hierarchies that continue to be part and parcel of the life of our communities. Third places, then, cannot escape the pervasive capitalism of contemporary US society. Even as third places hold promise of providing their denizens the feeling of having transcended mere economic concerns to reach a purer and more satisfying sense of community than what they experience without the experience of third places, they must at least pay lip service to economic viability of the third place and the economic structure in which it survives.

It may be this very intimate connection of third places with the economic vigor of a community that makes anything that will boost the effectiveness of third places so promising. As Sutherland points out, Wi-Fi can be thought of as urban renewal – when the economy and community pride that are necessary for a healthy community are failing, drawing Wi-Fi users (and their wallets) to the community can give a boost both to the economy of the depressed area as well as to the self-image of the community.

Some may question the kind of community that would be encouraged by the availability of Wi-Fi. It could be argued that people with laptops and Wi-Fi connectivity have no need (or even opportunity) to interact with those around them in the public place, so Wi-Fi would not create a community à la *Cheers*, where regulars meet and "everybody knows your name." As Humphreys (2005) points out, people who answer mobile phones when they are out with someone (i.e., when they are, in Goffmann's terminology, Withs) turn their companions into what Goffmann calls Singles – people without a conversational partner. In the case of the coffee house patron who settles in for a session on Wi-Fi, he appears to enter the third place as a Single, someone who may be approached by other coffee shop patrons and engaged in conversation (arguably a first step in community-building), but he shortly becomes a With – the Wi-Fi signal connects the user to other Singles online rather than to potential Singles in the coffee shop itself. He may indeed be drawing his online community into that third place, changing the nature of community in the coffee shop, but those patrons who visit the coffee shop as a more traditional third place may be disappointed in his contribution to their own community. In fact, some coffee shops that have perhaps been too successful in attracting Wi-Fi users are turning off the Wi-Fi on the weekends to "reclaim" the old, non-wired atmosphere, much to the praise of many customers (e.g., Fleishman 2005).

9. Conclusion

In this paper, we set out to demonstrate that in working through some practical puzzles of using Wi-Fi in public places, users draw on both space-based notions of ownership and place-based notions of legitimacy of actors in public places, as well as expectations of hospitality. For example, the failure of the nebulous region of Wi-Fi signal to map onto the bounded area of the business premises (a spatial discrepancy) raises questions about the rights and (hospitality) responsibilities of signal ownership and the privileges and obligations of users. We propose that the availability of Wi-Fi and the way users go about using it in those public places show conventional expectations of the place-based behaviors appropriate in and around those public – particularly commercial – spaces to be vague and indeterminate, while still exerting normative power.

We limited the exploration in this paper to coffee shops and parking lots and the considerations of appropriate usage in those places. There are other places where Wi-Fi is provided that, because of their natures as places, probably involve other considerations: private places, for example, or non-commercial public places like parks and libraries. In private places, concerns about legitimacy might be tempered by notions of neighborly generosity rather than notions of hospitality, and generosity might be constrained by security concerns.

Notions of hospitality and generosity may be the realizations of a human impulse that takes a different color in commercial and non-commercial environments. In the case of the coffee shop, hospitality is relevant because the customer is actually in the physical space of the coffee shop and therefore becomes physically a guest of the owner. In the case of the individual who uses a neighbor's unprotected signal, hospitality isn't relevant since using the owner's signal does not require the user to be actually physically present in the premises of the signal's owner. But in both hospitality and generosity, the impulse is to giving and seeing to the needs of the other. Legitimacy and security, the concerns driven by the impulse to take care of one's own needs, may be the analogous concerns that constrain the impulse to give that is realized as hospitality and generosity.

We have noticed the tension prevailing in for-profit third places between the notions of "the customer as guest" (where Wi-Fi is considered a free service) and "the customer as buyer" (where Wi-Fi is an award and encouragement for people who spend money there). It is tempting to limit our research focus on making an individual's access to virtual communities ever easier and more ubiquitous by provision of Wi-Fi access in public places, but it behooves us to notice that those places come with their own conventions for appropriate behavior of individuals and for community-building. However, as researchers considering matters of participation in virtual places, we believe that we must first have some appreciation for the normative constraints and conventions that govern the variety of public places in which users access "free" Wi-Fi.

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