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THE INTERPLAY OF PUBLIC AND PRIVATE SPACES IN INTERNET ACCESS

The creation of public internet access facilities is one of the principal policy instruments adopted by governments in addressing 'digital divide' issues. The lack of plans for ongoing funding, in North America at least, suggests that this mode is regarded mainly as transitional, with private, home-based access being perceived as superior. The assumption apparently is that as domestic internet penetration rates rise, public access facilities will no longer be needed. Central to this issue are the varied characteristics of publicly provided and privately owned access sites and their implications for non-employment internet activities. What are the relative advantages and disadvantages of these two access modes? More fundamentally, how do people conceptualize public and private spaces and how does this perception influence their online activities? Finally, why do people choose one over the other, and how do they navigate between the two? This article attempts to answer these questions by drawing on data generated within the Everyday Internet Project, a 'neighborhood ethnography' of internet usage. It argues that the conventional view of private and public access facilities as immiscible, fixed alternatives is inadequate. Rather than 'pure' types, they are better understood as offering hybrid spaces whose identity and character are fluid, perceived differently by individuals in light of the activities being performed, life experiences, infrastructure and architecture. The picture emerging from our study is one where public and private access modes intertwine with each other in a variety of ways, their combination offering significant additional value for many users. From a public policy perspective, these findings suggest that if universal access is to be achieved, there is a continuing need for publicly supported broadspectrum facilities with integrated technical support and learning opportunities, even if domestic penetration rates approach that of the telephone.

Keywords   Internet access and use; digital divides; spatial hybridity; internet policy; neighborhood ethnography

Introduction

The limited social science research that has informed the development of government internet policies and programs has been mainly quantitative. Much like the 'Falling through the Net' studies in the United States (NTIA 2000), Statistics Canada periodically reports on the 'penetration' rates of computers with modems in Canadian homes, now well more than half (Statscan 2003), and on the rates of usage by various demographic categories. While these statistics offer some basis for assessing the market potential for internet services and highlighting several 'digital divides' – principally according to income, education and age – they offer little insight into the value these services hold for people or guidance on how to narrow the gaps. To improve our understanding of these issues, it is necessary to develop in-depth qualitative studies with a policy orientation, of which so far there have been few in Canada (e.g. Ramirez 2001; Deveau 2002; Rideout 2003). The Everyday Internet Project,[1] funded in 2001 for three years by the Social Sciences and Humanities Research Council of Canada, is among the first studies attempting to make the link between internet policy and qualitative, ethnographic fieldwork.

Given the aim of the research project – to learn more about the role the internet and online services play in the user's daily life outside employment – the study was conducted as close as possible to the actual site of internet use. Informants were recruited and interviewed at their regular access site, be it home or a public facility. We were interested in seeing how the access site made a difference in this usage.[2] This paper reflects our attempt to describe and make sense of the various reasons that lead individuals to rely on different kinds of access.

On access and spaces

Access to the internet and related services is usually considered under the rubric of 'digital divide' and is discussed in terms of internet penetration statistics. The assumptions are that (a) the digital divide can be defined as having access to the equipment and digital network or not, the so-called haves and have-nots, and (b) that physical access to the network's infrastructure will bridge it. (For an interesting overview and critique of these assumptions, see Gurstein 2003.) Underlying, and in many ways perpetuating, this approach are a number of studies that have documented shifts in internet 'penetration', as well as the sociodemographics of those who do not have access to the internet (e.g. NTIA 2000; Reddick 2000; Dryburgh 2001; UCLA 2001; Pew 2003).

It comes as no surprise that the main public policy strategy proposed to ameliorate the digital divide has been the creation of public access sites.

In Canada, for instance, the federal government's strategy in the late 1990s for promoting internet adoption, called 'Connecting Canadians', sought to make Canada 'the most connected nation in the world' (Government of Canada 1997).[3] This initiative included programs to fund public access internet facilities in all communities in Canada and to digitize cultural materials for access via the Web. In 2001 the federal government devised another initiative, even more narrowly focused on carriage facilities than previous ones – the National Broadband Task Force – with the aim of making broadband services available to all communities by 2004.[4] This goal has yet to be met.

A seldom stated premise behind most public policy initiatives and discussions is that public access sites are mainly useful for people who do not yet have private access and that once everyone has private access there will be little need for public facilities. Public access is thus seen as a transitory phase or stepping stone to the final goal of endowing all citizens with private access. This approach overlooks the multiple roles played by different access modes, public and private, in the use of the internet. It also rests on the belief that most things – spaces, goods, services, resources, knowledge and information – are either private or public, hence allowing little or no room for mixed or hybrid access modes.

The two archetypical forms of internet access – and these should not be confused with the multiple varieties that exist – are the public access facility, conventionally conceived of as an open physical space with computer terminals where users can sit or stand; and the private access site, conventionally thought of as the home, with at least one computer and modem for dial-up or, preferably, high-speed broadband internet connection.[5] Associated with these two configurations is a set of related attributes, such as cost, ease of use and equipment, that underline and reflect the assumed superiority of private access. Table 1 outlines many but not all of these.

A number of scholars have argued against this dichotomous approach. For instance, Clement and Shade (2000) contend that 'access' itself is not an 'on/off' condition, but is better viewed as multi-layered. There are multiple dimensions to access: carriage facilities, devices, software, content and services, service providers, literacy and social facilitation, and finally governance. Understanding these various dimensions involves asking the following questions: 'access for what purpose?' 'access for whom?' and 'access to what?' One should not therefore think about one digital divide but about multiple divides, since a person might have access to a computer but not to an internet provider, or have access to both but lack the technical skills (Hargittai 2002) or language skills, for that matter, to use the internet.

Gurstein (2003) has pointed out that the digital divide should not be examined in terms of access to the infrastructure alone but rather in terms of how effectively individuals use information and communication

TABLE 1 Access mode archetypes

public access mode	criteria	private access mode
free	cost	expensive
requires trip	location	ready at hand
open space	physical space	closed space
multiple terminals, shared	equipment	at least one terminal, exclusive
'worthy' usage only	use purpose	work and leisure
short, ephemeral interactions	use conditions	lengthy, continuous interactions
no data storage capability	storage capability	data storage availability
technical support staff, other patrons, self-help	technical support	self-help, vendor's hotline
support staff, courses, other patrons	learning facilitation	personal social network
transitory access solution	access 'solution'	permanent, stable access solution

technologies, particularly those individuals who are marginal or excluded. From this perspective, access is about empowerment, rather than the ability to function as a spectator.

Likewise, mounting empirical evidence confirms that for internet users the configurations of space are much more complex, in ways that are consequential for effective participation in society and for public policies. For instance, Lyon (1994) and Marx (2001) have argued that the boundaries between public and private are blurring with the increasing adoption of information and communication technologies; Sheller and Urry (2003) and Rheingold (2002) discuss the folding of contexts, the creation of hybrid spaces that do not fit neatly into any category; and Castells (1996) examines the creation of non-physical fluid spaces, whose identity is defined in interaction by those that compose it. Research is also beginning to show some of the particular benefits of using public access − such as knowledge-sharing − that cannot easily be achieved by private access (Sandvig 2003).

The implications of this research are of great importance for policy developers. If we cannot speak only of public versus private when discussing access modes, if there is not one digital divide but a number of factors that enable or thwart individuals from using the internet effectively, and if the solution does not lie in giving everyone private access, how must we conceive internet access policies? This paper constitutes an attempt to answer this question by posing two further questions: How do people conceptualize public and private spaces in their online activities? How does the public or private character of a given space influence what people do online? To answer these questions, we rely on data generated in the Everyday Internet Project,

conducted in Toronto, Canada. The goal of this neighborhood ethnography was to investigate how regular internet users – whether at home, at a public facility or some combination of these – experience online services in the context of their daily lives. Our objective was not to draw final conclusions regarding the superiority of one kind of access versus another. Rather, we hope that this paper will help to clarify the concepts of home and public facility internet use and contribute to a better understanding of the role of public access facilities in reducing digital divides.

Research design

The Everyday Internet Project,[6] an ongoing research study, is informed by a variety of contemporary information-policy issues. The strategy we adopted in conducting this research was to find a relatively compact area within our home city, Toronto, where we could explore many policy-relevant dimensions simultaneously. We sought an area that offered variety in terms not only of access modes but also of sociodemographics. In Toronto, well known for its cultural and ethnic diversity, such a research area was not hard to find. We cast our net initially over a five-kilometer by three-kilometer downtown quadrant. After mapping census and internet access data over this quadrant, we settled on a neighborhood that reflected many of the characteristics we sought.

Our principal research site covers an area of just over two city blocks, adjacent to what is commonly known as 'Little Portugal'. A walk up any street in this area gives a good indication of its diversity. The houses are large, brick, Victorian-style, with a few smaller bungalows and some remodelled moderns mixed in. Some have been restored by prosperous single-owners. Others have been subdivided into two, three and four small apartments, which appear to draw humbler tenants. The languages spoken reflect a mixture of established residents and newer immigrants, as do the print materials provided by local libraries. The neighbourhood is near two branches of the Toronto Public Library and a community centre, all of which provide free internet access. A number of other sites, including the local laundromat and some coffee shops, offer internet access for a fee (Powell 2004).

Field methods

In conducting a geographically based ethnography, we followed pioneering internet researchers who have investigated the particularities of access and use of a given location. Of particular interest was Miller and

Slater's (2000) study of internet use in Trinidad. In describing the usefulness of conducting a geographically based ethnographic study, the authors explain that 'the ethnographic particularity . . . is very far from a limitation. . . . It is not only necessary – the Internet as a meaningful phenomenon only exists in particular places – but it is also the only firm basis for building up the bigger generalizations and abstractions' (Miller & Slater 2000, p. 1). Later they add that 'an ethnographic approach to the Internet is one that sees it as embedded in a specific place which it also transforms' (p. 20). The study here adheres to such criteria. Our emphasis on the ways in which the internet is understood and integrated into everyday life, and also on how it is transforming everyday practices and is transformed by them, make an ethnographic inquiry both central and indispensable. Our goal to inform public policy on issues of internet access and digital divides by studying a particular site that may then be followed by other comparative projects, as well as 'generalizations and abstractions' (Miller & Slater 2000, p. 1), is in itself part of an ethnographic project. We recognize that our focus on just one facet of participants' lives, their everyday internet usage, and the lack of ongoing observation at a specific site contravenes some of the canons of ethnographic work. However, this limitation is compensated in part by a continuing research engagement with the locality.

We defined a regular internet user as someone who uses the internet at least once a week. Individuals whose use frequency was lower were immediately disregarded. We also attempted to include participants from sociodemographic categories that are repeatedly identified as lagging behind in internet access: low income, low education, English as a second language, and seniors (e.g. NTIA 2000; Dryburgh 2001; Sciadas 2002; Pew 2003). Our goal was not to hypothesize on the differences between these variables but rather to give voice to those who constitute them.

To be consistent with the situational dimensions of our neighborhood ethnography, we recruited and interviewed participants at their regular access site, whether at home or in a public facility. We relied on in-depth, semi-structured interviewing and observation methods, where we invited participants to give us a 'tour' of their online activities and show us their regular websites. Our interactions with participants were structured as informal conversations based on the interviewee's online practices.

Most participants were interviewed twice, two to four months apart. The first interview consisted of a one-hour discussion of the participant's online activities. In preparation for the longer, follow-up interview, which generally lasted two hours, we asked participants to keep a record of the sites they visited, as well of their goals and the actions they performed. Participants usually mailed these records to us ahead of time. We then used them to jog their memories and inquire further into what activities they perform online, why and how.

Participants were recruited in two ways. To find home internet users, we visited each house and apartment along the selected streets. We explained the reason for our visit to the person answering the door, and if she was interested, we asked her a few basic questions about her internet usage. If nobody was home, we left a brochure with information about the project and a questionnaire that the recipient could send us if interested in becoming involved. To find public facility users, we approached St Christopher House, a longstanding and active community centre located in our study area, to help us. We hoped that, in return, St Christopher's staff would learn more about the internet-related interests of their patrons. After speaking with the person in charge of internet services and leaving some questionnaires in the computer room, we returned to find that more than 25 individuals had volunteered. (For a more detailed account of St Christopher House, see the next section.)

We interviewed 14 participants, 11 of whom are mentioned in this article. Of the 11, five rely exclusively on public facility access, three have home access and three use both. Four of the participants who are now relying exclusively on public access had home access at some point and were able to comment on both experiences. Two others previously used public facilities but currently rely exclusively on home access.

We recognize the limitations of working with such a small sample, especially as it relates to public policy. However, we believe that the potential offered by our up-close interactions with participants is significant for raising issues and widening the policy debate. Moreover, we acknowledge that while the contacts with participants were designed to be as 'naturalistic' as possible, there is an inherent and insurmountable 'artificiality' in the context of our interactions. Hence, participants' opinions should be understood as having been expressed in a specific context: that of a conversation with a stranger, often perceived as an expert.

The sociodemographic characteristics of participants are summarized in table 2.[7] To protect their anonymity and privacy, we use pseudonyms throughout. The participant pool is rich in experience – from professionals to novices – and diverse in character – immigrants, youth and seniors. A noteworthy characteristic of the sample is the number of participants for whom English is a second language.[8] Moreover, it is significant that more than half the informants (six out of 11) are unemployed, retired or working part time, and only five hold a stable job (including being a student). The time frame of internet use among participants is also diverse, ranging from six months to more than five years. Finally, all participants use the internet regularly, from several times a day to two or three times a week. The most significant bias in the sample is that the majority of participants have higher education.

All interviews were transcribed and then carefully read and revised by several members of the research team. Interviews conducted in languages

TABLE 2 Participant overview

pseudonym	access mode	internet experience	languages spoken	age*	edu**	occupation
Danielle	H (xPF)	5 years or more	English	20–39	high	consultant
Julia	H (xPF)	2–5 years	German English ±	20–39	high	doctoral student
Nicholas	H	5 years or more	English	40–59	high	web designer
Camilla	PF (xH)	2–5 years	Portuguese	Over 60	high	unemployed [nutritionist/ teacher]
Katrina	PF (xH)	5 years or more	Portuguese	20–39	high	babysitter [economist]
Marianna	PF (xH)	5 years or more	English	20–39	high	student
Tammy	PF	2–5 years	English	20–39	high	doctoral student
Xavier	PF (xH)	5 years or more	Portuguese± English ±	40–59	high	unemployed [civil engineer]
Barbara	H & PF	Past year	Portuguese± English	40–59	low	housewife [cleaner]
Ignacio	H & PF	Past year	Spanish± English	Over 60	mid	retired [factory worker]
Ursula	H & PF	n.a.	German English ±	Over 60	low	retired

Notes: H = home; PF = public facility; xPF or xH = previous access mode. ± indicates language in which interview was conducted. [] Square brackets indicate former occupation. *Each of the age groups presented here is the result of the merging of four categories from the 1996 census data. **Low education: high school diploma or less; mid education: post-secondary degree; high education: BA degree and over.

other than English were translated selectively after being transcribed. For the analysis presented here, a cluster of access-related concepts – affordance, difficulty, cost and hybridity – were employed to flag comments regarding access spaces. On the basis of this process and the pertinence of participants' observations, a total of 11 respondents, out of the 14 interviewed, were selected for further analysis.

Two major themes offering insights into patterns of internet use experience were identified. The first pertained to the constraints and affordances of different kinds of spaces and how these influence participants'

choices. The second had to do with defining the character of a space. Rather than a given with inherent attributes, a space's character was perceived differently by participants. This process of definition was shaped not only by the activities being performed but also by personal life experiences and physical elements such as the architecture and infrastructure.

A spectrum of access modes

Earlier in this article we discussed the access-mode archetypes upon which internet access public policy is built. Before discussing participants' choice of access mode and space and their understanding of what these entail, it is important to relate the 'ideals' to some real examples.

Nicholas is our most prototypical home user. A graphic designer in his early forties who started using the internet in 1996 as a freelancer, he now owns his own home-based graphic design company. Nicholas had Ethernet cabling installed in the walls of his home, a network he runs by himself. For him, the experience of having home access is characterized by high-speed service, that is, the network's infrastructure is constitutive of the experience itself. Not only does his work − with video and images − require large amounts of band-width, but having high speed at home enables him to discuss work over the phone with his clients while simultaneously displaying the changes they request. He no longer has to go out to meet his clients. Living the 'digital dream', he says that he has conducted conference calls in his underwear, and he 'can go for months now without leaving the house'. The internet is a vital component of Nicholas's work and living experiences. He says, 'I make most of my living off it now. So it's 100 per cent, it's used all the time, it's on all the time . . . I couldn't live without it now. It's like a phone now, to me.'

Xavier, on the other hand, exemplifies the prototypical public access user. He is an unemployed civil engineer in his late forties who moved to Canada from Brazil with his family in 2000. He feels comfortable with the internet, since he started using it in 1994 as a graduate student. In his home country he had both a job and home internet access; in Canada he has neither. Since he has been in Canada, Xavier has become an expert on public access facilities. He knows most of the facilities in downtown Toronto and uses them selectively, taking advantage of the specific services offered by each: fax, employment resource centre or English classes. His preference for St Christopher House, where he goes almost every day and spends three to four hours each visit, derives from the fact that it has more computers than most other facilities, is more flexible in its usage conditions, and has a fast network. Xavier's main online activity is looking for a job. He says, 'I use the internet for every-thing.... If I don't have internet I can't [look for] work.' The internet is also a way (or perhaps the way) to be in touch with family and friends who

stayed behind. As another of our participants put it, email and the internet are 'a way of having an umbilical cord with [my native country]'.

St Christopher House does not offer a job-searching course or support, but Xavier volunteers his time and experience on Fridays to help others look for work and use the internet. This activity allows him to socialize and feel useful while learning more about the internet and job-searching skills. The cost of a computer plus an internet provider prevents Xavier from having internet access at home, something that he would like. Still, he says that even if he had these, he would continue going to St Christopher House because he would still need help with the computer.

While at first analysis these examples are representative and supportive of the dichotomous view of access discussed above, presenting us with a private home user who is proficient and digitally literate and a public user who is financially less comfortable and digitally less proficient, they also point to the nuances involved in choosing an access mode. For instance, the need for technical support may drive home users to public access modes. Already we can see that the realities of internet practices are much less strict than in policy documents and the lines between access modes often blur.

Our quick sketch of the access mode spectrum would not be complete without a description of St Christopher House itself, the public access facility used by the majority of participants we recruited. The branch where we did our recruitment is located in the heart of Little Portugal, Toronto's Portuguese neighborhood. It is far more than a community technology centre, if by that we apply the definition given in the literature of 'a generic name given to a computer lab that is open to the public' (O'Neill 2002, p. 84). Rather, it is a community centre that offers access to and training in information and communication technologies. Other services offered at St Christopher House are English classes, after-school programs for children, and recreational programs for seniors, among many others.[9] There are two computer rooms: a small classroom with four or five computer terminals and a larger, open room with one printer and a number of computers, where adults and children can pursue their online activities. The computers vary in quality; some are newer and equipped with better video cards and sound systems, others older, with slower processors. Patrons seem to know, by experience, which are better, and youths usually gather around the faster ones to play games. Patrons of St Christopher House are allowed to check their email and download files via the Web, practices barred in other public access facilities for the sake of expediency or fear of viruses. To deal with the number of files downloaded, the computers at St Chris are cleaned periodically. The practical consequence is that patrons must save files that are important to them in some portable medium.

St Christopher's is serviced by regular staff and an army of volunteers who are usually either current or former patrons. The staff are cordial, helpful and

relatively permanent; that is, they both know and are known by many of those using the premises. Thus patrons feel comfortable, and the staff know them well enough to be able to recruit some to assist others, helping to make the system self-sustaining.

Selecting an access mode

During our talks with participants, we found that the choice of one access mode over another is influenced by multiple criteria. However, two factors stood out: cost and the need for learning facilitation and technical support.

Cost

Katrina is a former economist who arrived in Canada recently and works as a babysitter as she struggles to get a resident permit. In Brazil she used to have home internet access, something she misses in Canada. Katrina says that she and her partner 'were thinking [of getting internet at home]. Some time ago we were desperate to buy a computer but, because we are moving, it didn't work out. We are having too many expenses.'

Camilla is of the same opinion. She too is a recent immigrant to Canada and is having a hard time finding a job. In Brazil she had a computer and internet access at home, but in Canada she cannot afford them. Although Camilla would like to have home access, she does not see the two access modes as mutually exclusive. She says: 'There are some guys [at St Christopher House] who help me. So perhaps if I also had one [computer] at home, perhaps I would still come here to get some help, some support.'

Home users also bring up cost as one of the issues that affect their online practices and shape their access space. The case of Julia is exemplary. She is a doctoral student at a university on the outskirts of Toronto and has a computer and dial-up internet access at home. Julia explains that having home internet access was not her personal preference but the result of pressure from her professors. Her internet provider is expensive (about C$15 for 10 hours of use), but out of lack of knowledge or inertia, she has not looked for a different one. When asked about how cost affects her online activity she says, 'I'm aware ... that the clock is ticking. ... But overall, I do keep that in mind. So maybe ... if it wouldn't cost me as much, maybe I would spend a bit more time [online].'

Likewise, Danielle and Nicholas, who work from home, acknowledge that the cost of having internet access at home is high. Danielle is a human resources consultant and writer who utilizes the internet both in dealing with colleagues and clients and as a research tool. She considers that the cost of high speed far outweighs its benefits and she uses dial-up. For Nicholas, however, the situation is different. As mentioned earlier, he works extensively with video and images

and cannot rely on the data transmission speed of dial-up. Hence for him having high-speed access is vital. Furthermore, since it is part of his business expenses, cost is not a problem. But Nicholas acknowledges that if he were only using the internet for personal activities, cost would be a constraint.

Learning facilitation and technical support

It is premature and inaccurate, however, to conclude that individuals would stop relying on public access facilities for any reasons other than financial circumstances. We found that there are two major attractors to using public access facilities, in particular, St Christopher House: technical support and the opportunities for acquiring digital literacy. The staff and volunteers at St Christopher's teach individuals how to use both computers and the internet. Classes range from the basics to fairly sophisticated subjects, including programming languages such as Java.

Barbara is a Portuguese immigrant in her mid-forties who moved to Canada in 1990. She comes from a large, low-income family and did not attend school past the elementary grades. In Canada she worked day and night shifts cleaning offices and never had time to pursue her studies. A year prior to our interview Barbara was involved in an accident that prevented her from working. She says that she had heard of St Christopher House and that it 'helped many people'. She was interested in taking an English class but ended up enrolling in a computer class, an activity she reasons may help to expand her employment horizons. Interestingly, Barbara has had a computer at home since 1999. However, she bought it for her three children and never dared use it alone. About the reasons for going to St Christopher House, she says:

> Like this, when my kids are not at home, I can still use the computer. Before when I wanted to use the computer, I could not do it alone. My kids had to help me. I've always used online banking, but always with my kids' help. Now I can do that alone.
>
> For me the greatest advantage was the fact that they [at St Christopher House] provided me with teaching and learning support. Because even if my kids gave me one or two lessons, you know that young kids don't have any patience for these things. But at St Chris, they have people who are used to do this kind of teaching.. . . In fact, it was there that I first thought about starting to use the computer. Until that day I had never touched a computer [by myself].

Ursula's story is similar. In her mid-sixties, she received a computer from a friend and proceeded to set it up in her dining room. She had never used a computer before and recalls 'feeling undone' by not knowing what to do with the 'big box' sitting on her table. She says that her experience with St Christopher

House was a 'real confidence builder' because it combined the opportunity for learning and making mistakes 'safely' with the possibility of receiving technical support. She says, 'I cannot imagine myself being locked away with my computer only. I would like to be able to come here [to St Christopher House] and verify certain concerns and questions and confusions I have, and learn, hopefully, something on top of that, and go home and apply it.' Ursula also explains that, when faced with a problem at home, she writes some notes and brings them to St Christopher House, where she is sure to find help.

When asked about the technical support she receives from her internet provider, a Canadian telecommunications company, Ursula says, 'The technical support is, well . . . very frustrating because you're being kept on hold, and sometimes you have people that speak very quickly, and even when I slow them down, they become quick again. Or you actually have someone who really just wants to show off as soon as they realize that you're not sure of yourself, this is their time to shine.'

Xavier and Ignacio expressed similar feelings regarding learning and receiving technical support. Ignacio is a former assembly-line worker who lost one of his legs in a work accident. After the accident, Ignacio started learning about computers – both how to work with them and how to make them work – and in the meantime he has become a sort of computer aficionado. He frequents St Christopher House regularly. When we asked why, he said:

> Well, ever since I started going to my classes [at St Chris], I feel confident of what I do there, and so, it's the same to use it here [at home] or there. And given the understanding that people there seem to have for my situation, they give me a certain priority. So I feel very confident there, and if there is a free computer, I sit down and I feel good.

St Christopher House doubles as a physical space where Ignacio can try to solve the problems he faces when working with his computer at home. He explains, for instance, that he complements the online searches on technical issues he performs at home with trips to St Christopher's.

As noted earlier, Xavier goes to St Christopher House nearly every day to look for jobs online. Since he has an engineering degree, he is far from ignorant when it comes to technical matters. Still, he explains:

> Sometimes I need some help because I don't have enough knowledge about the network, and sometimes we have some problems. The net is too slow, or sometimes it's the computers are out [sic] and I don't know what happened. But sometimes I can help somebody too.

For Ignacio and Xavier, St Christopher House is more than a place to learn and get help; it also offers the possibility of feeling valuable by teaching and helping

others. They both volunteer their time and skills, teaching others how to look for jobs, use email, browse the Web, solve technical problems and find information. About his volunteering work, Xavier says, 'I try because I think if everybody helps everybody, probably you can find more solutions'.

Those participants who rely exclusively on home access discussed ways of dealing with the need for technical support. They recounted calling their internet provider or the computer company, as well as friends or family. For instance, when discussing the problems she has been having with Internet Explorer, Julia says: 'I really regret I don't have my nephew or somebody around who knows something about computers, because I would just have him mess with it and figure it out, but I just honestly can't be bothered with it at all.' Some participants rely mainly on their own technical expertise and on their ability to search for answers online. When discussing his internet provider, Nicholas stated, 'Luckily, I'm knowledgeable enough that I don't have to depend on them for service'.

The distinguishing trait between multi-modal users and those who rely exclusively on home access is not the problems faced but the different strategies used to deal with them. We found that those who rely exclusively on home access mode are usually positioned within, or supported by, networks of relatively knowledgeable friends and family or can rely on their own expertise and ability to find answers. This characteristic seems to indicate the important role played by public access facilities in overcoming digital divides based on skill level and social network positioning. This seems to support the argument that it is important to emphasize the ability to use the network infrastructure effectively, instead of looking at physical access as a stand alone category (Gurstein 2003).

Representing and problematizing spaces of access

Although public policy initiatives are usually premised on two archetypical access modes, in our study we have found that an 'access space' is not only characterized by a multiplicity of elements but also determined by aspects other than its formal characterization (see Table 1). Sheller and Urry (2003) discuss the geographical/spatial origins of the words 'public' and 'private' and argue that these concepts are becoming based less on space and more on fluidity and mobility. They propose that in contemporary societies people and technologies move seamlessly between public and private spaces, often simultaneously. This pattern, they argue, gives rise to new kinds of 'privates' and 'publics': hybrid spaces that defy categorizations, such as 'public-in-private' and 'private-in-public'. We apply and expand on Sheller and Urry's terminology to describe the folded contexts of our participants' online activities.

Private-in-private

Katrina provides a good illustration of the ways in which the physical arrangement of a space and the infrastructures provided affect the kinds of activities performed. While living in Brazil, she used her home computer to do her banking. At St Christopher House, however, she feels that the openness of the space and subsequent ease with which others can see what is on her screen make it too public an environment. Katrina comments:

> am often not too fond [of doing my banking online] because, first, we are in a public place – there are plenty of people here that understand Portuguese – and second, because, I don't know, sometimes I get the impression that my password, that someone will be able to get it.[10]

The feeling that there are activities which, because of their private character, must be performed in an equally private space was also expressed by other participants. Marianna is the youngest of our participants. She is working on her bachelor's degree and has been using the internet for over five years. She has a computer at home but relies on public terminals spread throughout the university campus for internet access. The reasons are cost – she refuses to pay for internet access at home 'as a matter of principle' – and ease of access – she has 'insane internet access at school'. Although Marianna is not an internet enthusiast – she describes herself as skeptical of technologies and their growing invasion of all spheres of life – she relies heavily on the Web and email for her university-related activities. Performing these in a public space does not seem to constitute a problem. Other activities, such as banking, are different. Marianna explains that her father is trying to push her to do her banking online, but she is reluctant to do so. 'I think it's because I don't have access at home', she says, 'and I don't really feel like banking in a public place, like, more so than I already do.'

Barbara is equally apprehensive of doing her online banking through a terminal other than her own. She praises the service's convenience but explains that having home access is a condition for using it. Otherwise, she feels it would not be safe. While Barbara's understanding of the network is limited and her fears may be unjustified, from her perspective ownership of the interface terminal is a prerequisite.

In summary, certain activities, owing to their sensitive nature, are perceived to be personal activities that must be conducted in a private space or at least with the support of a private access point. In such cases, participants maintain that there should be a correspondence between the nature of the activity being performed and the space in which it is conducted: a 'private-in-private' relationship.

Public-in-private

The access infrastructures affect the perception of space in ways other than the one specified above. Tammy is a doctoral student who works mainly out of a small carrel in the university library, where she has placed her modem-less laptop. For internet access, Tammy relies on the many public terminals spread throughout the library. When she needs material for her research, she downloads it, saves it onto an external medium and then copies it to her laptop. If she needs to print, she performs the reverse procedure. When asked about the reasons for not wanting to have internet access at home, she explains she has a small apartment and that she does not want to bring 'work and all those outside concerns into a space which, for [her], is a bit of a refuge'. When probed further, Tammy says: 'I don't like to have [the laptop computer] in my space. I find it unattractive, and somehow it speaks to me of work, it speaks to me of obligation, it speaks to me of so many things I don't want to have when I come home.' For Tammy, the computer is a somewhat public artifact. Bringing it into her private space would change the character of her private space, creating a 'public-in-private' situation, something that she tries hard to avoid. Hence, in her attempts to manage the spaces of her life, she erects boundaries, strict separations of work and home, of public and private.[11]

Tammy's resentment of the space-changing character of computers is not shared by all participants. Others cherish the public-in-private character afforded by their machines and the internet. Ursula, for instance, is positively captivated by the ability to log into the St Christopher House online community from her living room. She explains that such an activity 'is actually a way of conversing without going out to the community centre. It really is community, out of your home.' Another example is Nicholas's experience of holding conference calls with clients while in his underwear.

In sum, the character of a space, in this case a hybrid 'public-in-private', is not defined only by the activities performed or by the ownership of the interface. It is also shaped by the participant's perception of the nature of the interface itself. For some, a computer is a public artifact, and its presence creates a hybrid space.

Private-in-public

Participants also relayed instances of the opposite phenomenon: occurrences of 'private-in-public' hybridity. Many of the public facility users interviewed specified that one of the advantages of using public sites is the anonymity that comes with it. Tammy, for instance, explicitly recognizes the privacy of public spaces. She states that one of the reasons why she does not consider public libraries a 'place of obligations is not because it's quieter, but because you don't know the people around'. Certain public access facilities

afford anonymity, and this anonymity provides her with a 'retreat break' from the social obligations attached to her work.

More surprising is the possibility for added concentration that some participants attribute to public spaces. For instance, Marianna says, 'And pretty much the most important thing is that [here] I can focus . . . when I'm on [the computer] . . . I mean it keeps me focused here, you know. That's a really big part of it.' Likewise, Xavier states that his home use would not differ much from his public access use. The difference, he thinks, is that when in a public access facility he is not just surfing. 'I'm very focused on what I am doing when I come here.'

Participants also spoke of the need to create more opportunities for this particular kind of private-in-public hybridity. This is most noticeable in the increased hardships faced by public facility users in the creation and 'projection' (Clarke 1994) of a stable digital identity. Public access users are often forced to rely on free commercial email services that are plagued by spam and unwanted advertising. Moreover, these services are also customarily used as spam distribution channels and often filtered by proprietary email software. Further, emails from these free accounts raise suspicions among those who receive them. Nicholas, for example, states that he never replies to emails that come from a Hotmail™ or Yahoo!™ account because 'you immediately get put on every list in the world when you do that'.

The added difficulties of establishing and maintaining a trustworthy online identity have various impacts on participants' activities. Xavier's search for a job using the internet, for instance, is seriously hindered – in his eyes, at least – because he faces difficulties convincing others that he is who he claims to be. (See Donath [1999] and Wallace [1999] for more on the role played by the email address in the establishment of an online identity.) Participants also spoke of the need to create more private digital features within the public infrastructure. For instance, two participants use a small booklet to write down the URLs of interesting websites, and another admitted restarting the search process afresh in most of his Web searches without the aid of stored 'favorites'.

In short, public access facilities, far from being pure spaces, are often seen by their users as creating opportunities for 'private-in-public'. While the possibility for such a hybridity is cherished by participants in this study, they also note that there should be a more concerted effort to facilitate the creation of private modes in public spaces. For digital-divide policymakers, these findings are significant.

Public-in-public

The recognition of the public-in-public character of space is best illustrated by the example of technical support and learning facilitation described earlier. A public access facility offers not only free access to the infrastructure but also access to the knowledge and skills of other patrons. For Camilla, the

affordance of visible, public actors within a public space is of great import-ance, since not only does she often need technical support but she needs it in her mother tongue. In a public space she can overhear the language spoken by other patrons and turn to the Portuguese-speaking ones for help. She says that 'there are times in which, if I ask for help, the person sitting next to me will help. I'll ask if they speak Portuguese, and I think it is a way of having some interaction, communication'. Barbara depicts a situation with similar outcomes, if different causes. At home she has a computer and three children with limited patience and teaching skills; at St Christopher House she finds a place where she can learn from teachers and classmates.

The examples of Xavier and Ignacio show that St Christopher House has been able to identify this public-in-public potential and, by instituting a volunteering framework, make full use of it. Both participants started utilizing the centre as patrons and have slowly become involved in the process of helping others make 'effective use' (Gurstein 2003) of the online services. Besides helping make the system self-sustainable, their activity provides these individuals with a sense of being valuable, which in turn enhances their self-confidence.

Our findings are not unique. In his study of a public access centre for chil-dren, Sandvig (2000) states, 'Qualitative data indicate that [children] are always aware of other users and often watch them. In doing so, they learn about computers from strangers; yet this benefit is not part of the policy debate about public access centers' (Sandvig 2000, cited in Sandvig 2003, p. 179). He concludes, 'Sharing computers between strangers is an avenue of interaction possible with public access centers in libraries that is impossible with other policy mechanisms, such as subsidy to the home' (Sandvig 2003, p. 181). By affording easy opportunities for technical support and facilitating learning, public access facilities foster the creation of hybrid 'public-in-public' spaces. Participants describe such spatial modes as beneficial since they also provide them with access to the knowledge and skills of other patrons or with opportunities to help others. Needless to say, such hybridity is not unalterable; it often takes the shape of 'private-in-public'. Nor is it always advantageous, since it can inhibit the carrying out of important everyday activities, such as banking.

Conclusion

At the start of this article we pointed out that in order to better frame public policy on digital divides, it is necessary to re-evaluate current understandings of public and private access, which treat them as largely immiscible. We claimed that such re-evaluation must be grounded in investigation of the ways in which people select one access mode and space over the other and how they characterize and navigate these spaces.

Using data generated through the Everyday Internet Project, we found that the strict demarcation between public and private identified in the public policy instruments regarding internet access is not recognized by our participants. Public and private spaces offer distinct possibilities but their character is not predetermined; rather, it is established in (inter)action. Hence, many of our participants already opt – or would opt if given the chance – for a combination of access modes.

Recognizing spatial hybridity in the everyday practices of our participants helped us to identify the emergence of new kinds of 'public' and 'private' that are not opposites but enfolded. We utilized Sheller and Urry's (2003) terminology and proposed four categories of hybrid spaces: private-in-private, private-in-public, public-in-private and public-in-public. We found a number of examples of the different elements that influence the character and shape of a given space at a given time, hence contributing to its hybridity. These include the activity being performed, the architecture of the space, the life experiences of the subjects, the infrastructures – digital and physical – available, and the individuals with whom space is shared. We argue that it is in the interaction of these elements, rather than in isolation, that the character of a space is defined. It should be noted that this list is not meant as exhaustive; its function is informative and, at best, guiding. In fact, we recognize the impossibility of exhausting the elements that shape space.

We believe that the noticeable hybridity of participants' practices and experiences is at least partially related to the hybrid character of the internet itself, as both a public and a private medium, and to the increasing 'folding' of contexts we experience in everyday life. For instance, nowadays it is common to observe people talking on a mobile phone while walking down the street, combining physical information searches (for instance, in the library) with online searches, and accessing the world from their homes while putting their homes (and selves) online for others to see. Yet we found that spatial hybridity is not embraced in the same way by all participants. Instead, we uncovered several different strategies to manage the blurring and shifting boundaries between public and private. While some individuals navigated seamlessly between hybrid spaces, others erected strict demarcations to prevent this interweaving, and still others erected these barriers selectively, according to the activity being performed. Future studies will reveal how these tendencies develop and what strategies become prevalent to deal with the increasing hybridization of space.

From a policy perspective, this article highlights the need to move from an overly idealized view of internet access to one that is situated in the practices of users. It identifies the different roles played by the multiple combinations of public and private in everyday internet use. The research presented here suggests that rather than building public policy on archetypes of public/private use, there should be an understanding of how different

hybrid characters affect the development of certain behaviors and activities. If a stated goal is to promote electronic commerce, for example, the 'private-in-public' character of public access facilities must be enhanced. One way would be to set up 'privacy screens' that restrict the viewing angle. Another possibility would be to allow patrons to log into a personal space on a public server, whatever public facility they use, permitting them to save personal configurations between sessions.

Greater attention should also be paid to the specific ways in which public and private access complement each other. In our study we found that the use of a multi-modal public site such as St Christopher House is extremely beneficial, even for those who enjoy domestic access, because of the role it plays in helping individuals learn how to use the internet effectively. Public access facilities are instrumental in bridging digital divides not only because they provide those on the socioeconomic margins with physical access to the network's infrastructure but also because they provide a wider constituency, including more affluent or literate users, with the knowledge and support necessary to engage in meaningful interactions with the network's content and services.

The small sample size and narrow geographic focus, together with the biases they bring, limit the immediate policy conclusions to be drawn from this study. At the same time, though, they point to the need for future studies along these lines and to informed debates by more broadly representative constituencies. We have shown that public access facilities should be understood as multi-modal, complex sites where both domestic access users and those without other options are active participants, suggesting that we should treat them as a vital, ongoing and complementary service much like public transportation or public libraries. Future public access should be framed on this perception.

Acknowledgements

Notes

1   http://www.fis.utoronto.ca/everydayinternet/
2   The value our research participants find in internet use is discussed in Kennedy *et al.* (2004).

3   Also of interest is the 'Connecting Canadians' program website: http://cap.ic.gc.ca/english/5000.shtml

4   See http://broadband.gc.ca/pub/program/NBTF/broadband.pdf

5   There is an obvious third category: the workplace. Although it features prominently in the media it is not really present in policy discussions, so we choose to omit it here. Moreover, we acknowledge that there are initiatives in place that provide a 'public' (that is, offered by a governmental entity) terminal to a person's home. Although not privately owned, such access is effectively private in practice.

6   For more information on the research design and field methodology, see Viseu *et al.* (2004) and Clement *et al.* (2004).

7   We did not specifically ask participants about income and thus cannot present figures. However, it is clear from talking to participants and, in certain cases, from taking note of their houses that most participants come from middle- and low-income strata, which is consistent with the neighborhood studied.

8   The presence of a fluent speaker of Portuguese and Spanish (Viseu) on the research team allowed us to better accommodate the linguistic needs of participants.

9   See http://www.stchrishouse.org/cln/

10   Interestingly, our two other Brazilian participants express the opposite opinion. They describe two internets, one Canadian and one Brazilian. According to them, the Canadian internet offers the possibility of doing a variety of things that would be unthinkable in Brazil. This view, whether valid or not, again points to the importance of place and cultural practices in the understanding of online privacy. (For more, see Viseu *et al.*, 2004.)

11   For more on the ways in which people actively counter the merging of spaces, see Clement & Wagner (1995).

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