European Perceptions and Use of the Internet

by

Dr Leslie Haddon

Media and Communications
London School of Economics
Houghton Street
London WC2A 2AE, UK
E-mail: LesHaddon@aol.com

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Abstract

While much of the growing body of research about the Internet focuses on interactions on-line, this paper[1] reports on the results of a 5-country qualitative study which examined how the Internet relates to, or potentially relates to, the way in which people and households experience their daily home life.

There were some general national differences in overall attitudes to the Internet and some minor differences which were culturally specific. But on the whole there was much that was common across all the countries. In a historical perspective, the main finding is the extent to which this innovation has been domesticated. While it has not revolutionised everyday life, it has usually found a stable, though often modest, place within people's lives in a very short period of time. Few of the middle-class sample interviewed in the study totally rejected the Internet and while a number of users had 'no need' for it at the moment they thought they might go online in the future: so the prospects for the Internet appear good. One key factor which shaped, as well as constrained, usage was the nature of people's 'free' disposable time.

Analytical framework

The form of the research and subsequent analysis builds upon a framework for understanding the consumption of information and communication technologies (ICTs) which has been built up through empirical studies and theoretical elaboration over the course of a number of years. Principally it asks how such ICTs are 'domesticated', that is to say, the processes by which these technologies are brought into the home and with varying degrees of success integrated into the routines and practices of everyday domestic life (Silverstone et al, 1992; Silverstone 1994; Lie and Sorenson, 1996). It is a framework which takes into account the symbolic meanings of ICTs, both given by wider social representations and negotiated by household members and others. That framework considers how those ICTs are made to fit into or themselves influence the home as a dynamic social space, with its own domestic politics and patterns of temporal and spatial organisation, whose members themselves operate within wider social networks and a world outside the home which provides both opportunities and constraints in their daily lives.

Over the course of a number of years this form of analysis has been applied to analyse the lives of particular social groups such as teleworkers (Haddon and Silverstone, 1993), lone parents (Haddon and Silverstone, 1995a) the young elderly (Haddon and Silverstone ,1996) and dual income households (Frissen, 1997). It has been used to focus on specific technologies such as home computers and Minitel (Lie and Sorenson, 1996; Aune, M., 1992; Berg, 1994a, 1994b), cable television (Silverstone and Haddon, 1996) and, extending the analysis beyond the home, the mobile phone (Haddon, 1998). That empirical work has feed into a further elaboration of the careers of technologies over time (Haddon and Silverstone, 1994), gender issues (Haddon, 1995a), how household composition and non-work commitments outside the home affect ICT use (Haddon,1995b) and it has formed the basis for a discussion of wider issues of social inequality (Silverstone, 1996).

[1] This research was originally commissioned by NCR Financial Services and was conducted by a team of researchers most of whom had been part of the EMTEL European network.

Turning now to the specific Internet study, the fundamental questions covered the extent to which and ways in which the Internet been domesticated or resisted, its career within the household and factors shaping usage, and what it has come to mean for household members. The research also explored the situation of people who had not yet subscribed to an Internet service provider in order to understand the limits of the Internet's appeal and barriers to joining the on-line world.

Methodology

The qualitative study covered five nations: Germany[2], Italy[3], the Netherlands[4], Norway[5] and the UK[6]. It dealt mainly with middle-class households since statistics show that this is where we currently find the majority of Internet users (Haddon and Hartmann, 1997). In each of the participating countries, 20 households were recruited: 10 with Internet access, 10 without. Since there was more scope for discussing issues of non-access with people who have had cause to think about getting access, those in the sample without access had at least a PC capable of going online

The sample was further divided between 10 dual-income households with children and 10 one-person households, since there were some reasons to hypothesise that household composition might be a factor shaping the experience of the Internet. Thus, the overall composition of the samples consisted of 4 sub-samples of 5 people in each country: single plus access, single without access, dual income with access, dual income without access. Therefore, this amounted to 4 sub-samples of 25 people across the total of 5 countries. In the field of qualitative research, this number is sufficient to enable us to trace the predominant themes and the range of social mechanisms at work, allowing some understanding of general patterns while at the same time showing the variation that belies any simple stereotypes.

In the course of long interviews conducted during the first 6 months of 1998 , all 20 households in each national sample were first questioned about the organisation of their daily lives and their use of a range of information and communication technologies in order to appreciate how Internet use fitted in with or altered the existing patterns of their life - or could so. The study then explored their awareness and understanding of the Internet, and what it represented to them. By examining the experiences of the actual Internet users within the sample we could explore the career of the Internet within the home.

Images

Previous research on the consumption of ICTs has drawn attention to the importance of its symbolic nature (Silverstone et al, 1992). Focusing mainly on the commonalities across the countries, those with more experience of the Internet either through home, work of other institutional access generally either found it more difficult to formulate an image of the Net or else described how it worked in functional terms. For these users, the Internet was regarded more mundanely on the whole, rather than being highly symbolic. This was most common in the case of Norway, where most of the sample had access from work, probably

[2] Researchers: Eva Schulze and Arne Melzer.
[3] Researcher: Leopoldina Fortunati
[4] Researchers: Valerie Frissen, Letty Francissen and Andra Leurdijk
[5] Researchers: Anne-Jorunn Berg and Brita Bungum
[6] Researcher: Leslie Haddon

reflecting the fact that it was arguably the most Internet developed country of all those participating in the project with the highest proportion of hosts sites per head[7]. Here the Norwegian researchers pointed out how use had become routinised and the Internet was regarded more as just another computer program. This contrasted with the more fantastic imagery evoked among these same interviewees by the term 'cyberspace' , indicating that they clearly did not see the Internet as being associated with this concept.

Correspondingly, those with less or no experience of the Internet (with exceptions) were more likely to draw upon symbolic images from media discourses - either more positive ones (e.g. information superhighway, modern, unique) or negative ones (e.g. child pornography, toy).

Apart from these common images, some others related specifically to the interviewees' own backgrounds, to their experiences of the Internet (e.g. a few referred to terms like 'frustrated' and 'confused'), or to their educational and professional background (one German sociologist referring to it as a 'jobkiller'). One image specific to some British interviewees, which also related to one later criticism of the Internet, concerned its perceived American connotations - in part based on the amount of American content online.

Also across the countries, when discussing images interviewees referred more to the 'information' dimension of the Internet rather than the 'communication' one: e.g. seeing the Internet as an 'information resource'. There were few images associated with e-mail even amongst those who regularly used this facility. The Dutch researchers noted that some of their interviewees did not even see e-mail as being a part of Internet.

Internet experience and awareness

Even when they had no personal experience of Internet, absolutely everyone in these middle-class samples actually knew of the Internet, such has been its visibility in public across Europe. Moreover, a number of those interviewees in the sub-samples without home access, as well as those with such access, could use the Internet through other routes - usually through work, but also through educational institutions. Hence, in such cases there was a certain amount of familiarity with either the Internet or e-mail: these were 'known quantities' either prior to getting home access, or amongst those without such access - some of whom were considering getting home access. Moreover, even in a work (or non-domestic) context, these facilities were used for private, non-work purposes, whether on an occasional basis or more regularly.

Apart from such work and institutional access, the other main ways in which interviewees first encountered the Internet were through friends and relatives and more occasionally in public sites like cybercafes. Finally, there were those who had no experience of the Internet, or none prior to getting home access.

The extent and nature of interest

One first indication of the extent of interest (and this was particularly noted by the researchers in Norway, Germany and the UK) is that many of those in the national samples who did not have home access had considered or were considering getting access,

[7]Calculated from the Economist (1997) *Europe in Figures*, Profile Books, London

sometimes in the near future. In addition, a further number said that while there was not yet enough on the Internet to interest them, they could conceive of circumstances when they would eventually go online - indeed, a few thought it was inevitable.

Another indicator of interest was that, on the whole, once they had home access the interviewees did not want to give it up - even if they were sometimes critical of certain aspects of the Internet. Only in Germany could we find just a few examples of adopters who had renounced the Internet in the early days since at that time the benefits available did not justify the expense (which was greater at the time of the research than now).

When we asked about the nature of that interest, we really found an extension of the earlier discussion of images. For some the Internet was something new, something to find out about, and was maybe even approached with a degree of curiosity and enthusiasm. It was a radical innovation for them to adopt in the sense that they only knew a limited amount about it. While such sentiments could be found in several countries they came through most strongly in the Italian report, arguably reflecting the fact that while the Internet was least widespread in that country and it was experiencing a very high growth rate at the time of the interviews - a boom. Contrasting with these were the adopters - most common in the Norwegian case - for whom acquiring home access was an incremental step since the Internet was already familiar.

Finally, several of the researchers involved in the study made specific reference to gender and interest. With exceptions, the subset of interviewees embracing the Internet with the most enthusiasm tended to be male, although by no means all males were so eager. And while many women found merit in the Internet and showed an interest, it was among their numbers that there was occasionally a more critical evaluation, with concerns about children (or indeed, partners) spending too much time online. As one researcher put it, there were less likely to be 'swept off their feet' by the Internet, even if they saw it as being practically useful or interesting to explore or good for their children.

The reasons for interest and disinterest

At this stage in the development of the Internet, its use for work purposes (at home) still played an important role in generating interest. This occurred in various ways. For example, in the UK a predominate driver in this particular sample was teleworking[8], while the Norwegian sample provided perhaps the clearest examples of people getting access to continue working at home after, and in addition to, office hours (what has been be called 'overspill' work). In addition to actually using the facility to work at home, some interviewees also acquired home Internet access because it might further their careers in other respects (e.g. giving access to information about training courses, or else about developments in their areas of work). Finally, work could also act as the final justification for acquisition when there were already multiple reasons for being interested in this online world.

One of the other key motivators, which applied mainly to the dual income families, was getting access for the children. This was more important in households with older, often

[8]For Europe as a whole, recent quantitative research for Telecom Italia in which the author was involved has shown that households with a member regularly working from home are twice as likely to have an Internet connection compared to households with no-one working from home.

teenage, children (e.g. in the British sample), where the driving factor might be the vague promise that knowledge of the Internet was good for their future - the same promise as the PC had had in the early boom years (Haddon, 1988). But again, there was some evidence that this varied by country - e.g. being less prevalent in Norway where the hype and sense of boom was arguably less.

Remaining reasons for interest included the desire to use the Internet for particular purposes related to non-work activities (e.g. arranging holidays), the desire on the part of adults not to be 'left behind' by technological developments and, last but not least, simply a curiosity to see what was going on behind all the fuss. While a certain number of people did get Internet access or were thinking about doing so specifically in order to use e-mail, this was not the major reason for adoption overall.

Lastly, turning to the question of disinterest, it was comparatively rare to find total opposition in principle to the idea of having the Internet at home. When concerns were raised (e.g. about the availability of child pornography), these were more likely to be seen as problems to be addressed, things to be controlled, rather than being seen as a disincentive to going online at all. More commonly, if people were not interested (at the moment) it was because they saw no need to have the facility at this time[9]. Sometimes interviewees did not see the relevance for it in their lives. Sometimes, they did not need home access because they already had institutional access. This usually meant that they could have faster access then they could get by subscribing themselves because the technology and communications links tended to be more advanced in locations outside the home. So, while access through, for example, work could provide the basis for familiarity and take up in the home, it could equally well remove any incentive to adopt the Internet at home.

The household context and reactions to the Internet

One of the most obvious differences across countries between the two types of household examined in this study concerned the issue of 'free time': the single persons had less obligations to immediate family members than the dual income households whose members had to devote time to 'family life'. Symptomatic of this, and more clearly expressed in the Netherlands, Germany, Italy and sometimes in Norway were the complaints that sometimes came from the women about the amount of time their partners spent on the Internet. In this sense, the Internet could pose a threat to the family's social time together. One point raised by the German researchers was that households could be divided into those where the males were relatively more family-oriented, prioritising time spent with other members, and those households where the males were more likely to make time for themselves, for their personal interests and hobbies. This had some bearing on the amount of time they are willing to spend on the Internet.

Because of its potential to compete with the Internet for time, one activity that all researchers asked about was the management of chores: i.e. of domestic labour. It would appear that the main consequence of the gender division of domestic labour was that some female interviewees in dual income households felt they had less time for the Internet because of their domestic responsibilities, including time spent with children. This would reflect the findings of previous research on the use of VCRs (Gray, 1992) and computers (Haddon, 1990) that such women (as opposed to single women, as well as opposed to men)

[9]And this was also the major reason given by Europeans in the Telecom Italia study (Fortunati, 1998).

were more likely to feel guilty about setting aside time for themselves, especially for experimenting with ICTs.

As regards children, in the Netherlands and more so in the UK at least some members of dual income households - usually the mothers - expressed a degree of wariness over how much time their children might spend online, just as they were wary of the time their children spent playing interactive games, using the PC or watching TV. To combat this, two couples in the Norwegian study had actually downloaded software which gave a signal after their children (or they themselves) had been online for a certain time.

But it should be noted that parents differed over the extent to which they exercised control and laid down or tried to enforce rules. In different households, parents were either more or less trusting of their children's ability to make judgements about how 'sensibly' to spend their time. In the households where more control was exercised, parents, usually by mothers, management of the Internet simply fitted in with their existing approaches to controlling ICTs: for example, using strategies to encourage their children to do other things as well. The point to make is that in such households there was also clearly some scope for tensions over this issue of time use.

The career of the Internet in households

In most of the national samples, household members who used the Internet reported an early phase of enthusiasm and experimenting to find out what was available and possible, including surfing the World Wide Web. This was less so in Norway, but here the Norwegian researchers noted that because so many of the sample there first experienced the Net at work, they had already gone through that stage by the time they got home access. The Internet was already more mundane by then and they tended to carry over into the home the patterns of use established in the workplace. This raises a question of whether this might be a more common experience, true also in other countries, if the Internet in particular (and facilities like e-mail) become increasingly common in the offices.

For some interviewees - and this was most strongly expressed in the Dutch sample - the Internet (and the Web in particular) was disappointing and did not live up to expectations, sometimes because the interviewees had not been able to find what they expected to find, or because they were overwhelmed with material. Or because the Internet was felt to be slow. The Dutch researchers pointed out that these interviewees had started out with enthusiasm and curiosity about what they had heard of as being an exciting new medium. This raises the further question of whether the frustration expressed here arises not just from some of the actual features of the Net, but in part from the hype and general media coverage which promises a little too much. If we contrast the Dutch with the Norwegian sample described above, the latter often knew what to expect and thus seemed to treat the Internet far more dispassionately.

After this early phase, subsequent usage could take a number of different paths. In the case of a number of people, especially in the Dutch sample but also in other national samples, usage decreased and the Internet came to play a more limited role in their lives, used only on specific occasions or restricted to work purposes. But note that this does not mean these interviewees gave up their subscription to the Internet - very few in the national samples considered doing that. For these people, the Internet was not a part of, literally, 'everyday' life, unlike the TV or phone which in many households are in daily use. For some, teletext

is used like this, on a daily basis, while other people use it only more occasionally when the desire emerges for access to the information available on its pages. In many households the Internet appears to occupy this same role, being handy to have for just such occasions. For some households, the PC itself or the mobile phone are also be used on just such an irregular basis.

For some of the above users and also for those who used the Web a little more regularly, another common pattern was for use to become more focused - with less browsing and more searching, or else going to sites that were known to have certain information. In this context, the German report provides examples of how some interviewees at this stage gave up on their original intentions - e.g. to acquire Internet based home-banking, or to develop their own home pages - deciding that these options were just too difficult or else were not worthwhile.

The German report described this more goal-oriented approach as reaching a stage of 'mature' use, but it should be noted that this was not the only path along which Internet use developed. Across the countries there were always a certain number of interviewees for whom there was still some pleasure to be had in exploring the Internet (or more rarely chatting online or playing online games). These people, who were not necessarily computer enthusiasts nor indeed just males, set aside time for such usage. 'Searching' itself could easily slip into a certain amount of 'browsing' if something interesting caught the user's attention. For some interviewees, then, relaxing on the Internet could be - at least for certain time spots - a (better) alternative to relaxing in front of the TV or reading a newspaper. The British report noted that single person households in that sample who were more likely to use the Internet in this more playful way - partly because of a generation effect (e.g. they tended to be younger) and partly because of having more free disposable time (i.e. uncommitted to the family).

In yet other cases, usage had steadily grown, and continued to grow. Certainly, in the British sample many interviewees reported that their use of e-mail had grown as more and more people they knew had also gained Internet access. But some of these also reported that they were planning their own web site (as self-employed teleworkers) or had recently tried out downloading software or electronic transactions. In the Norwegian sample, we found the rare example of a couple regularly sitting down together to go online, just as other couples watch TV. But more usually, as with PC use in general, the Internet was accessed individually - unless one household member was specifically showing another one what they had found.

Once again, across the countries, e-mail usage became for most the part of the Internet that was most routinely and regularly used - although some of this usage was still for work purposes. This was often the part of the Internet that people were most positive about, involving the electronic extension of a familiar practice: checking for mail.

Usage

In terms of the facilities used, in all the national samples the two major ones were e-mail and the World Wide Web. E-mail was usually the most positively valued facility that was regularly checked. The frequency of checking mail ranged from once every few days, to daily to several times per day. For some users, e-mails were mainly work-related, with perhaps some social content attached. For others they were distinctly more social - for

example, the international ones described below. It was more common for local messages to be fairly short and instrumental - which, in the case of a more social message, might concern making arrangements where to meet or arranging a party.

A good, and common, example of the type of information that people from the various national samples would look up on the Web 'as and when' they needed it was travel-related details, be that in terms of timetable information, holiday offers and hotel details, 'what's on' information when visiting a new location - or downloading a map. Other common examples which cropped up in the different national samples were medical information (when someone fell ill) or hobby-related information. The children tended to use the Web for school work as the might use an encyclopaedia (or increasingly a CD-ROM) or else go to the library. After that, people looked up a wide variety of things: whatever was of interest at the time. A number of the UK interviewees observed (a) that if not for the Internet they could not have obtained some of the information they did and (b) they probably would not have made the effort to search (e.g. in libraries) in the first place if the Web facility had not been available.

There was only a limited amount of purchasing on-line. One common concern in this respect was the perceived lack of security on the Internet as regards credit card transactions. In fact, many interviewees had encountered media stories of Internet fraud, and so even if they knew that fraud using the basic telephone was possible they thought that there were more problems with the Internet. However, if we take the payment element out, a number were willing to look for products online. There was generally less interest in buying goods online, with interviewees in all countries frequently using the argument that seeing, touching or even smelling goods entered into their decision to buy. Hence there was more interest in immaterial goods (e.g. CDs) and especially services, common examples of which were home-banking and travel.

Finally, there were the other dimensions of consumption beyond actually using the Internet. On the whole few interviewees in the different countries acquired magazines covering the Internet, or directories listing web-sites. Nor, on the whole, was the Internet a major topic of conversation outside of the home. It would appear that despite the hype in the late 1990s the Internet was not as hot a 'hot' subject as the home computer had been for a short time in the 1980s boom years.

Time on-line

The on-going (phone) costs of using the Internet seemed to be more of a constraint on children's use, for whom rules were often laid down that they should only access the Internet when cheap telephone tariffs applied. Rules also concerned how long the children were allowed to stay online. Costs were only occasionally an issue for adults, although the German researchers observed that, being aware of costs, their interviewees often said that tried to use the Internet as efficiently as possible. Unexpectedly, high phone bills sometimes made users more cost conscious, but for many such economic considerations were not so much an issue because they were either sufficiently affluent or the phone and access bills were low since they only used the Internet to a limited extent anyway.

Turning now to the issue of how much time interviewees spent on the Internet, several of the national reports noted that the single persons in the samples were more likely to spend time outside of the home, while dual income families were more home-centred. However,

there was actually surprisingly little difference between the two groups as regards the amount they used the Internet.

The British report explored this seemingly 'paradoxical' effect in more detail. In this sample, most of the single persons - male and female - would find odd, uncommitted times, without obligations to others such as immediate family. During such spare moments at home, they could follow up something of interest. In some cases, these uncommitted times arose though unpredictable work demands: since people knew they would often bring home unexpected extra work or have to stay behind at work, this led them to avoid making social commitments such as joining evening classes or clubs. But then on the days when these singles had no extra work they would find themselves with some free time. Alternatively, the free time might come after finishing off the work brought home, by which time it was too late to go out with friends. So, instead, they would look around for some home-based activity

For some single persons it was social, rather than work, demands which were unpredictable and which once again meant a disinclination to take on regular commitments. Once again, these led to occasional, uncommitted periods of time that could be filled by watching TV, by reading, by projects such as doing up the house etc. But these times might equally be occupied by using the PC off-line, exploring web-sites or chatting online. Finally, we might add that within the dual-income households it was often the children who had the most free disposable time, and sometimes spent many hours on-line per week. However, that 'free' time was subject to their age and educational commitments - e.g. usage decreased in the run up to major exams (such as GCSEs in the UK, usually taken when children are 16).

The above account starts to turn to the question of when time spent on the Internet occurs. For many adults, that time slot was often constrained by working hours, occurring in the evenings or at weekends. Even some teleworkers followed this pattern. For example, one British interviewee only allowed herself time to relax and search for whatever interested her on the Internet in the time slot after she had completed her day's work and before she went out socialising in the evening. For others the time spot might fall after completing some work-related tasks at home in the early evening, or in the late evening, relaxing at the end of the day (e.g. through socialising online). In other words, while some (especially single person households) had unpredictable periods of free time, others had more regular time slots for going on-line.

The Internet and other ICTs

To what extent did Internet use influence the consumption of other ICTs? In fact, while there was some element of substitution, noted in the Italian, German and UK reports, Internet facilities did not completely displace other ICTs but rather complemented them. To start with TV, a number of interviewees reported that they had switched from watching some television programmes to using the Internet at those times. But, as was clearest in the British report, the people tended to have less interest in TV generally. Or else this switch to the Internet happened at times of the day when they had a low commitment to watching TV. However, the Internet could not displace TV at times when, for example, there was a stronger commitment to particular programmes (e.g. the news) or where TV watching counted as family time (e.g. watching in couples). And the Internet could not so easily displace TV watching when the latter counted as resting time after work, either late in the

evenings or on non-work days when fatigue had set in and a more undemanding activity was wanted. Lastly, we have the relationship between the Internet and the specific case of information from the TV in the form of teletext. The UK research noted that while the Internet had occasionally led to some decline in teletext use, for the most part the technologies were complementary and teletext was still used (e.g. for weather, TV listings, holidays etc.)

Usually e-mail also complemented rather than substituted for telephony, not only for social messaging but also when interviewees sought information - i.e. people with the Internet still found times when they preferred to ask for information over the phone. For some, especially but not only the single people, e-mail complemented their existing answerphone facilities since they, and also their friends, were often hard to reach. And like the answerphone, e-mail was sometimes preferred because it allowed more control over communication. The main exception where telephony was displaced was in the case of international calls, where the cheap (or cost-free if made from work) e-mails sometimes replaced expensive calls to other countries, or even led to more communication with people abroad than would have taken place in the past. And, of course, e-mail was particularly useful for asynchronous communication across time zones - e.g. from Europe to the US or Australia. For those few who had fax machine, some faxes had been displaced by e-mail but even the fax machine remained a complementary technology when people wanted to send a text that was already and only in hard copy form. For some, e-mail had replaced letter writing to those friends who were seen less regularly.

Conclusions: European comparison

In keeping with previous research, there proved to be much that was common across countries[10]. For example, awareness of the Internet was high amongst all national sub-samples of non-users while each country's sub-sample of users had a range of degrees of involvement in the Internet from enthusiasts to those who used it far more modestly. In each national study those with access felt that the Internet was now worthwhile enough to keep, yet on the whole similar issues emerged across the studies.

In other words, while it is to be expected that there will be some statistical differences in national patterns of use and acceptance the qualitative analysis of this study suggests that many similar processes are at work which both motivate acquisition and usage but also act as constraints. We have not found a radical rejection of the Internet in one country nor its uncritical embrace in another.

Small differences have been noted throughout the report, although one always has to be very careful when dealing with samples of this size. Examples might include the extent to which the Internet was already common in the Norwegian workplace and the American connotations of the Internet found in the UK. However, the main difference appears to be in the overall tone of responses that comes through - which is also especially clear when examining quotations from interviewees. In Norway the Internet appears to have been perceived in more mundane terms, in Germany and the Netherlands some of the most critical comments emerged although there were also examples showing that the Internet was

[10]This was also a general finding in a recent Telecom Italia five country study.
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valued, while the British and Italian samples contained the most upbeat and positive comments.

Conclusions: Domestication

To deal first with a central question raised in the introduction, the Internet has been domesticated perhaps surprisingly quickly in comparison to many other radical innovations of the past. The telephone, radio and even the TV took longer, and historians of technology have charted the considerable efforts involved to actually help establish them in the home as mainstream, taken-for-granted products. For example, earlier this century people originally had to be convinced that the phone was more than a toy (Aronson, 1997). Meanwhile, journals worked to make the radio more than a hobbyist interest (Johnson, 1982/3) and later helped overcome concerns about TV (Spigel, 1992). While the Internet had precursors in other networks, especially the Arpanet, these were used mainly by professionals and enthusiasts. As a mass market service it is not only the growth statistics which have been impressive but, as this study shows, it is striking how the Internet has managed to become integrated into domestic practices and normalised in just a few years.

If we make a different comparison, PCs originally experienced a boom in the early to mid-1980s and reached fairly high level of penetration, 15-20% in just a few years (Haddon, 1988). This innovation had some parallels to the Internet. The home microcomputer was represented symbolically at that time as heralding the dawn of the information society, which created the sense that people, or especially children, could not afford to be 'left behind' by this technological development (Haddon and Skinner, 1991; Skinner, 1994). However, if we look at actual use, for many years the dominant application on those early PCs was games, and it was only gradually that other uses such as word-processing came to the fore. Only more recently has CD-ROM technology enabled the PC to take on the role of a 'software player' which was first discussed just under 20 years ago.

In contrast, while hype and the curiosity it has generated have undoubtedly helped the Internet to enter the home, it appears quickly to have lost its sense of specialness in many of the households - as evidenced by the fact that it was not talked about so much with people outside of the home. Indeed, those planning to go online were often thinking of doing so because of a variety of practical benefits that they anticipated. And once in homes the Internet has become routinely used for communications, for checking information and for its entertainment function as people look around to see what is there online.

On the other hand, if we ask whether it has caused a revolution in the lives of these households, the answer is no. If we look back to the 1980s, a number of writers evaluated claims on whether an 'Information Revolution' was taking place and whether a totally new 'Information Society' was emerging (Winston, 1989; Winner, 1989; Lyon, 1988). They pointed out that in many respects technological change, adoption and its consequences were neither as rapid nor as radical as the term 'revolutionary' implied. And more recent empirical research has emphasised how in the short term to medium there are rarely massive overall changes in the pattern of people's lives - for example in terms of people's time allocation for different activities or in terms of the distribution of spending across categories of goods and services (Punie, 1995). So generally, we are often slow to change habits, including our habits of media and communication use (Silverstone, 1995, Haddon and Silverstone 1995b).

So too here. With the exception of the few enthusiasts who spend hours online, this study suggests that for most interviewees life did not suddenly revolve around the Internet. We saw how it was often used far more modestly, for short periods or occasionally. In fact, one response from both some interviewees and researchers was that given some of the glamour still attached to the Internet, its use turned out to be somewhat mundane and restricted. Yet the above histories of domestic ICTs tell us that perhaps we should not expect more, and what foothold the Internet has gained in people's homes is actually an achievement. In fact, arguably one of the least appreciated transitions, which has almost passed without comment in wider discussions of the Internet, is the way in which many people in a very short time have added a whole new mode of asynchronous communication to their communications repertoire, and established the new habit of going online to check their e-mail

Conclusions: Time

One other general finding is that it was not so much economic costs which shaped use, although this is a consideration, but rather time costs. In a previous British study of the consumption of cable TV by managerial and professional households one key theme was that their TV watching was often limited to certain time slots because of all their other commitments, both employment-related and social (Silverstone and Haddon, 1996). Partly through choices, partly through other constraints, they had limited 'free disposable time'. A Dutch study of dual-income with households with children reached similar conclusions (Frissen, 1997). This issue of time structures was also a key one in this study of the Internet.

Even among those non-users who were still at the stage of considering acquisition, the time issue emerged. Although they showed some interest in the Internet they had other priorities in terms of how they wanted to spend time. Others, especially in the British study, said that they might be tempted to subscribe if it could be made more convenient to get Internet access, if someone could set everything up for them and show them how to use the Internet. In effect, they were showing an appreciation that it currently requires an investment of time both to go online and discover its usefulness. And yet others were sufficiently busy that they had not found the time to go about sorting out access.

Once acquired, Internet usage was clearly constrained by other commitments and not just in the dual income households. While in the latter households interviewees had to find social time to spend with other household members, the single people also set aside time for social networking and activities outside the home. And within dual income households we saw that there were particular time issues relating to gender, with males sometimes being more able to make time for themselves to go online, while females noted that their lack of free time because of domestic responsibilities was a constraint on their use of the Internet. Finally, it is interesting to note that common motivations for going online, to help plan holidays or look up illnesses, may well be justifiable, or the use of that time justifiable, precisely because it often involves acting for the 'family' or for other family members.

End Note

This paper has attempted to complement the numerous studies of online interaction (e.g. Jones, 1995; Shields, 1996; Porter, 1997; Jones, 1997) with a systematic and multinational study of how the Internet is experienced within households. It has shown how the 'off-line' world of everyday life, including the household interactions and time structures in which

individuals operate, have a bearing upon how people imagine and encounter the online world. It has shown how that experience of the Internet can by dynamic, changing over time, with common patterns but no one single line of development. And it has examined the, often modest but still established, role that the Internet - at this stage in time - has come to play in people's lives.

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