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Approaches to Understanding Teleworking

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Over the course of some years of reviewing literature and conducting empirical research on telework, it is quite clear that it is a diverse phenomenon, approachable in numerous ways and for a range of objectives. Furthermore, the actual experience of teleworkers is varied and dynamic, as is their relationship to information and communication technologies (ICTs)

The following sections aim to address all these issues by:

1. setting the scene in terms of indicating the diverse perspectives brought to the topic, including public representations of the practice
2. exploring the issues involved in defining telework and drawing boundaries around the practice
3. charting the dimensions according to which home-based teleworking experiences can be differentiated
4. indicating the key dynamics by which teleworking may change over time
5. providing a framework for specifically considering how we might analyse the role of ICTs in such teleworking households

Images: The diverse perspectives on telework

Telework has attracted interest from diverse quarters. What has therefore emerged is not one but a variety of discourses about telework, involving different images of the teleworker, different 'problems' for which telework is a solution and different perspectives from which to evaluate this phenomenon. While more detailed histories of the concept have been provided elsewhere (Huws, 1991, Julsrud, 1996), it nevertheless important broadly to indicate some key strands since this will become relevant to a later discussion of definitions of telework and drawing boundaries around telework.

If we start by considering the interests of the various research communities, the topic of telework started to gain publicity in academic circles in the early 1970s, especially when the energy crisis led researchers to consider telecommuting as an alternative to physically commuting. Huws (1991) notes these writers usually portrayed the teleworker as a male manager or professional living in the outer suburbs. Since that time, geographers and town planners have retained an interest in the effects of telework upon patterns of commuting and hence upon urban design and ways of life. The Rio accords to reduce car emissions for environmental benefits have helped to reinforce some interest in this dimension (Gillespie et al, 1995).

In the 1980s another academic strand of analysis emerged from managerial and business schools, and in particular from schools of personnel management¹ (e.g. DeSanctis, 1984; Olsen, 1987). Under the heading of 'human resource management', telework has been seen by these writers as simply one form of flexible labour among others which could be

¹These generated not only much speculation about the many issues which could arise around telework but provided the source of many empirical studies have emerged in recent years

clearly located within contemporary discussion of the need to develop firms which could adapt more easily to market changes.

Huws (1991) describes a later discourse into which telework has been inserted - one concerning the enterprise economy. Here telework is an intermediary stage on the road to entrepreneurship, where employees break away from their previous company to set a small business in the home - perhaps as a prelude to moving out into separate premises². In fact, Huws notes that the image here is one of males working long hours to inject new life into the traditional values of self-reliance and the free market - even if many women have also set up businesses.

A more critical approach to telework has been adopted by researchers working for Trade Unions and bodies such as the UK's Low Pay Unit which have long monitored telework as part of the changing nature of working conditions (e.g. Huws, 1984). Their concern dates back to fears in the 1970s about the impact of new technology on work, especially the threat of deskilling. Making comparisons with traditional homeworking, these researchers feared that teleworking could be a means of applying exploitative conditions of service to the clerical labourforce. In particular, the benefit for management of flexibility - and its promise of reducing labour costs - had a different meaning for the unions. It could imply a 'casualisation' of the workforce, as the firm reorganised its employees into core and peripheral workers (Holti and Stern, 1986; Brocklehurst, 1989). Moreover, isolating employees from one another militated against collective union action to resist pressures from employers. Thus, teleworkers might not only become non-unionised but non-unionisable.

Huws draws attention to the way in which optimistic writers in the early 1980s saw telework as a solution to a tension within society between the need for women's paid labour in the white-collar workforce and for their unpaid labour at home. In this scenario, telework help to retain the traditional family, with women staying in their 'proper' place within the home. Understandably, there has been a strong feminist response to this suggestion, especially following their 1970s focus on the housewife who was trapped and isolated in the home (Huws, 1991). Going out to work and being present in the workplace was seen as being important for women's self-identity, social standing and influence. Feminists have been keen to point out that although telework may be a solution to women's dual role, and hence one adopted by some women, it is by no means the ideal solution - with many writers pointing to the difficulty of working with young children around, and the stress of coping with both work and domestic roles when in the home (Olsen, and Primps, 1984 ; Christensen, 1987). Moreover, there has been a feminist undercurrent in much union research which draws parallels with women's negative experience of traditional homework. Women are already disproportionately located in the peripheral, secondary labour markets with poorer conditions and narrower

²Rank Xerox's 'networking' scheme was the most publicised case of this move to self-employment, whereby the firm encouraged some senior executives and professional staff to set up their own businesses while initially guaranteeing them some work from Xerox (Judkins, P. *et al.* 1985).

options. The fear is that teleworking might have the potential to exacerbate this trend, and further marginalise women within the workforce.

Beyond these various research communities, the concept of teleworking is now well and truly in the public domain: The predictions of popular futurologists such as Toffler in the 1970s and 1980s did much initially to establish telework in the popular imagination (Toffler). Some of their descriptions of telework fitted in with themes from the more libertarian politics of the 1960s where IT could be used to break down vast corporations by allowing decentralised small workplaces to intercommunicate. In this scenario, 'creative' workers - implicitly male - choose telework as a lifestyle option (Huws, 1991). Since that time on-going media representations of the practice have often focused more on professional telework. Meanwhile, telework has been the subject of policy discussions³ which have inspired research, policy-oriented documents and symposia both from individual Governments and from the EC⁴, all of which add to the public image of this form of working. Lastly, some companies, especially those ICT suppliers with an interest in promoting telework have not only conducted their own research (e.g. Haddon, 1992) but have also contributed to the image of telework. Many of these representations of home offices understandably emphasise the role of technology, often presenting relatively higher-tech versions of the experience

While not exhausting all the possible approaches to telework (see also Julsrud, 1996), the aim of this section has been to draw attention to the sense in which teleworking is a social construction. Of course that does not mean that people do not work at home using ICTs, for example. What it does mean is that researchers approach the concept with different agendas, different frameworks, different priorities which can have a bearing on what, of the many things that are possible, they find and report. And as we shall see, when there are many decisions to make when choosing how to define telework, it can even affect how we measure telework. Finally, the fact that this concept is in the public domain can help to shape how we think of the phenomenon, and in so far as both Governments and companies themselves sponsor research this too can have a bearing on how telework is examined.

Boundaries: Defining the limits of telework

If the first section dealt primarily with the question of why study telework and the images evoked within different perspectives, this section turns in more detail to issues of what do we count as telework and who do we count as teleworkers. In other words, where do we draw the boundaries around the phenomenon. Clearly this is important for any attempts

³Not only from the state: in the UK, for example, regional development agencies, railways and tax offices have followed developments since this might have implications for their fields.

⁴For example, between 1977-81 the French Government sponsored a number of reports and conferences (Monod, 1983). The US Government has instigated both technology assessments and conferences (Huws, 1991)

to measure the prevalence of the experience, but it is also relevant for studies charting the experience of teleworking from whatever perspective since drawing the boundaries differently will lead researchers to focus on different groups of teleworkers. Since the later focus of this article is on home-based teleworking, the emphasis on this discussion is on telework with a home-based component⁵.

One issue is the degree to which ICTs form a substantial, strategic or necessary part of telework. In fact, some very early research on teleworkers did not require the use of ICTs as part of the definition of the telework phenomenon (Huws, 1984). Centrally it involved some sort of information processing. But for many years the use of computers especially has tended in practice to form part of the very definition of teleworking, differentiating it from traditional homework and there is normally reference to some kind of telecommunications link to distant employers or clients.

The first problem is deciding how important a role technology plays in the work process. Huws (Huws, 1995) refers to people who make 'incidental' use of ICTs in the course of their work, for example farmers, plumbers, artists and craft workers who use PCs for letters or accounts⁶. Of course with increasing prevalence of computers over time this becomes more and more common. But amongst these examples she also includes architects, who in a sense are processing information. If they work at home they are probably doing so for a distant client. And for many architects computers are increasingly an everyday tool in their design work. This example just highlights the point that there will be grey areas in deciding the centrality of technologies (Wilson, 1991).

The second technology issue concern the nature of the telecommunications link. A minimalist definition would consider voice telephony to be sufficient⁷. Yet from early days there have been those who have insisted that telework should entail an electronic link - originally a modem link to a distant mainframe. These two definitions would produce very different pictures of the numbers of teleworkers. In fact, one interesting development is the rise of the Internet, which is finding a role for both self-employed teleworkers and teleworking employees (Haddon, 1998). Since using the Internet would now count as an electronic link it has the potential to increase greatly the number of teleworkers according to the second definition. An yet this clearly does not mean that many more people have suddenly started working from home - they have merely changed one aspect of their work process by going on-line.

Next there are certain questions concerning time. One first issue, which is not given so much coverage in the telework literature, concerns the amount of time people work in general, let alone in the home or elsewhere. As we shall see, some studies of teleworking

⁵The difficulties of defining forms of remote working other than that based in the home are discussed in a number of other studies including Huws, 1990.

⁶This is elaborated in huws, 1988.

⁷In fact, after discussing the problems of the 'communications' link, the Empirica study of the 1990s chose to allow mail and courier services for delivery of the results of the telework to a remote employer or subcontractor, Huws et al, 1990.

are willing to include part-time as well as full-time workers (e.g. Huws, 1995), but the question then arises concerning what the lower limits of part-time work would be. In the course of conducting my own empirical studies in households on various topics over a number of years, it is clear that some people work only occasionally or very little, especially if averaged over time.

But the temporal issue which is more frequently discussed in relation at least to home-based telework concerns either the proportion of time (as a percentage) or the amount of time worked in the home compared to time worked elsewhere. The decision as to where to draw the line is very varied. Gillespie et al describe how some researchers exclude occasional, part-time telework altogether. They go on to describe how one Dutch study defines telework as spending 20% of work time away from the office of employer (i.e. not necessarily in the home), while the Huws study for the UK's Department of Trade and Industry operationalises telework to include those who work at least 50% of the time in home⁸.

Meanwhile Michaelson, approaching the whole subject of telework from the view of international time budget analysis, provides uses perhaps the lowest cut-off point by defining telework as involving at least one hour working in the home (Michaelson, 1998). In a paper comparing Swedish and Canadian data, he then proceeds to show that if people work less than 4 hours in the home they tend to work a higher proportion of their time at an external workplace (in a ratio of 60:40) whereas if they worked more than 4 hours in the home then they work most of time at home (85% of the time). This approach allows him to generate another distinction between teleworkers based on time in the home - between 'extensive' vs. 'intensive' home based workers. He then goes on to show that differences exist between these groups, e.g. in terms of the activities that they enjoy.

It is possible to illustrate further the differences in figures for working at home that different cut off-points will produce by considering some European data from a five-country study of telecommunications practices (covering France, Germany, Italy, Spain and the UK)⁹. Taking the subset of people within the whole European sample who worked at all¹⁰, one question in the survey asked whether the respondents spent 'any significant amount of time working at home, excluding work you might bring home in the evenings and weekends'. The wording was meant to exclude 'overspill work - i.e. work which spills over from the office, in the sense that people who work a full day elsewhere then also bring home some extra work in the evening and at weekends'¹¹. We

⁸One difficulty with the 50% cut-off point, even if I have used it myself, is that it fails to capture those who work predominantly in offices, but then spend one or two days working at home - which is not only a current practice, but one vision of how teleworking could develop (Wilson, 1991)

⁹This research was conducted in 1996 and commissioned by Telecom Italia. The main findings, although not the particular data reported here, appear in Fortunati, 1998.

¹⁰The total sample size for this telephone survey was 6609, covering all ages from 14 upwards. 3135 of the respondents were in paid employment and answered this question.

¹¹In fact, 20.3% of those who worked brought home some 'overspill work'. Of these, 39% did so occasionally (less than once a week) and 60.4% did so more regularly (i.e. at least once a week).

then asked those who said they worked at home what percentage of their normal working time was conducted in their home.

Table 1: Proportion of time spent working in the home

Percentage of time worked at home	Numbers of those in the sample	Percentage of those in the sample who worked
up to 25%	254	8.1%
26-50%	157	5.0%
51-100%	125	4.0%

Now these figures are not in themselves meant to provide a measure of ‘teleworking’ in the sense that no other criteria - such as the use of technology - have been included. Hence the figures include all forms of work in the home, including more traditional paid homework. These figures show that 17.1% were claiming to do at least some proportion of their work at home. If we are only interested in those who do at least a quarter of their work at home, the figure drops to 8%, and if we specify that we only want to know those working over half the time at home, the figure drops to 4%.

Two of the questions in the survey asked (a) whether they had access to a PC at home and (b) whether they used a PC in the course of their work. If we add these requirements in order to try to at least eliminate some traditional homework, we have the following picture for the European sample as a whole¹².

Table 2: Proportion of time spent working in the home: with PCs

Percentage of time worked at home	Percentage of workers using a PC for work and with a PC at home
up to 25%	3.5%
26-50%	2.7%
51-100%	1.1%

One final observation from looking at the national data separately is that there is not always a straightforward pattern of those working up to a quarter of the time in the home being more numerous than those working from a quarter to a half of the time, who in turn are more numerous than those working more than half the time there. This pattern may be followed by France, Italy and the UK, but not by Germany and Spain.

¹²To the extent that respondents answered these questions - some did not.

Table 3: Proportion of time spent working in the home: with PCs and by country

% of time	France	Germany	Italy	Spain	UK
worked at home	N=495	N=979	N=475	N=403	N=635
up to 25%	3.1	1.6	2.7	4.6	6.7
26-50%	2.1	3.6	1.7	2.0	2.9
51-100%	0.2	1.7	1.1	2.2	0.6

Moving on now the next element defining telework, employment status provides another issue where different researchers makes different decisions - and obviously this can have a major influence on how researchers measure the extent of telework. For example, Gillespie et al note that comparing two studies of the UK, the one excluding the self-employed produced figures 10 times smaller that one including them (Gillespie et al, 1995). Some studies have produced more complicated decisions on this issue. For example, the Huws study for the DTI included self-employed people working for a single client but excluded freelancers working for several clients. On this occasion the decision was made because the project was focused on best management practices, and so freelancers, as 'self-managers', were not so relevant. Nevertheless, this example serves to remind us how even the process of mapping the field is shaped by the goals of the particular project.

One of the other standard issues discussed in literature reviews is whether telework should include only home-based work or other variants where there is conceivably still some form of remote working (e.g. telecottages, remote offices). As is often the case, the choice depends on the focus of the project. For instance, the wider definition probably has more relevance for studying the 'impact of ICTs on the spatial organisation of work' (Gillespie et al, 1995) and issues such as managing a distant workforce. On the other hand, when my own research focused on the teleworkers as part of a series of studies of the experience of ICTs in households, it made more sense to go for the narrower focus on what have been called 'electronic homeworkers' (Gillespie et al, 1995) for the purposes of that study.

In more recent years there has been some discussion of how to conceptualise nomadic or mobile workers Gillespie et al observe that they tend not to be counted as teleworker in US studies and in one French study that discuss, but they then point out that many European managers nevertheless regard them as being teleworkers (Gillespie et al, 1995). Hence these researchers consider mobile workers to be one of the subsets of teleworkers. We can add some complexity to this issues by considering a Norwegian survey by the telecom company Telenor which did not insist on telework based at home and mobile work being mutually exclusive categories (Julrud, 1998). Here telework was defined as working in the home for 5 or more hours, while mobile work was defined as working

outside the home and main office site for 5 hours of more. While there were differences overall between home-based teleworkers and mobile workers (for example, in their use of ICTs), a third of the Norwegian sample of teleworkers were actually also mobile workers according to this way of counting.

Huws discusses a number of these issues in explaining her operational definition of telework in the DTI study of its prevalence in the UK. After years of studying telework, she observes that there is 'no clear-cut choice between logically distinct alternatives' (Huws, 1995). This is also clear from the above discussion. It is impossible to provide an absolute figure for the number of teleworkers in the abstract. There are obviously many decisions to make. Once you make them, putting aside any practical methodological difficulties concerned with the process of counting, it is possible to generate some 'hard' data that corresponds to what people do. But it is important to remember that the data is only as good as, and reflects, the definition. And given the range of perspectives, understandings and agendas outlined in the first section, it is understandable where there are a variety of definitions, of figures and even of descriptions of the experience of teleworking to the extent that different researchers focus on different people.

Diversity: The experiences of telework

At this point we turn to the actual experience of telework - or at least to home-based telework. Certainly some of the media images and representations from companies can be misleading in that they depict a fairly stereotyped, often professional, experience whereas telework is by no means such a unitary phenomenon. Within the telework literature general differences between male and female and clerical and professional telework have been noted, but here I use my own research to delineate some of dimensions according to which the circumstances, and hence the experiences, of teleworkers vary.

The following descriptions draw mainly on a year long British empirical study of households containing home-based teleworkers (Haddon and Silverstone, 1993; a shorter version of which appears in Haddon and Silverstone, 1994b). This was part of a series of studies of different social groups looking at the role of ICTs in the home¹³ Twenty households with teleworkers were studied, which involved both the adult household members filling in weekly time budget diaries, and then being interviewed for several hours, individually and together, and two separate occasions. In terms of the various boundaries described above, a relatively generous definition was used. The participants had to use a PC and at least voice telephony in their work, although that did border on 'incidental' use in one or two cases. They could be employees or self-employed, full-

¹³The other two studies in this particular project were of lone parents (Haddon and Silversotne, 1995) and the young elderly (Haddon and Silverstone, 1996). Prior to this particular research, I had conducted both literature reviews (later appearing as Haddon and Lewis, 1994) and previous empirical research on teleworkers (Haddon, 1992). Some years after this study, later research on the Internet also involved some teleworkers (Haddon, 1998). So while the following descriptions draw mainly on the 1993 year-long study, they are also informed by these other sources.

time or part-time (which could mean just a few hours on average) but they had to work a majority of the time at home.

The first aspect which can shape the experience of telework is the question of motivation (on this issue, see also Huws, 1991). Why does teleworking appeal or why is it felt to be the best option from the choices available? The rationale involved, the goals that teleworkers hope to achieve, is important precisely because it has a bearing on teleworker expectations, what they value about the telework, and what facets of the work constitute a problem. Thus, appreciating the motivation for teleworking can help us to understand teleworker behaviour, their strategies, whether they are satisfied, whether they are enthusiastic, 'get by', or give it up.

By far the main domestic motivation for teleworking relates to children¹⁴ - which often means a combination of wanting to spend time with children and managing the practicalities of taking the children to and picking them up from school, a nursery or a childminder. With exceptions, it appears to be virtually always women who take up teleworking for this reason, which can often mean that they the women concerned are balancing telework and domestic commitments to a greater extent than many males counterparts. That said, there are differences in emphasis among these female teleworkers, which again differentiate their experiences. For example, for those, especially professionals, trying to maintain a career, the pattern of organising of work into substantial blocks of time often matching ordinary office hours is often very similar to that of male teleworkers (Haddon and Silverstone, 1993). Other women who have a commitment first and foremost to their domestic role try to find a form of work which fits in and fits around this. Often, but not only, in the case of clerical workers, this work can be as fragmented as domestic tasks, and is sometimes fitted in during evenings or at weekends.

Still on the theme of motivations, there are several work-related reasons for taking up telework. It can simply reflect a preference for the autonomy and freedoms some people see and find in working from home, in some (albeit less frequent) cases, telework is even valued as an alternative form of work, with countercultural or pre-industrial connotations (Haddon and Silverstone, 1993). Equally, teleworking can be embraced in that it enables entrepreneurship, as some people make the decision to break away from employers and set up their own businesses. On the other hand, the adoption of teleworking does not always take place for such positive reasons. It can be a strategy to get away from problems experienced in an office workplace or to avoid some commuting - meaning that the question of travel is not only a concern of geographers and town planners. Moreover, teleworking may be seen as the only remaining option following forced redundancy or early retirement. Obviously, the degree to which telework is enthusiastically taken up can have a bearing on how people feel about the whole experience and on the choices which they make.

¹⁴Caring for the sick or elderly is another, although very little is known about the number of teleworking carers.

The next aspect is the status of telework in the home. The perceived significance of telework is important because it can influence the very identity of the teleworker and also have a bearing on how teleworkers and other household members feel about the intrusion of telework into the home. If it is given a high value, telework can be used to justify exemption from certain household responsibilities or to excuse teleworkers from participation in the social life of the household - a situation that seems to occur more with male teleworkers. It may also enable teleworkers to gain the support of others in helping with that work. And it has a bearing on the power of the teleworker to command space within the home for that work.

In fact, the status of telework is another key dimension which differentiates the meaning of working at home for many men and for women. The women in our own study were far more likely to be secondary earners, reflecting the wider marketplace for male and female labour. They were usually interested in telework because it fitted in with looking after children, and many were involved in part-time telework. In contrast, most of the males in this study worked, or aspired to work, full-time. They were far more likely to be the primary earners - or aspire to be so in the case of those setting up new businesses. 'Aspiration' is a crucial nuance here, because the significance of telework is by no means simply determined by the amount of monetary income it generates at any one time. The status of telework is both a psychological issue for teleworkers themselves and an understanding negotiated in the household. For example, where money for buying equipment has to come out of combined household finances there is always grounds for some friction and debate over the status of telework. Having first stressed broad gender differences, as in the case of the organisation of time, there were differences in the status of work among male teleworkers as well as among female ones.

Different teleworkers have different degrees of control over their work, which obviously problematises some of the claims that teleworkers automatically benefit from increased flexibility and autonomy (Haddon and Silverstone, 1992). To illustrate what this can mean, in our own study some self-employed clerical teleworkers, for example, those involved in word-processing, were afraid to turn down work for fear of not being given work in the future. Yet other had developed strategies or negotiated with clients to manage their work flows. Nor were such differences unique to clerical workers. While some teleworkers in a professional or managerial capacity did operate with autonomy, others were concerned that work ate more and more into home life, as they made themselves more contactable outside work hours, for example.

The centrality of ICTs to telework was discussed earlier in relation to defining the boundaries around what counts as telework. But the role of ICTs can also be a differentiator of the telework experience. For example, that study indicated how to greater or lesser extents ICTs could play role in enabling telework to be an option in the first place: but while particular ICTs played an essential role for some types of telework this has to be contrasted with cases where the work could have been conducted without them. In between these two sets of teleworker, there were some people for whom ICTs were more than just a facilitator because of the magnitude of task and time pressures

involved¹⁵. For these, mostly but not exclusively self-employed, teleworkers ICTs made telework a more feasible option. At the same time the centrality of ICTs to the labour process could have a bearing upon perceptions of the work (e.g. whether it is seen as being 'high-tech'). It influenced the value teleworkers placed on and their efforts to develop ICT-related skills. And the centrality of ICTs sometimes justified ICTs entering the home or being appropriated for work.

Dynamics: The range of teleworking careers

The decision to take up teleworking should not be seen as being final. It is a provisional, perhaps temporary commitment to a working arrangement. For some it is a choice taken with relatively more enthusiasm. For others, the decision to telework and continue teleworking is made with some ambivalence, and with at best a partial commitment.

For some people telework is indeed the final stage in their career: once they become involved in teleworking they continue to do so for the rest of their working life. This may be a lifestyle choice, a decision to embrace teleworking because of the problems of on-site working, or because of the autonomy it may offer. But equally, this may be because there are few better options: e.g. for the manager made redundant who is unlikely to be employed again because of age.

For others, teleworking is only a stage in their lives, an option like taking a career break, or the decision of many mothers to work part-time while the children are young and return to full-time working later. It may be a fairly short stage, as in the case of one of our interviewees who started a new business and worked at home a few months before moving into rented offices. Or it may last for some years, as with a number of our households where women had planned to stay home as their children progressed from birth to school age or even into their teens.

In the following discussion, the concept of telework trajectory is utilised to describe some of these stages because it captures the way in which telework takes place in a constantly changing household environment and remains a potentially contingent arrangement. It can also illustrate the different routes into, through and out of telework. Lastly, we can ask how the various trajectories give rise to different issues in households and to different responses.

In our sample it was clear that certain antecedent experiences could pave the way for telework, making this form of working less problematic. One of these is simply the experience of growing up with parents who worked in (in the case of agriculture) immediately around the home, so that there was some familiarity with the blurred boundaries between home and work. Another factor favouring telework is that in some localities working at home was already a common practice, as in the case of traditional outworkers employed by the Nottingham hosiery industry. In some occupations, such as accountancy, it was common for women to move into the home for a few years when

¹⁵Elaborated in Haddon and Silverstone, 1994.

children arrived and the same might also be said of typists who shift to working at home. Finally the growing public visibility of telework through media and the telework literature itself created an awareness of the concept, and first attracted the interest of some of the teleworkers we studied.

Turning now to immediate trajectories into telework, one route into telework was from an exclusively domestic role. This was usually experienced by women who for a time prior to working have been preoccupied as housewives and childcarers. This had sometimes been for a short period of a few years or the domestic role may have been a longer one lasting until the children were teenagers. In fact, the transition from this domestic role is a useful case for illustrating the significance which trajectories can have upon the whole telework experience. Often such teleworkers had made a break with any previous work contacts through whom they could easily get support (e.g. in terms of receiving advice or being passed on work if they were self-employed). Where these teleworkers had previously been moving in social circles of other mothers with young children, they now sometimes faced dilemmas as regards finding the 'free time' for maintaining social contact with this group of friends while making the time for work.

Some related experiences occurred among those entering into telework from involvement in some form of education (e.g. a degree). While this background may have had some of the temporal rhythms of industrial work in that deadlines had to be met and attendance might have been required at certain times during the day, nevertheless there had usually been a considerable amount flexibility in terms of choosing the time to study and making time for social contacts. Meanwhile, moving from limited part-time work outside the home to teleworking could also lead to easier transition which involves less adjustment than when the precursors were purely domestic work or full-time office work.

The contrast with the domestic trajectory is clearest in the case of those who have come to telework from a full-time office environment. For example, in our study, those who continued to work for the same employer when they changed to teleworking would often carry on working roughly the same core hours - unlike those from a domestic background, they were not interrupted by any friends who expected them to be free for socialising. Sometimes they were also locked into working some core hours because of the requirements of their employers (i.e. in order to co-ordinate with other office-based staff). For those employees who were taking part either in a teleworking scheme or a more informal arrangement there was also some scope for maintaining useful contacts in the office who could help out with work problems. Even some of those who had made a break from their previous employers to set up their own business still kept some old work contacts and often retained much of the time structure of their previous employment.

Another route into the home includes those self-employed who retreated into the home for longer or shorter periods. For example, because of the contraction of their business some had given up their previous rented offices. For others, teleworking was a stop-gap between winding up one business and setting up another in a new office. As in the case of those setting up businesses for the first time, those retreating to the home sometimes brought other staff into their homes to work with them. For those who had been made

redundant and taken early retirement, teleworking was often not only an unplanned experience, for which there has been limited preparation, but one which was not necessarily welcomed. Some found their experience of losing their work, often through the restructuring of firms, to be traumatic. They were teleworking by default. Some showed an interest in moving out of the home and back into the office, but others felt that they had no prospect of becoming an employee because of their age.

Turning now to the nature of trajectories during a teleworking career, a range of work-related factors can mean that the experience of telework changes over time, perhaps raising new problems and requiring new forms of accommodation. One obvious development in our study related to changes in the work performed, which included alterations in the number of hours worked and when these occurred. The amount of work teleworkers had could change as employees took on new roles or as businesses grew. The work sometimes started to require the involvement of others, co-ordination with colleagues, the employment of other staff or participation of the teleworkers' own families in the work process. And of course telework could also decrease, for unplanned reasons or by choice, as when some older teleworkers wound down towards retirement.

Another dynamic involved changes in the balance of working at home and from home, where there might be more or less need to visit employers or clients. So telework could become more mobile work, or a higher proportion of it could take place in an office. The degree to which teleworkers had to be contactable could also alter over time, with repercussions for the choice of hours when they worked or how much domestic life was interrupted. Other changes involved the very nature of the work being undertaken, for self-employed and employees alike, and changes in the pace of work. This could in itself reflect taking on different clients or a re-organisation at a central work-site such that those on telework schemes were assigned to different departments with new modes of working. Teleworkers could even move between self-employed and employee status, especially if doing contract work.

The other major influence on the experience of teleworking comes not from the work but from domestic life. For example, individuals are part of households which change. Single people take on partners, others end such relationships and find new partners - sometimes all while teleworking. Hence, in our study the telework could now take place in new households, involving re-negotiation of its meaning, of spatial and temporal boundaries etc. with new partners who themselves had different patterns of work from the previous partners. Certainly one very significant domestic factor was simply the growth of children. That process created a whole host of new demands and considerations that could have a bearing on, for example, the times when work took place, the location of telework in the home and even the very viability of telework.

Lastly there are the trajectories out of telework. In our sample domestic pressures were one consideration: even those who preferred to work at home found that their changing household circumstances - e.g. through the arrival of children or the increasing disruption from family members - could render teleworking impracticable. Others who had never been so enthusiastic about teleworking - for example because of the difficulties

of separating home and work, or because they missed the sociability of the office workplace - looked for the first opportunity to work outside the home again. For some self-employed teleworkers the insecurity (e.g. of contract work) was a constant concern and reason for giving up the telework. Where telework had only ever been a temporary reaction to circumstances, returning to office-based work involved relatively little sense of loss. Sometimes teleworking was no longer an option, for example, if an employer no longer allowed it, or if teleworking employees moved into new role within firm where this mode of work was untenable. Meanwhile, some self-employed teleworkers gave up working at home when they lost their businesses for various reasons.

But there were also more positive reasons for the end of teleworking. This included the search for better career opportunities, the straightforward desire to move on, to have a change and take up new challenges and the opportunity for better pay on-site with an employer. For the self-employed, the expansion of work and the need for greater space sometimes meant that the home could no longer contain work even if, once again, those concerned might have preferred to have continued working at home. But lastly it is worth adding that whether through desire or lack of better options, those who give up teleworking may always return to it - in which case, re-entry trajectories also exist.

Implications: telework and the experience of ICTs

This final section turns to the issue which has for some years motivated my own interest in telework and which fits in with a central concerns of this journal - teleworkers' relationship to ICTs. The aim is to indicate some of the framework that has been developed, both theoretically and empirically, for thinking about the place of ICTs in households generally, and in teleworking households in particular.

One point that should immediately be clear is that although the very first part of this article outlined some key frameworks for studying telework, they clearly do not exhaust all the motivations for researching this phenomenon - it is always possible to come to a topic with a new agenda. And indeed that is exactly what happened in the teleworking study described above. A programme of research then based at Sussex University¹⁶ and focusing primarily on ICTs chose to use telework as a case study for illustrating the implications for technologies of changing boundaries between home and work.

The series of research projects in the late 1980s and throughout the 1990s focused on the 'domestication' of ICTs - i.e. the processes by which, to a greater or lesser extent, these technologies find a place in everyday life (Silverstone et al, 1992). To a large extent this approach drew upon the growing literature on 'consumption' (Douglas and Isherwood, 1980; Bourdieu, 1986; Miller, 1987; McCracken, 1990) which went beyond the narrower emphasis on 'usage' that was more commonly associated with the analysis of technologies to consider the symbolic dimensions of ICTs and their place within the social processes of the household.

¹⁶This work, initiated by professor Roger Silverstone shifted institutional base over time from Brunel University to Sussex and now to the LSE

A distinguishing feature of this research was the focus on households, which decentralised the 'main' or 'end' user who is so often the subject of other research. The research recognised the ways in which others in the household make some contribution to the experience of ICTs. Individual use of technology takes place in a context where various household members have both commitments, routines and general demands on time and space as well as values, hopes and concerns which all interact and in so doing shape consumption. But to extend that line of argument for the purposes of this article, telework itself takes place in this same social context - i.e. other household members are affected by and affect the experience in various ways. That focus on the whole household, reflected methodologically in interviews with teleworkers' partners, provided a slightly different perspective on this working practice, compared to many studies which deal either with the teleworker as an individual or with his or her relationships with an employer (also noted in Gray et al, 1993).

The decision to focus on telework also brings us back to the earlier discussion in this article of where to draw boundaries around a phenomenon. If the emphasis is on what happens, and crucially what happens to ICTs, when paid work takes place within the home, then in principle the project could also have considered some mobile work (since the home is often one base from which people go out). Indeed, it could also have covered 'overspill work', since this extra work can still be enough to justify the acquisition of ICTs (for instance, acquiring Internet access: Berg, 1988). However, telework was ultimately chosen as a particularly dramatic case to consider since so much of the home's routines could change with the start of this working practice. And since it was still a relatively uncommon arrangement, those involved were often very reflective about the issues they faced and about the decisions they had had to make.

As might be expected, the heterogeneity of telework outlined above, especially in terms of its importance and its economic value, had a bearing on what ICTs are acquired. So despite images of the well-equipped home office, in the case of lower paid, often part-time, teleworking vast expenditures on such technologies simply could not be justified. And even when more (potential) income was involved, there was sometimes still some negotiation between household members concerning what technologies were really 'necessary' for the work - especially in the case of self-employed teleworkers drawing on the family pool of income. This was in a context where it was sometimes actually difficult to decide how important particular types of hardware, software or services really were for work purposes. Indeed, work sometimes served to justify the acquisition of an ICT which was of more general interest (which later studies also found to be generally true of Internet access (Haddon, 1998) and mobile telephony (Bassett et al, 1997). Finally, the arrival of telework did not necessarily lead to new purchases¹⁷ - existing equipment was sometimes used for new work purposes. But that again could raise a

¹⁷Obviously ICTs such as PCs, phone lines and Internet access (Haddon, 1998) are sometimes supplied by employers (or clients) - which come with varying rules about how they strictly they must be used solely for work purposes.

whole set of issues within households, as others besides the teleworker laid claim to the family PC or the domestic phone that had now become work tools.

ICTs then had to fit into the organisation of domestic time and space, and the ability to command temporal and spatial resources, as we have seen, in part relates to the importance of the telework. Yes, home offices do exist, but the use of ICTs also takes place in bedrooms, guest rooms, living rooms and kitchens - even in the case of professional teleworkers, if their homes have limited space and/or they have to meet the demands made by children. Meanwhile, while some teleworkers in the study were in a position to choose to prioritise work over domestic commitments, carving out blocks of time for telework and hence the use of technologies, other teleworkers fitted work and the use of ICTs around domestic commitments, sometimes using their technologies in the evenings or at weekends.

If we are to understand usage of ICTs, we also need to appreciate that rules emerge as to who can use what, when under what conditions - although such rules can always be challenged. For example, in the study we had examples of teleworkers rationing their children's use of the work computer, or trying to persuade other household members not to block the sole domestic phone with social calls at certain times in case the teleworker needed to be contactable for work. This leads into questions concerning the extent to which ICTs are devoted to telework, versus the extent to which they, more commonly, are also used for other personal purposes or used by household members other than the teleworker. The original 1993 study looked mainly at equipment like PCs, telephony-related equipment, photocopiers, etc. in this respect, but more recently the same seepage of a work ICTs into other aspects of everyday life was also true in the case of teleworking households accessing the Internet (Haddon, 1998).

Finally, the changing experience of telework discussed earlier under the theme of trajectories can have some bearing on the careers of ICTs¹⁸ (Haddon and Silverstone, 1994b). Once they have entered the home, the ICTs in our study do not necessarily settle down into some fixed unchanging role. Older ICTs were sometimes 'inherited' by other household members as new versions were acquired. ICTs could move to different parts of the home and be used at different times. They sometimes took on a new salience, and were used in new practices as the nature of work, of domestic circumstances and also of relationships with social networks outside the home changed.

To sum up this section, the initial acquisition of ICTs is one stage of the wider consumption of these artefacts, and can itself be the result of some negotiation in the homes of teleworkers. Usage is but another facet of that consumption, and must be understood within the spatial and temporal rhythms of the home, as well as the understandings that arise between household members about both the nature of telework and about the usage of technologies. And that consumption can change over time, in part due to the dynamic processes at work in such households.

¹⁸As can other factors such as the availability of new hardware, software, services etc.

End note

As those who have researched teleworking will be aware, there are numerous definitions of the phenomenon and variations concerning where to draw boundaries around this working practice. The first sections of this article indicated some of key considerations in this respect and how particular studies operationalise the concept partly in accordance with the perspectives and agenda behind those projects - sometimes influenced by the prevalent image of teleworking, which is itself a concept in the public domain. In addition, there are still some decisions to make, cut off points to draw, which remain to some degree arbitrary. That observation is not meant as a criticism - it is a reminder that there is simply no one single definition and therefore, in principle, no one single measurement of teleworking.

When we turn to the experience of teleworking, this article has both emphasised how much diversity exists, and has indicated some main dimensions differentiating the experience, based on empirical research. This included some experiences which are relatively neglected in the literature, such as the unenthusiastic teleworker thrown into this situation through redundancy. Ultimately one implication is that there can be no one simple evaluation of the phenomenon if the experience is so heterogeneous.

Lastly, the article has dealt with two aspects which are rarer in the existing literature. The first is the attention given to the dynamics of telework, the ways in which and reasons why the experience of telework changes over time, the differences which the mode of entry can make and the fact that there are a variety of modes of exit from this situation. The second aspect is the very specific question of the experience of ICTs in the homes of teleworkers, where a broad framework was provided for thinking about the consumption of these technologies in the light of the diverse and changing experiences of teleworking

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