

**STUDYING INFORMATION AND COMMUNICATION
TECHNOLOGIES IN TELEWORKING HOUSEHOLDS**

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*Domestic Technology and Everyday Life
- Mutual Shaping Processes*

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This paper reflects on current research on information and communication technologies (ICTs) taking place in the media studies department at Sussex University. Rather than simply replicate reports on our recent case study of telework, the task here is to use the empirical material from that first year of our project in commenting upon research issues and the directions in our current thinking.

The original Brunel University project arose from an interest in the place specifically of media in everyday life. The focus was expanded to include other ICTs because of their increasing interconnection in the home and because of the interest of the PICT research programme in examining a broader range of technologies. That first research, lasting three years, aimed to develop a theoretical framework in conjunction with in depth empirical research on 20 families (1). The follow-up project, phase two, moved to Sussex, which is where my own involvement began.

At the moment of writing we are entering the third year of that three-year project. Only the work of the first year has so far been fully documented, in a paper outlining telework issues (Haddon and Silverstone, 1992), in one which can serve as summary of our research on teleworking households (Haddon and Silverstone, 1993a) as well as in a more substantial and detailed final report (Haddon and Silverstone, 1993b). We are, however, the process of analysing the second-year work on lone parents and ICTs and planning the third-year on the elderly and ICTs. Although they will receive less attention in this paper, the work from those other years have had a bearing on our theoretical outlook.

The first section of this paper provides a review of some of the key theoretical issues informing this work, including an indication of how these might develop. After explaining the focus on telework, the second section outlines how we have organised our analysis of ICTs and how we conceptualise the dynamism involved in the interrelationship between ICTs and domestic life.

Theoretical Challenges

Before discussing the difficulties of holding together some of the tensions in the Sussex work and potential and actual shifts in our writing, it is worth summarising some of the key merits of that approach, which are captured in the detail of our empirical research. This framework addresses a wide variety of social processes within households in order to make sense of the role ICTs come to play in those settings. In our case studies, we examine the conflicts between household members as well as the strategies they use in order to cope with issues and problems thrown up by change in their lives and by the arrival of new technologies. The framework examines issues around gender, class and age, and looks outside the home to examine the relationship between the domestic sphere

and the outside world - as illustrated in the way any boundaries between the two are managed and sometimes breached as when telework enters the home. Finally, the framework enables us to examine the process of how meaning is made of new ICTs - and re-made, in that the significance of technologies in the home is not fixed on entry but changes over time.

Characterising that whole approach as a study of the 'moral economy' of households remains, in my view, problematic, although within the research that concept is itself changing and the subject of on-going re-assessment. First, let us look at the rationale for using the conceptualisation. It has been explained in the following way:

'The household is a moral *economy* because it is both an economic unit, which is involved through the productive and consumptive activities of its members, in the public economy, and at the same time it is a complex economic unit in its own terms. The household is a *moral* economy because the economic activities of its members within the household and in the wider world of work, leisure and shopping are defined and informed by the histories, biographies and politics of the household and its members. These are expressed in the specific and various cosmologies and rituals that define or fail to define, the household's integrity as a social and cultural unit.' (Silverstone, Hirsch and Morley, 1992, p.18)

This statement immediately draws attention to the a tension that exists in trying to hold together two dimensions of a household's existence. On the one hand, it attempts to capture the ways which the inter-relationships and interaction between household members can produce something which is shared - for example, in the way household members may organise finances, in the way they may agree to present a united front when operating outside the home or in any beliefs and values they may come to share about the nature of home life. On the other hand, the fact that household members are still individuals, with their own, conflicting agendas and interests, is noted in the comment on the politics of the household.

What are the origins of the interest in the first of those dimensions from which the idea of a moral economy is developed: the interest in shared values. A key source is anthropological work - especially in discussions of the nature of the household as an economic unit. The original Brunel research drew upon a variety of writings, including anthropological, which dealt with public and the private (Silverstone et al., 1989, pp.25-32), indeed, discussing these as gender domains - the masculine public and feminine domestic. That work contrasts the types of values operating in the formal economy, the marketplace, with those in homes (Silverstone, Hirsch and Morley, 1992, p.16). This difference lays at the heart of the concept of 'domestication', as commodities such as ICTs with all their public representations of the formal economy where given new

meaning as they entered the home. While the focus on the process of transition from public good to domestic artefact can provide useful insights, the traditions from which it is derived requires some caution. The anthropological work, in particular, has often been noted for its very functionalist understanding of societies. Indeed, early statements on the moral economy pointed to the contribution of systems theory (Silverstone et al., 1989, p.9). The ever-present danger is that of reifying the household, over-stating harmony and consensus. Presently, some of our empirical work will be used to underline this point, but first we should consider the other sources which have feed into thinking about moral economies.

A second source of insights derives from the family therapy literature. There is need to recognise, as was acknowledged in the Brunel work, that this work usually has a normative quality (Silverstone et al., 1989, p.11) - i.e. one which assumes that maintaining or repairing family relationships is normally a desirable goal. Hence, the overall framework needs again to be approached with caution. Nevertheless, the contribution of this literature is mixed. It did point to significant forms of conflict and discontent, to clashes between household members and power struggle. This not necessarily the same as a harmonious family unit. On the other hand, it also looked at the alliances between particular household members, agreements to common definitions of situations and household members joint strategies to find solutions to their problems posed by the world outside the home.

The final source is the recent research on the attempts of households to create a domestic environment - to create a sense of 'home' (the collection of writings in Allen and Crow, 1989). While discussing processes of negotiation in the home and issues such as the public-private boundary, that literature also underlines the extent to which women are assumed to take on the central responsibility for home-making, as a guardians of the domestic sphere.

So how do these literatures which in their own ways point to some forms of shared understandings and values in the home relate to our empirical work? In our case studies, we do often see moments when household members, especially adults, struggling to achieve a consensus about what they stand for and their place in the world. For example, this may be exhibited in the image they present to outside world including to me, the interviewer. Parents can try to work out an agreed set of values according to which they wish to bring up their children - and that applies even when they have split up and formed different households. And of particular interest for our research, they do sometimes try to establish rules about the use of technologies. In other words, by no means every moment of domestic life is fraught with tensions and rivalry, or even the imposition one person's agenda over those of others.

Of course, to say that a single system of values exists in any household would be far too strong a description of the more fragile, partial and sometimes temporary understandings and rules which exist in the home. Any elements of consensus are at best more like the 'negotiated order' of symbolic interactionists - an order which has to be continually propped up, which may be challenged, re-negotiated or disappear if the tensions become too great.

However, one criticism of even a symbolic interactionist interpretation, has been that it was not able to deal adequately with power and conflict. Again, we can appreciate this with examples from our actual empirical work. In the teleworker study we found a few households where the tensions were explicit and substantial across a range of issues. One household broke up during the course of the interview, and in another interview the couple argued throughout on every issue, sharing so little in common that they were aware of the possibility that they might soon part company - a consideration which actually entered into decisions about buying technology.

Moreover, choosing to focus on lone parents in the second year of the project has served to highlight the way any elements of a consensus over home life can exist at one time and break up at another. Our work on disenchantment with and re-assessment of coupledness, and the forms of tension and antagonism before and after households break up provides a strong antidote to any rosy picture of happy family life. Hence, it is likely that this year's work will go furthest to help develop the general characterisation of the domestic sphere.

Apart from such obvious cases of outright conflict where we clearly have to question how much of shared 'moral economy' exists, there are numerous instances of unequal participation and power in the defining of any understandings and rules which do exist. If we look at how household finances are managed, in keeping with the spirit of various feminist analyses, male teleworkers could often command more resources for themselves, or acquire technologies which meant spending the household income even when this might mean that their partners were far from happy about the situation, and certainly complained. On the other hand, as main guardians of the home and children, in some cases it would be the women who took more of an interest or more of a lead in shaping the domestic space or regulating children's access to technologies - with partners taking a more passive role.

Nor should we just think of power to define domestic life as lying with adults. We have tried to explore generational conflict, albeit between gendered parents and gendered children and teenagers. While the former may try to impose some regime on their children, whether it concerns participation in domestic labour, use of technologies like the phone or rules about privacy they are by no means always successful - both younger children and teenagers can and often do make such 'systems' unworkable.

All these types of observation about the fragmentary nature of household life, and about power relations were not only implicit in the original Brunel work which defined a 'moral economy' but consistent mention was made in that work of struggle, politics conflicts, instability and individual interest. Nevertheless, the challenge remains to foreground the conflict side of the equation even further. For example, feminist critiques of both the ideology and practices of 'family life' may have been acknowledged but there is a need to give them more sustained and detailed coverage which integrates with our empirical work (2).

Lastly, in trying to capture a sense of alliances, shared understandings and rules in households, ones which are reflected in daily practices, using the term 'moral economy' remains problematic. Those very words characterise the household as a unit, a system, an economy which both threatens to overstate the extent of any negotiated order too strongly and does not itself draw sufficient attention to conflict and power considerations. Interestingly, if by economy the reference point is 'political economy', that would immediately connote different interests and conflict. However, nowadays the term is often more associated with self-regulating systems of neo-classical economics.

Studying Telework

Turning from the very general domestic processes which the Sussex work tries to encapsulate to more detailed refinements, our empirical research is already leading us to expand upon our views of ICTs having careers within the home. The study of teleworkers also enabled us to look in more detail at one specific relation between the domestic sphere and the outside world: the home-work interface.

Telework was a useful case study because it brought both work and ICTs actually into the home, and raised a whole range of issues about how household members coped with their presence - or did not. One observation worth making is that many of the issues raised apply not just to teleworkers but to others who bring work home in any guise, to mobile workers, to people who allow work to contact them at home and to those working 'unsociable hours'. First, though, a few preliminary comments about telework itself.

Telework remains a very fashionable topic, with strong undercurrents of technological determinism. There are various claims about how it will change for the better the future of work and of society in general - claims which sometimes seem impervious to any empirical research.

When charting the literature in this area, it soon becomes clear that telework is actually constructed in different discourses, involving different images of the teleworker and different 'problems' for which telework is a solution (Haddon and Silverstone, 1992,

pp.8-9.). Of particular relevance, telework has been the subject of more critical comment, by unions fearing that in general it may casualise the labour-force and by feminists concerned that clerical telework in particular might constitute a new form of exploited homework (Probert and Wajcman, 1988). Women teleworkers may be marginalised further within the workforce, with telework helping to reinforce an ideology that a woman's place is in the home. So although we have a different agenda from the literature on work relations, we cannot but be aware that our subject matter is controversial in these other debates.

Gender is very clearly a key factor structuring the experience of telework. One obvious point which has been made elsewhere is that virtually all clerical telework is female, and this group has a weak position in the labour market (Probert and Wajcman, 1988). But of course telework is by no means homogeneous, and in addition to gender, the other key structuring factors identified in the literature which we have explored are the clerical-professional divide (or rather continuum) and employment status (employee vs. self-employed).

Although ultimately we are interested in ICTs, we wanted first to address the question of what the introduction of telework means in households. Obviously, the conditions of work, including the level of earnings and security, control over work, links with clients and colleagues, issues of supervision, the space required for work and temporal structure of work all crucially influence how work is experienced in the home. At this point we ask: What does telework mean for all the household members (not just the teleworker)? How does it affect their relations? How is telework managed in the home and with what degree of 'success'? What pressures does it introduce into the home? And what effects it can have on aspects of daily life such as non-work interests or wider social networks? Hence, our research inevitably shares some of the concerns of studies of telework as work, but we have a distinct agenda which starts to depart from some of the common labour market issues.

Relating ICTs to Teleworking

Having established some answers to these questions, charting the key patterns, variations, issues and strategies, we then found it useful to approach the relationship between telework and ICTs in two slightly separate ways, although there is overlap. The first asks how the arrival of telework in the home and the way the household members cope with this work can have a bearing on the acquisition, meaning and role of a range of ICTs. The second deals with the specificities of different ICTs.

When asking the first question we examine the ways in which telework has a major influence on the temporal and spatial

arrangement of the home. Different teleworking households have varying degrees of control over work and handle it differently. The experience of that work can range from having separate home-offices to a working at a computer besides the bed. It can range from following a routine whereby the workload is predictable and more or less occupies a 9-5 slot to where that workload is extremely uncertain and fitted in at odd moments, evenings and weekends. Despite the fact that the variation is complex, it is hardly surprising that it is nevertheless structured by gender and other factors - for instance, we suggest how for clerical women workers with young children in particular, telework is adapted to existing domestic routines, whereas male professionals are much more likely to be able to impose telework on the home and carve out a distinct place for it. Whichever pattern is adopted, it crucially influences the location of ICTs in the home, the times when they are used or need to be free for work, and hence issues such as the access of others to those ICTs, and the negotiation of rules, or indeed conflict, about how and when they can be used.

Following on from the above, one task facing all teleworkers is that of trying to maintain the boundaries between work and home - which is achieved with varying degrees of success or failure. That task may bring forth a variety of coping strategies, such as attempts to negotiate work and non-work times with clients, colleagues, those in wider social networks and other household members. But ICTs themselves may count as one tool to achieve that - e.g. via answerphones, or other telecoms technologies which control the contactability of teleworkers. Impression management is another issue faced by teleworkers, as they represent their work to other household members, to friends and relatives, to colleagues, managers or clients. Again, in achieving this more is involved than technologies - for instance, impression management may involve attention to how the general appearance of the home is maintained for visitors, or how visitors are received. But impression management also extends to ICTs: how they are displayed or acquired or how they are used. For example, in terms of stipulating the manner in which other household members answer the phone - or in some cases that they do not answer the phone at certain times.

Two points can be made based on these examples, both of which reinforce the central claims that have always been made by our approach: the importance of not asking simply and solely about technologies. First, the role of ICTs in the home only make sense when put into this wider context where we understand some of the main issues around work faced in these households. Second, there is a parallel with asking about the alternative way of managing some domestic labour process before the introduction of a new technology. In the case of telework, our approach enables us to ask what non-technological strategies provide alternatives to ICTs to manage problems thrown up by work's presence in the home.

The second line of questioning concentrates on the specificities of ICTs: after all, phone-, computer- and TV- related ICTs not only have obviously different functionalities, but are the subject of different theoretical concerns. There is a long history of debates about media, and emerging ones about the significance of the computer and telephone. At this stage, it is not appropriate to develop separate chapters detailing how, for example, the experience of the phone in teleworking households relates to existing literature on the phone - since such a review of the literature would presumably have to be repeated each year for each case study. Hence, it is more practical to conduct any such systematic analysis at the end of all three case studies. However, we can at this stage indicate some of the directions in which our thinking is developing.

If we consider the phone, there is already some discussion of the telephone's role in maintaining communications between women (for example, Moyal, 1992). In the light of such work, one unexpected but common response of both men and women was to resent the intrusiveness of the phone, which was often compounded when the social phone took on the extra role of being a work phone. Another example of our research on the phone derives from the fact that a number of teleworkers appear to be early adopters of the range of new telecom services and equipment now becoming available. This year's case study therefore allowed us to explore the meaning and use of such facilities which to date have received virtually no attention in the telephone literature. In addition to acquiring such items as faxes, cordless phones, mobile phones etc., many teleworkers also have to re-assess how they dealt with their existing phone equipment when new work demands were made upon it - which provides us with a useful example of an established ICT undergoing change because of new household circumstances.

While computers which are already present in the home can also take on a new work role with the arrival of telework, telework could also justify the entry of micro into homes which were untouched by the previous computer boom. In fact, in that many microcomputers were introduced by female teleworkers here we have a departure from the pattern of micros being represented and acquired as a male technology. The first year report analyses the conditions under which computers introduced for work purposes find other uses and users - which they do. Finally, the computer material enabled us to explore such themes as how 'expertise' was constructed and develop more complex ideas of what 'hobbyism', or 'exploring technologies' can mean.

The role of media was not such a strong theme in this work as we anticipate it might be in the other case studies precisely because we were specifically asking questions about the relationship between home and work. Nevertheless, we were able to examine themes such as the use of broadcast schedules to provide temporal markers during a day less structured by office demands, the effects of telework schedules on the ability of

households to view communally, or the role of the TV in providing company to compensate for the absence of the teleworker who worked more 'unsociable hours.'

This is by no means a comprehensive list of the material covered in our research on telework. The aim is to draw attention to how looking at the home-work interface raises a whole range of questions about ICTs not developed in the existing literatures on these technologies. Currently, we are only in the position of starting to formulate questions and attempt to work out their relation to existing debates.

The Dynamics of ICTs and the Home

The last indication of where our current thinking is going relates to how we conceptualise change. A theme which we will be developing further in future work concerns how the experience of ICTs in the home can be seen as lying at the confluence of three types of change: change in society, change in technology and change within households.

At the societal level, households in 1990s Britain are obviously living in a very different context from the 1970s or 1950s. The political landscape is vastly different. And on the economic front, although general standards of living are higher, our particular research has taken place against a backdrop of recession as opposed to boom.

But significant as these are, it is also vital to appreciate ways in which the very categories which form our case studies have themselves developed and are constantly being reconstituted. For example, teleworking now takes place against a backdrop where there are far more discourses about the nature and implications of this work experience. Our teleworkers were often aware of these discussions, they sometimes identified themselves as 'pioneers', they could now join telework organisations, read telework magazines or receive assistance from employers who had built on some years' experience of telework schemes. Some long-standing teleworkers taking part in the research could say how their experience was very different 20 years ago, when the whole area did not have the media visibility it has now. Besides which, the current recession has given us a new cohort of sometimes reluctant teleworkers for whom the only alternative is early retirement - these were not discussed in the telework literature even 5 years ago.

The point that telework is not unique. Equivalent observations can be made about our other case studies, putting them into historical perspective. Lone parenthood and ageing are equally being socially re-constructed in new discourses. Legal, administrative and economic changes affect the experience of what it is to be a single parent or to be a pensioner.

A second type of change involves change in technology. The more dramatic cases involve the appearance of 'new' ICTs or ICT-related services, as with faxes, mobile phones, cable and satellite etc., although we may equally be talking about new features on familiar technologies - such as remote controls. But there is good reason to look beyond such instances to the slightly less eye-catching innovations: the sockets that meant phones became unpluggable, or having ringers that could be turned down, or having the option of DIY extensions. For example, in our teleworking households such mundane options sometimes led to new possibilities, allowing more control of intrusive communications or facilitating privacy within the home. The falling price of many ICTs enabled the multiplication of ICTs in the home: several phones, several computers, several TVs etc. Finally, there are changes in the discourse about ICTs' significance as cultural objects: for example, moral panics about teenagers running up big phone bills or being addicted to computer or video games. In other words, when we talk about technological change, we clearly mean far more than dazzling new hardware.

The third dynamic is that within households. As children grow up they create ever-changing demands on household resources and effect spatial and temporal patterns. New work pressures, including alterations in the nature of telework, introduce new issues into the home, as does geographical re-location and participation in new social networks. Of course, the fact that households actually break-up has already been mentioned. To deal with these dynamics, we have in the first case study talked about trajectories through telework (and out of, and re-entry into it) rather than seeing teleworking as a static experience. But it is now equally clear that we apply the same approach of talking about trajectories through lone parenthood or old age.

The fact that the role of ICTs changes in the home has always been acknowledged in the previous Brunel work. Much of the focus on the 'biography' of ICTs to date has been on charting the entry into the home as a process, where a technology has to be domesticated and given meaning and a place in the home by various household members. The above observations are meant to indicate how the empirical material generated in the current phase should enable us to explore further the subsequent career of ICTs after entry and the on-going re-negotiation of their meaning in a changing home and changing wider social environment.

Summary

The aim of this paper has been to take stock of both key themes and trends in the current Sussex research. That review has involved first examining the theoretical ambitions and inspirations behind the central concept of the moral economy, while drawing attention to some of the tensions that remain and possible directions in which it might be advanced. Secondly, the paper has outlined our strategies in analysing ICTs in the home, drawing

illustrations mainly from the telework study. This is meant to indicate some of the main lines of analysis which will be elaborated in our future work.

Footnotes

(1) On a methodological note, the first phase research at Brunel explored a wide variety of methods including discussions of photo-albums, psychological tests using personal construct theory (described in Livingstone, 1992) and maps of social networks outside the home (all described in Silverstone, Hirsch and Morley, 1991). Along with other methods, this resulted in 8-9 visits to participants' homes and generated an enormous amount of data which it was difficult to bring together. In the second phase, when we had to cover 20 families a year, the range was scaled back to interviews, a time-use diary, taking pictures of the location of ICTs in the home and those observations that could be made during the course of the interview.

(2) Arguably, the fact that we are now two male researchers exploring the highly gendered terrain of the domestic sphere adds to the need particularly to demonstrate our awareness of feminist debates.

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