

# The Appropriation of Home Information Systems in Scottish Households

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'Doing ethnography is like trying to read (in the sense of 'construct a reading of') a manuscript, foreign, faded, full of ellipses...written...in transient examples of shared behavior'.

*(C. Geertz)*

'I confront an increasing disjunction – the disjunction I see and feel between the windless, already lost world described by theories of postmodernism (theories I find disturbingly persuasive) and a world not yet surrendered, still being struggled over by living subjects'.

*(J. Radway)*

## INTRODUCTION: THEMES FROM A SCOT'S SITTING ROOM

Eighteen months ago, Queen Margaret College funded a three-year study of household information systems. This paper presents findings from the second phase of this project, which explored the role of new media, or information and communication technologies (ICTs), in twenty-six (labeled A–Z in the Appendix) urban Scottish Households. Our reading of these households and their interaction with media devices is based on the transcripts of interviews held in individual homes in March and April 1996. Respondents mentioned a range of devices (from still cameras to Walkmen) in narratives which described a complex of practices bound by constraints of time, interests, space and money.

Why elicit these narratives? We have two main reasons. Firstly, the household or 'home' (in our case the two are co-terminous) is the target of intense marketing activity, supported by the rhetoric of the 'information society': we wished to find out where households situate themselves within this rhetorical framework. The work reported here (from the 'demand' side) is part of a larger study (Davenport and Higgins 1995) which includes an exploration of the construction of the media market from the suppliers' perspective. Secondly, we were intrigued by the question of how 'information science' concepts and practices are articulated in groups outside institutions (corporate or public). The household is an object of scrutiny as a micro-organisation which is not bound by rules of incorporation and accountability, or by a constitution, but is defined in terms of resource sharing alone ("a single person or a group of people who have

the address as their only main residence and who either share one meal a day or share the living accommodation" as the UK General Household Survey [1992, 219] puts it).

Our analysis of the data focuses on the second area. The term 'information systems' in the title is less concerned with the delivery of news of the world (at whatever level of specificity) than with technologies which intervene in a social group (the household, or, in this study, the family): the term refers both to household goods and the strategies which surround those goods in the home. Information systems are a means by which households orient and adjust themselves (autopoiesis), both internally and externally. In many cases 'information' in these households is not goal directed; does not imply 'seeking' or 'need', and the system which conveys information (a TV set, a PC), may also be a channel for entertainment and creative work. Do terms like 'user', 'consumer', 'audience' (Radway 1986; Dervin 1989) carry too much institutional baggage, and should we adopt a portmanteau term like 'interactor' (Goffman 1983) to allow us to travel more lightly?

'Appropriation' is used to cover the acquisition and embedding of media devices in household practice (others use the term for the acquisition process only, and use 'incorporation' for the later stage). By avoiding the term 'impact' with its connotations of a finished technology launched on the marketplace (Berg, 1994; Cowan, 1987), we have placed this study in the 'social construction of technology' field, where an established body of work has uncovered tactics and practices in a number of organizational settings (for example, Bijker et al. 1987; Suchman 1987; Yates and Orlikowski 1992; Berg and Aune 1994). By taking a constructivist approach, and analysing the household as a micro-organization which derives from individual practices that shape and are shaped by media devices, we hope to unpack the 'black box' of consumption, and, as Pahl advocates in a study of money and marriage, understand the distinctions and disparities which characterise controlling, managing, spending, consuming and sharing resources within households. (Pahl 1989, 1995) To facilitate this understanding, we have drawn on analyses of strategies and tactics offered by Wallman (1984) in her study of eight London households, which considers the household as a resource management unit, where members juggle the requirements of their lives. Our approach differs from that of earlier studies of domestic media consumption by emphasising group dynamics rather than the construction of the self, or the household as an interface with society.

## METHODS AND THEORIES: BRICOLAGE

Our methodology draws on three main sources:

- work in media studies on the domestic consumption of ITCs
- work on the social construction of technology
- work on the political and social economy of the household.

In a previous phase of the project (Davenport, Higgins and Gillham 1996), we adapted a four part typology derived from Dillon (1994), to explore readers' perceptions of the reading process, and their reactions to electronic text. The resulting probe proved to be adequate as a means to elicit narratives from members of households and to make some observations on media systems as 'signifying objects'. (Barthes, 1973). In the second phase of the project, we have again based our interviews on a loosely structured framework which covers four areas: 'task' (we modify this to 'activity' as 'task' sounds goal-oriented, and much interaction with media in households is not); 'understanding' of the technology – both at operational, and industry level; 'manipulation', which includes access and affordance; and 'aesthetics', or affect.

Our previous sample was a volunteer group selected on the basis of personal networking; in this phase, we have worked with a random sample of EH12, our local postal (zip) code area which offers a rich demographic profile. We ended up with a relatively homogeneous (there were two exceptions, males on their own) group, of white, waged, heterosexual family groups with children of different ages (some had left home). The sample is a measure of the types of domestic group that satisfy our criteria for participation in the study (ownership of three out of four named ICTs). These were borrowed from an earlier study of domestic media by Silverstone, Hirsch and Morley (the 'Brunel/Sussex group') a decade before. (The similarity of both final samples may, or may not, tell us something about diffusion rates in the ten years which separate the two studies). We are aware that, as several researchers suggest (Jackson and Moores, 1995; Wajzman, 1994) there is work to be done with alternative constituencies. A description of the sample is presented in the Appendix.

Those who were interviewed (25%) had already completed a questionnaire which gave us demographic and technical details. At the end of the interviews in their homes, respondents completed a second (short) questionnaire. These interviews were 'initial entry' interviews and broad in scope. What this phase of the project has allowed us to do is:

- refine our themes
- test an amplified protocol (discussion of Dillon's four areas was elaborated in terms of secondary issues which emerged in the previous phase of interviews)
- clarify our theoretical allegiance.

The Brunel/Sussex group, in addition to direct observation, initiated conversation with their respondents by means of a range of prompts (interviews, questionnaires, household maps, family albums, repertory grids). The resulting dataset, though rich, proved intractable: some of it has still to be analysed and Haddon (1994), a subsequent member of the group, speaks of the "difficulties of holding together some of the tensions of the Sussex work, and potential and

actual shifts in our writing" (p. 81). Our study will restrict its data to interview and questionnaire material, but, like the Brunel/Sussex group, we have *de facto* become methodological *bricoleurs*. As they observe: "Working with households, working within the private worlds of those within one's culture, and working with families in order to understand the nature of their relationship to communication and information technology is an intractable problematic activity. We... have had to devise our own methodological procedures and we have done so both reflexively and recursively as the research has developed". (Silverstone et al. 1991, 206). They also raise the 'us' and 'them' issue (discussed in different terms by Brodkey 1987): that any reading must make sense both to those living the lives on which it is constructed, and to what he calls 'rival readers', the academic community. By placing our work in the context of prior studies, this paper, like any academic paper, strives to persuade the second group; validating our work with our respondents in the EH12 cohort must wait till our second round of visits (with two exceptions, respondents have agreed to further contact). We are not, after one interview, at the stage of intimate engagement with our respondents described by Haddon. (Haddon 1994).

The Brunel/Sussex group's original aim is clearly constructivist: "To address the ways in which families and households create and sustain their security, integrity and identity within the resources that are available to them and to address the role of consumption and of technology in that process" (p. 223). In a more recent presentation of the project's on-going agenda, they describe domestic ICTs as 'rhetorically distinct, offering in their various kinds of textualities, information, knowledge and pleasures, meanings of all kinds...our capability to engage with them is dependent on resources and their elasticity – these resources are financial, material (involving access to space and time) and cultural (education, skill, competence)". (Silverstone and Hartmann 1995). We see resonances between these statements and the purposes expressed by Anderson and his colleagues (the 'ESRC group') in their study of the political and social economy of the household, a large-scale UK-wide investigation funded by the Economic and Social Research Council. Households are groups that manage: "Households have to co-ordinate, and accommodate the attitudes, beliefs and behaviours of their members. The sets of rules by which this accommodation and coordination takes place emerge through social interaction and have characteristics of an emergent property, which does not belong to any one member of the household". (p. 3–4).

Rejecting the dichotomy of 'choices' versus 'habitual practices', the ESRC group describe household economic decision-making as a rational activity conducted within a framework of normative behaviour but modified by the network of social relations within which the individual is embedded. Anderson and his colleagues are in no doubt that households (as well as the individuals within them) operate in terms of strategies and plans (distinguished as long or

short term). Rebutting feminist accusations that 'strategy' is an imperialist term (p. 66), they use the term simply to denote "more or less integrated sets of general prescriptions for action, oriented towards a desired medium or long-term goals which they use to guide choices in the context of particular situations that they face...Most of our respondents, to a greater or lesser extent, do perceive themselves as actively and with foresight, seeking to organise and influence the paths taken by their lives" (p. 15).

#### SITUATED ACTION: HOUSEHOLDS AS SITES AND SPRINGBOARDS

The household, in our study, is presented as an example of a managed group, whose concerns are as much collective as individual. In addition to its merits as a site to explore 'situated action' in the domestic environment, or 'loosely articulated' and 'loosely bound' organisation (a point made at the start of this paper), the household is also the 'springboard' for situated action in other places: it is, for example, the place from which most trips to public libraries in the UK are made (Aslib 1995); it is, of course, the space which most people leave to go to work, school and college; and if forecasts about home-based work and learning are borne out, the household will itself become the site of non-domestic 'situated actions'. If, as we indicate above, we have borrowed methods and frameworks from communication studies, management studies and economics in our attempts to explore household media, why have we eschewed information science theory which is relevant to situated action?

There are several reasons. Firstly, 'situated action' (Hert 1995) has entered IS as a label for a group of user centred studies of information retrieval. Our study is not primarily an IR study. We believe that Suchman's version of the concept (she coined the phrase) and the methods associated with it which emphasise organizational ethology, are more relevant to our investigation.

Secondly, many IS empirical studies of 'situated' users have begged the question; to premise studies on 'need' and 'seeking' or 'sense-making' or 'gaps' may be to deprive the subject of a voice, as the premises may occlude description which the informer may have to offer. Radway (1988) addresses this problem from a different angle in her comments on 'reception' studies: "In such a discursive system where people are constructed principally as receivers of the messages of others, those people can wield power in only the most circumscribed of ways". (p. 361) Even 'neutral questioning' based as it is on narratives of breakdown and discontinuity, may pre-empt an enquiry. This area has been thoroughly covered by Savolainen (1993, 1995) in his study of everyday life information seeking (ELIS) in Tampere, and his earlier anatomy of sense-making as a theoretical and methodological approach. Dervin, who is largely responsible for putting sense-making on the theoretical map in IS, observes: "Some people call it a theory, others a set of methods, others a methodology, others a body of findings. In the most general sense, it is all of these. It is, first

and foremost, a set of metatheoretic assumptions and propositions about the nature of information, the nature of the human use of information, and the nature of human communicating" (Dervin 1989, 17). More recently (1995), Dervin has described sense-making as "a methodology between the cracks", by which she means the "polarities that dominate the social sciences and their derivative applied fields" (p. 43) Savolainen questions the ways in which sense-making problematizes existence as a series of discontinuities: in his own empirical study of ELIS, several respondents has difficulty providing the requisite 'critical incident' narrative. (Savolainen 1995, 283) As Anderson of the ESRC group observes: Strategies are 'constructs with which people make sense of the world...conceptually, they do indeed help social scientists to bridge the dichotomy between structure and action, for they are to a considerable extent structured and they do guide action. Human beings, however, unless they happen to be social scientists, do not fret too much about bridging this gap" (p. 65). In our own sample, situations which were manifestly problematic were not described in terms of discontinuities.

Our third reservation about 'situated action' theory in IS and its relevance to our own study is its concern with individuals (rather than the non-institutionalised group) – the "information needs of Californians" approach. (The work of Rogers and his colleagues (1994) which describes emergent self-help communities among the homeless of Santa Monica is a notable exception). Savolainen (1993) observes that Dervin's work in this area embodies the basic values of American culture: "the central position of the individual actor, the importance of making things happen and moving forwards in spite of barriers faced, and relying on individual capacities in problem-solving...the position of constructing sense with other people through dialogue has thus remained secondary" (p. 26). Research engagement with the problem of shared information in interactive groups is an emerging phenomenon in the LIS field (Davenport and McKim, 1995), though well established in others like CSCW. Gergen (1996) goes so far as to claim that the concept of an 'internal' or separate self cannot be sustained in a world as mediated and connected as ours, and suggests that the 'related' individual be made the focus of interpretation and design.

#### WHAT WE WERE TOLD

As explained above, our first interviews were structured by a modified version of Dillon's reading model (task, understanding, manipulability, aesthetics) amplified in the light of responses from the previous cohort of interviewees, and informed by the reading of communication studies and household economics literature. The concepts of 'making out' and 'getting by' (McCrone's (1994) demotic terms for strategies and plans and resource management) are evident in responses to questions about tasks and strategy: what do you watch? why did you buy the computer?. Like technology in any context, televisions and comput-

ers in the home may draw attention to existing patterns as much as alter patterns of behaviour. In some of the households we visited, individual family members are juggling resources (as Wallman suggests): shortage of time and of money shape the configuration of technology. Technological determinism is not a feature of the acquisition of devices in these households: we found many examples of what we label 'opportunism' in the acquisition of resources. In the presentation of our findings, we have used the ESRC group's description of household decision-making as an organizing framework: "Most households most of the time develop highly complex sets of rules governing what is or is not acceptable behaviour by members...they reach understandings about membership and rights of membership. ...they develop working practices about the allocation of tasks: who, and on what terms, can use which facilities when...they evolve mechanisms to order the time-sequencing of behavior, and they develop often very precise shared expectations over members' access to property and other rights within the household" (p. 3)

#### THE HOUSEHOLD MEDIA RESOURCE: DEALING WITH SUPPLIERS

Where do media devices come from, who cares for them, and where do they go as new devices are acquired? The topic of acquisition was of interest to us, as a scenario which offered a 'problem' or 'critical event' that might be amenable to interpretation in terms of 'information-seeking'. We asked respondents to talk about the acquisition process (Silverstone's (1992) 'appropriation') of actual devices – television and PCs – and how they kept abreast of the market. Decisions to purchase were perceived as household (rather than individual) decisions: in many cases, the person responsible for payment acted on the advice of another family member (adult or child). Few families had carried out systematic market research; only two households subscribed regularly to specialist press publications, though one respondent kept up to date by reading the *Guardian Online*, and another the *New Scientist*. Several (male) respondents had 'read a bit' around the time of a particular acquisition. Where respondents used a retail outlet, a range of shops featured: some had gone to a 'white goods' store like Dixons or Currys, rather than a specialist outlet; one mother was thinking of buying a multimedia PC for the children next Christmas ('an Apple or a Hewlett Packard' and was "looking round Curry's checking prices" – she was not sure if "they'd want to share a present, though"). Two respondents had purchased goods in John Lewis (a department store where the sales staff were held to be knowledgeable); and one in a large electrical retail outlet, where the family had been able to test the device. PC World, a recently opened specialist retail outlet, features in several responses: as an employer, as a source of advice, a place 'to test the device' (one mother, accompanying her daughter, was 'baffled' by the demonstration), and, in the case of a non-computerised respondent, the "place where Safeways used to be".

In general, where a retail outlet was used for purchase, respondents had gone to general rather than specialist outlets. Three households had chosen to rent televisions from Radio Rentals to enjoy the latest features – teletext and NICAM. In one case, however, fear of rental had prevented a respondent from acquiring cable; she had purchased a satellite dish. In some cases no retail outlet was used: we found that households acquired kit by means of diverse channels, what we label 'opportunistic' acquisition. (In addition to undermining 'information-seeking' as a *modus loquendi*, this, in the EH12 cohort, would appear to undermine the technological determinism which drives the sales rhetoric of vendors). Several TVs had been acquired second hand 'years ago': "it was there; it worked"; (one had been 'bought for a fiver in a jumble sale'); others were acquired as end of the line sales items. Two computers had been acquired from firms going into liquidation; one was an 'ex-demo' model from a friend who is a supplier. One family, poised to purchase, had been "looking in the second hand columns of the local paper", but a friend in a computer store had told them to hold on 'till he could find something for them'. One household had acquired a dish from a "friend of his who had set up in Cowdenbeath as an installer so they got him to set up the dish". Advice on what to acquire was in general informal and personal; asked a friend at work; 'spoke to a friend who had one'; 'asked a friend's father which one to get'.

The move to cable in individual households was initiated by both men and women, though, subsequently, women tended not to watch as males in the house monopolised the sports channels. Four households had experienced problems with installation and raised these with the cable company: wires had not been properly buried (one family had a bundle of wires emerging in a corner of the garden); stereo was not available across all channels; channels were not identified on screen; prices had been hiked. Some had gone as far as de-subscribing, as they did not perceive that they had 'value for money'. In one case, a deal with a major housing contractor that entrants to new premises would find them fully wired had gone horribly wrong, and incurred costs and inconvenience over a period of months. The cable company, in contrast, had wired up one respondent ("I have a friend who works for the cable company") within 48 hours of his moving house: 'insider' information in action. None of the narratives which might have been 'problematized' as 'situation – gaps – help' scenarios were talked of in those terms.

#### THE HOUSEHOLD MEDIA RESOURCE: MAINTENANCE

The response patterns of those who discussed 'maintenance' and the workings of cable, remotes, and VCRs were consistent with those of previous studies (Gray 1995; Wajcman 1994): 'from each according to his skill, to each according to her needs', or, in other words, males 'master' and 'explain'; females 'have problems'; children are more adept than their parents. This in the case of

computers is due to men bringing in skills from outside: two of the 'D-I-Y' specialists has computing or software engineering backgrounds, and thus had been able to configure and update random bits of kit assembled over a period of years. This area of 'tinkering' with technologies is one where 'information seeking' might have been invoked; but respondents did not frame their interaction with commercial helplines (Compaq, for example) or electrical suppliers in these terms. One respondent, a home-based consultant engineer, who eschewed the use of manuals preferred to figure software out for himself to achieve immediate goals, and then go on a course when he felt that more was required. Several older female respondents found VCRs (video cassette recorders) and 'remotes' (channel switching devices) problematic. Others, however, used both remotes and VCRs tactically, with any difficulties political rather than technical in nature. Like maintenance, use of the VCR appeared to be a collective endeavour, with members of the household helping each other out according to the time and skills available.

The Bruno/Tyson fight of 17 March 1996 was used in a trigger question about pay-per-view which would allow us to gauge respondents' understanding of future trends in the market. None of them found pay-per-view for the Bruno fight acceptable; and several indicated they would cancel their subscriptions if pay-per-event became the norm (though two modified this and admitted that if, for example, a local football or rugby team match, or Formula One racing (all live, short, one-off events) was on, they would be prepared to sacrifice their principles). Others pessimistically agreed that they would pay "if that was the way things were". Resistance to pay-per-view may be linked to at least two factors: shortage of resources, and the fact that most of those answering the questions have been reared on a public broadcasting system (BBC) financed by public licence. Only one of the younger couples matched the profile of a typical satellite subscriber drawn in a survey by the Sponsorship Research Company, and reported in the *Scotsman*, the local paper: "More knowledgeable both when it comes to the subject matter of programmes, and also the nature of broadcasting as a whole and the gamut of promotional activities available...more interested and fascinated in the process of sponsorship and promotion and more involved when it comes to watching programmes whether satellite or terrestrial". (Bailey 1995)

#### THE HOUSEHOLD MEDIA RESOURCE: LOCATIONS

The placing of devices in public or private spaces is indicative of judgments on their social role (the Brunel/Sussex group call this 'objectification' (Silverstone 1992) and Leal (1996) provides a convincing case study from Brazil). Devices progress through the home as they age and are replaced (Kopytoff's (1986) 'biography' principle): the most recent purchase has pride of place in the 'front room'. In some cases, the computer and the television have displaced hi-fi

systems and games machines, which are now 'upstairs'. TV is watched in many bedrooms, by solitary children, by children with their friends (to isolate themselves from parents); by couples in bed (late at night and first thing in the morning). In only one household was TV in the bedroom declared unacceptable, a house where the father enunciated the principle: "It's important that we all do things together as a family". This home, interestingly, was the only one in which the computer shared a space in the 'front room' with the television. In other homes, attempts had been made to give the computer its own space. Sometimes this was due to its status as a work machine (one home-based worker had a fully equipped office with two computers, two printers (one a drawing machine), a fax and a phone, with appropriate furnishings). In cases where space was short, we found one computer set up in a hallway near the door with a special table; one resting on a makeshift board in the bedroom (sometimes this machine was brought into the sitting room by its male owner so that the couple could share physical proximity; his female partner said that she had 'got used to the noise' of keyboards in her former place of work and 'his computing' did not interrupt her TV viewing, though she 'wasn't sure if he would like the TV on in the bedroom when he's working'. In two homes, the kitchen table serves as a 'hot desk', in one case being equipped with a printer.

Conspicuous display was not a feature of the homes where we did our interviews. Several respondents expressed a preference for 'discreet' televisions: "Cost and appearance - it's not got to be bulky at the back"; "I wouldn't want something that dominated the room"; "I'd like to shut it up in a cabinet". In a couple of cases, older televisions were part of a 'design' concept; one wood-cased device had been purchased in "John Lewis to fit the furniture of the room"; another large screen was housed in a custom-built brick unit, with speakers; this room had been 'planned specifically with TV and video in mind'. Computers were deliberately hidden from outside view to avoid the attention of thieves; in the corner, behind drawn curtains, behind a Victorian screen in the case of the machine in the living room. In one of the two houses with a single male occupant, we were shown a room with devices in every corner - TV, CD system, multimedia wired computer, trainset, all places to allow their owner (he 'likes toys') to migrate from one to the other as his interest dictated. This householder had chosen his location carefully; very near to the school in which he teaches drama, and a new scheme which was cabled before he arrived. The home devices allowed him to merge his work and home interests in movies, theatre and performing arts, and he considered that his devices definitely made him more productive. Maintenance and updates were sustained by a web of contacts, both live (a friend in United Artists, a friend in PC World) and virtual - the respondent uses the Web to find software and advice (information-seeking in action). We wondered if this degree of self-extension would be accommodated, or even required, in a shared household space.

### HOUSEHOLD MEMBERS AS MICRO MANAGERS: STRATEGY, PLANS AND TACTICS

We distinguish 'strategy' from 'plans' and 'tactics: the first refers to media which offer opportunities for the future, and thus imply a medium- or long-term plan; the second refers to current practice; and the third to actions (obviously, the distinctions are not clear cut). As far as strategy is concerned, there is a notable divergence in the role of computers and televisions; acquisition of the former is more often 'strategic' than acquisition of the latter (though in two cases, house purchase was related to a 'TV' strategy, to acquire ready-made cable, specifically, on one case, to allow the respondent to shift to UA Gold Service to 'keep him at home in the summer' and save money).

### ADJUSTING THE BOUNDARIES OF WORK AND HOME

Common strategic purposes include: work at home (in some cases after redundancy); extension of work at home; education (this was offered as a motive by respondents in the earlier study) of both children and adults. Those respondents who had adopted (two) or had considered adopting (three) the home as their primary place of work made clear distinctions among types of work that were suitable: "information work" (file transfer, work processing, spreadsheets, data management), but not 'people work', which requires physical presence. E-mail is not perceived by those who have it at home (three respondents) as a substitution for presence; in addition, it is perceived as insecure and costly. (Similar observations were made about Internet, which suggests a suspicion of on-line processes). A manager of a telesales operation handling credit cards, who extended his working day by completing certain types of tasks in the evenings, was adamant that, as a manager, he had to be on site most of the time; he also raised security issues as a reason for not doing certain tasks at home (as did both the respondents working in central government in the Scottish Office). Several other respondents operated a flexible arrangement, working at home on certain projects (the text-based aspects of their work) when they wanted to avoid interruption; or fitting such work to times at home with sick children when the other spouse was unavailable.

As we observe above, skills migration was a feature of several households: transfer from work to home and from home to work (or, in the case of minors, from school to home and vice versa – in one case, self-directed exploration had prepared a student for a computer studies course at university and led to a job in the local computer retail outlet) was mentioned by several respondents. In some cases, the transfer 'package' includes software: Microsoft Office at work was in several cases 'taken home' by males and taught to other members of the family. In two cases, skills acquired in configuring machines for home use had proved valuable when machines were introduced into work.

Of those who were not yet owners but intending to purchase PCs, 'helping the children at school' was a primary strategic motive. (This echoes the narrative

of Murdock and his colleagues (1995, 254) reporting on home computing in the 1980s) In the EH12 area, this poses a dilemma for some parents: the local education authority has committed itself to Apple as the educational base; yet advertising, local retailing facilities, and peer pressure have led their children to demand multimedia PCs. Two parents specifically raised this with their schools: one had found the school 'unhelpful' when he asked how the PC he had upgraded might fit with his children's class work; another was aware that the local school was under-endowed compared with schools in another part of Scotland, Aberdeen, where his father-in-law was a headmaster. The scenario of approaching the school for advice might be called 'information-seeking', though these terms were not used by the respondents neither of whom was sufficiently perturbed by the 'discontinuity' to take the matter further. Where machines had been acquired for 'school-related' use, parents mentioned *Groliers* and *Encarta* as resources (for browsing and for searching), and word-processing (for 'presentation'). At adult education level, in four households, PCs supported two Open University courses ('she couldn't do the course without it now'), one PhD (which involved the use of specialist statistical software) and a computer skills course in a local college. In another case, the husband's cast-off machine was used by his wife who was a writer.

Several respondents claimed a 'strategic' educational role for television; one mother whose daughter had not done well at school had encouraged her to watch historical programmes and programmes on nature; the adult daughter had retained an interest in these areas, and was "really knowledgeable about wildlife". Another mother, one of whose sons had been problematic at school and truant, claimed that he had to some extent 'educated' himself by watching television and going to museums. (Her husband was sceptical about this). In a third household, subscribers to cable, the mother described how her daughter, who studies modern languages at secondary school level, used language programmes as a major resource, and had felt deprived when United Artists restricted these by abandoning Russian transmissions.

### TACTICS

Both TV and computer are used tactically (for everyday or immediate purposes). PCs are used for writing 'formal' letters, preparing lists for clubs, home banking, doing business and household accounts and in the case of one 'wired' respondent, for access to special interest groups on the net; research (for memoirs and to support lecture series by retired civil servant); genealogy (two cases); mapping football leagues (one child using Excel). Television is used tactically to amuse (children and 'the wife', in one case), to socialise, to isolate, and (via teletext) to conduct transactions (tracking shares, purchasing holidays); not, interestingly, to shop: the shopping channel was regraded as a joke by several respondents; another (the telesales manager described above) was too conscious of the possibility of fraud to commit funds to that mode of purchase.

Television, as a minder of both children and adults, is used tactically to manage presence and non-presence. TV facilitates parallel tasking on a daily basis; strategic acquisition of PCs to allow both adults and children to 'work' at home may be seen as a longer term example of the same thing. One of the older women interviewed reminisced about the role TV had played in her early motherhood days ("I couldn't get out much; it kept my mind occupied"); she had structured the day very carefully round children's viewing: "Teeth brushed by the *Magic Roundabout* and in bed by the *News*" and expressed concern about the content of today's programmes ('not enough make-believe'), a sentiment common to several older female respondents. The cartoon channel for children had been a major factor in acquiring Sky/Cable in the case of several families, but two families expressed concern that too much was being watched; in one, the daughter's time viewing was being limited; in another, a boy had been, with his peers, violent at school and the parents attributed this to what he had been watching (cartoons, in this case, were perceived as a source of information on how to behave). Three older women, with adult children, expressed concern about violence in children's programmes: one mentioned the James Bulger case (the murder of a young child by older children) in this context. Others expressed insouciance; the TV was a part of the routine 'long lie/sleep in' for the parents on Saturday, and a necessary bridge between school, and tea/homework.

In the case of adults, there were several cases of one partner watching TV, while the other worked on a computer: one wife 'sneaked away for two hours or so every night to do OU stuff'. This might be called socially acceptable isolation; another version of this is watching TV together when both are tired: "allows me to switch off without seeming to cut myself off". The role of teletext as an isolating device was commented on by several 'text addicts': 'my wife hates it'; 'I don't think this is in the interests of the rest of the family'. Many of the squabbles over 'the remote' (see below) focused on teletext. In addition to being used as an acceptable isolation device, TV is used, as it traditionally has been, to avoid isolation; in the case of women who watch television while sewing alone in the house; or men who read or do crosswords while it is on. (One older (disabled) male respondent who claimed to watch TV from 12.30-10.30 pm each day was asked when he had time to read the pile of books by his chair; he said that he read them 'while watching'). Television is also used tactically to socialise and promote conversation (a micro version of what Silverstone (1994) calls 'conversion').

Patterns of isolation and socialisation vary; they reflect choices to have or not to have company, are partly linked to the spatial disposition of devices in the home, and partly to patterns of family bonding. In the case of families with multiple sets (cabled and non-cabled), circumstances allow individual viewing in the bedroom; in other families, TV or a computer in the bedroom is not accepted. In one house, a complex of spatial and social issues was manifest in

the use of the main TV in the sitting room; two TVs upstairs (in a bedroom and a sewing room); a colour (25th anniversary gift from family) TV in the master bedroom. The latter wakes the couple up; the TV in the sitting room is used at lunchtime; at night, they will go to separate viewing spaces if there is a conflict (she usually goes to the sewing room). In another house, *Neighbours* (the Australian soap) is viewed on the big TV in the sitting room; background TV viewing occurs in the kitchen; news is watched at breakfast time there and sometimes at lunchtime.

#### THE TIME SWITCH AND HOUSEHOLD TIME BUDGETS

We asked about hours per day, hours per week and seasonal viewing, and how time budgets were managed; did they do less of one thing because they now did another? Most respondents claimed to watch around 5 hours a week, the lowest category offered in our questionnaire. The tightness of the viewing schedule varied across households – in some, there is scanning and earmarking of appropriate listings before the week's viewing (conflicts are resolved by the VCR); in other households, viewing is arranged on a daily basis with the help of listings in the local paper, the *Evening News* or national dailies. All of our spokespersons stressed that they had 'full' lives; viewing, or interacting with the computer were only two of many activities; in one case, the musical interests claimed for the household were audible throughout the interview. The lives of many of the children (in different housing areas) centred on 'the street' (De Certeau's (1984) 'place of escape') where they spent much time playing, and where they visited their buddies. One father reported that the house does not get a daily paper because there is not time to read it with 'all of the ferrying about' of children. One student channel surfer observed: "It's just something I can do – I don't like not go out or something like that, you know. It's just that I'm sitting in bed, it's normally quite late at night". Two of the older men had outside interests: golf and bowls, which they chose to spend time on rather than watching; one retired respondent, whose primary use of TV was to watch English and Scottish Premier Division football on Sky Sports, said that he would "rather work in the garden in the summer than watch TV, outside the season".

#### THE SATURATED HOME

The VCR is a key technology which allows the activities and interests of different household members to be juggled and balanced, though it can itself become one of many activities competing for resources. To find out to what extent different ICTs might be in competition with each other, we asked about substitution of one service/product for another, using videos (both recorded from the TV and hired from the video shop) as the case in point. Patterns varied: in some households, catching up with the videos is a problem (and this is used as a rationale for not subscribing to cable; in others, those interested manage the

situation, unless there is a busy social schedule, or "it's Christmas or something like that". Many of the Sky (satellite) and cable subscribers found that the movie channels were "disappointing"; three households had cancelled the movie channel, and had gone back to using the video rental shop. Other households reported that their rental of videos had declined with the purchase of cable or satellite, though in one case, the opening of a new local Blockbusters videostore had resurrected the habit. Several who dismissed the thought of paying for sport, were interested in video-on-demand; subscription channels were seen to offer too many repeats and too little choice; video on demand would save time "on trips to the shop".

We used library membership as a further test of substitution of one medium for another: many of the household members interviewed reported that they did use the library (only one retired male said that he read less since they had acquired cable). Newspapers are purchased by our respondents (along with the radio, they are a major source of local news), comics and paperbacks are read in bed by adults and children (and favourite programmes like *NYPD* are viewed from there). Unlike Turkle's (1996) subjects, most of our respondents appear to enrich existing habits with ICTs, not substitute for something that they perceive as impoverished. Library membership, reading the press, and an interest in new media go together in the EH12 cohort: to paraphrase Daft and Lengel (1984), media richness is information richness and technology has not restricted channels of communication. We have adapted Gergen's concept of the 'saturated self' (1991) emptied of individual capability by its absorption of external messages, to assess the tolerance limits of households for mediation: most of our households, far from being in a state of saturation, appear to have evolved mechanisms to self-adjust.

#### RELEVANCE, RULES, REPERTOIRES, RIGHTS

Several respondents, familiar with computers at work, had studiously kept them out of the domestic environment, as intruding on what should be a recreational space (this standpoint was very evident in the first phase of our project), or irrelevant to their purposes at home. Where computers associated with work are not admitted in the household, games machines may be accepted: we heard about a range of devices (Atari, Nintendo) some of which had been relegated 'upstairs'; some of which were still part of the fabric of household recreation, and an important social attractant. But we also heard of recently acquired multimedia machines (purchased as 'non-game' devices) being appropriated by younger members of the household as games machines: in two of these cases, grandfathers, one a retired seaman; one a retired colonial civil servant (who had done research on behalf of his daughter on a suitable machine for his grandchildren, and trawled retail outlets with her) expressed disapproval. One observed "multimedia machines will mean that parents have to exercise greater control".

A similar process of adoption of a machine as a games device after it had been acquired by adults to facilitate education is reported in Murdock et al. (1995, 254): "In those situations, children could use their time on the micro to win space and privacy within the household and assert their separation and independence from their parents".

This issue (whether, or when machines denote 'work' or 'play') may be framed in terms of Radway's observations on classification in the household: "The whole process of conceptual distinction between the popular and the dominant, the carnivalesque and the serious, begins, I think, within the family as its members practically distinguish play from other activities, and negotiate with each other who plays what, where and when". (1988, 370). This 'classifying activity' permeates many of the narratives of our respondents, with different rules invoked to cover different scenarios. Classifying activity is evident in all of the areas of media resource management which we discuss above: acquisition (strategic/tactical; work/home); maintenance (men's work); location (public/private; social/non-social) One typical scenario is on-line access where parents classify on behalf of children (parental use: 'serious'; child use: 'non-serious'): one father used Compuserve for 'serious' purposes (tracking shares in the case of one consultant) but denied access to their children as 'it would cost too much and there was little of value to be found'; two other fathers, though technically capable of connecting to the Internet (one had even borrowed a modem for the week-end to try it) were not 'wired' for similar reasons. The distinction between what is considered suitable for home-work (text and information processing) and what is not suggests that classifications (judgments about genres) at work may migrate into the household.

Control of viewing is another scenario where classifying activity can be observed, both where control is exercised on behalf of other people, or in terms of one's own conflicting interests. In two households, the wife was named as the one "who attempts to control what they watch". This is linked to rules of the house. One set of rules, for example, relates to children's bed-times ("They go to bed at 9.00 o'clock; if there was anything unsuitable on before that I would switch the thing off"). Another set (applied by older respondents) relates to the position of 'strangers': there is a universal imperative that dictates that the television set be switched off when visitors come to the house (we, as interviewers, fell foul of this rule on several occasions): "I can't abide people who don't switch it off when I visit them; it kills conversation"; "I don't watch with strangers in the house". Children operate different sets of rules: they, in contrast, construe television and computers as reasons to enter each other's houses. All of the children that we heard of had friends who came in to play with the machines, and went to other friends' houses with similar motives; the rules of entry were related to activity on 'the street', and acquiesced in by adults.

Gendered preferences have been observed in all studies of household media, particularly in the context of viewing (Jackson and Moores 1995, provide a readable summary of this area, 8–11): females watch ‘fiction’ (acknowledged cheerfully as ‘rubbish’ by one respondent) and males ‘fact’ or ‘sport’. Our respondents appear to follow the norms reported in other studies: one couple, for example, admitted to squabbles over the ‘remote’ which was used by ‘him’ to search teletext (fact) and thus disrupt her movie viewing [fiction]). A complex of reasons may explain the ‘classifying activity’ that lies behind gender-based preference: Hobson (1982, 1995) and Morley (1995) offer ideological and epistemological reasons respectively. We do not wish at this point to enter into discussions on perceptions of ‘the world’: there is little explicit ontological angst in the narratives of our respondents. What they did offer were a number of comments which suggest classifying by ‘fitness’ in terms of content or function and which emerged in discussion of a range of unfamiliar, or inappropriate services and programmes: “not value for money” (by one respondent cancelling the movie channel because of too many repeats); “it would be inappropriate” from a mother who managed a well mediated environment talking about e-mail; “neither of us are interested” from the older woman who declared herself ‘quite happy’ with four TVs; “wouldn’t pay money for all those channels when a lot of it is rubbish” from a father barely managing to keep up with four channels; “I’d need to have a proper function for it and not just have it be there” from the owner of six cabled TVs on Internet; “Our TV viewing is interest driven and everyone has interests”, from subscriber to cable justifying his investment in the service. In their attempts to handle the concluding questionnaire – (this required them to place TVs and computers on several scales (‘it isolates’ or ‘it brings people together’; ‘it educates’ or ‘it entertains’ and so on) most respondents discriminated their responses in terms of social practices: ‘It’s all of these; it depends on whether...’). We suggest that these statements are relevance judgments (broadly defined as Schamber et al. (1990) suggest), which reflect an interplay of personal and collective criteria.

What makes a respondent classify a service or product, a TV programme, or a computer facility as ‘of interest’? A range of factors. We have already mentioned gender. Bourdieu’s (1994) *habitus* (explained Jackson and Moores (1995) as “a set of embodied cultural dispositions which are inculcated in the subject from the early years of socialisation within the family”, 1995, 20) is another likely factor. Age yet another: “Computers are for young people”; “We watch BBC1 – for historic reasons I suppose”. (In this context, two older women who perceived television as a social medium offered early memories of the same scenario: a family watching *What’s My Line* (a 1950s precursor of the game show) gathered together round the set with the curtains closed.) None of these were explored in depth in this round of interviews. What we did hear a great deal

about was the importance of ‘habitual routines’ as guiding principles in the management of household media: “It’s part of our lives”; “It’s built into my routines”. This does not mean that routines are necessarily built around television, but that its fitness at certain stages of the day, and certain stages of the family life cycle is recognised.

The inter-play of choice and habitual practice (raised by Anderson and his colleagues (1995, 7–8)) is an issue here: what happens when the ‘habitual routines’ of individual family members conflict? Narratives that dealt with ‘the remote’ were helpful here. Though there are local squabbles (remotes are hidden from the offender, of either gender), many in our cohort have avoided the ‘living room wars’ described by Ien Ang or the ‘bitter disputes’ of Hobson’s respondents. Two important tactics are: firstly, to expand the household *Lebensraum*, by installing several points of presence throughout the house (the progression from public to semi-public (the attic) to private space described above); secondly, to use the VCR (as we note in a previous section) to accommodate different time schedules. Multiple points of presence and time switching create the conditions for what Weick (1993) calls ‘heedful interrelationship’, a kind of moral calculus where choice may be exercised and priorities bartered. (One family, for example, do not leave for the supermarket on a Saturday, until the “wee one has watched his cartoons” – his guarantee of good conduct).

The narratives of our respondents have told us what media devices they consider appropriate for what purposes, where they fit in to how the family does things in terms of space, time and interests and how the family accommodates the sometimes conflicting interests of its individual members. They have revealed how media devices are embedded in group routines, and what criteria justify presence and absence in different households. Our respondents appear to recognise programmes (both transmissions and software) as linked to social practice. (The seven year old who had ‘recently asked if he could watch *Neighbours* for the first time’ illustrates our case). At this point we would like to suggest that ‘genre repertoire’ theory, developed by Orlikowski and Yates (1994), offers a helpful interpretative framework. This recognises the fitness of certain ‘communicative acts’ (or genres) to individual objectives, and their regulation by rules (which embrace deference and prioritising) in interactive environments to sustain their effectiveness. (In the context of office-work, where the theory was derived, these genres are the memo, the letter, the e-mail; in our context of the mediated household, they are the soap, the documentary and so on). The process of establishing a genre repertoire, say Orlikowski and Yates, is “largely implicit, and rooted in member’s prior experiences of working and interacting. Once established, a genre repertoire serves as a powerful social template for shaping, how, why and with what effort members of a community interact to get their work done” (1994, ii) (In the case of households, this may include ‘pleasure-seeking.’) Genres are not static but can be reinforced and

challenged and are thus indeterminate. Orlikowski and Yates invoke Giddens' (1994) structuration theory, to explain that "the enactment of genres occurs through a process of structuring" and thus group members "are always negotiators, interpreting and improvising" (p. 40). Radway, in her 1988 observations on those who view ('nomadic audiences') makes similar points: their individuality is articulated "out of a wandering through ever changing preferences and apparatuses"; "we may be able to see them not simply as audiences but rather as active individuals who productively articulate, together, bits and pieces of cultural material scavenged from a multitude of sites and who doing so, nomadically, perhaps even slyly, take up many different subject positions with respect to the dominant cultural apparatuses" (p. 368).

Households (our own and Radway's constituency) are distinguished from the kind of organization that nurtured the theory-building of Orlikowski and Yates, by the more volatile nature of the practices and rules that shape individual and collective interactions. Social construction theory acknowledges the dynamic nature of non-domestic organizations, but such organizations must *de facto* (because of the nature of their incorporation) seek stability. Any stability that households achieve may be as short or long-lived as the involvement and presence of a choreographer or manager figure. Haddon (1994, 72) refers to "The fragile, partial and sometimes temporary understandings and rules which exist in the home". We are aware that our observations as researchers may be equally fragile, partial (we did not interview all members in each household) and temporary. Nevertheless, we wish to explore the concepts of classifying activity and genre repertoire further; to develop a lexicon or coding system (the work of Akrich and Latour (1992) offers a precedent) and to test their robustness in around of second (or more) interviews with both our original cohort (but with sub-groups of elders and children; males and females) and with a fresh cohort to observe the validity of these concepts outside (1) the family and (2) the waged white family. It may be that classifying activity and relevance judgments are artefacts of *habitus*, both our own and that of our respondents.

### CONCLUSION

We conclude by relating our findings to the theme of the conference: 'information seeking in context'. The context, a set of rules and repertoires and moral judgments, is both influence by information coming into households (the TV programmes; work-related texts) and influences it (what comes in is accessed according to each household's 'resource budget', a complex of time, money and interest). "Information" activity is varied: much of it is not 'seeking' or 'finding' but 'keeping up to date' - on world events, on 'the game', on soaps, and thus sustaining one's position in group discourse inside and outside the house. Some activity (channel surfing; playing with 'text'), is browsing; and some involves specific access ('check my shares'; 'look at the weather on

teletext'; 'ask the school about PCs') by an individual, to support either a personal or group objective. All of these were concretised by our respondents and described in terms of specific scenarios based on habitual routines ('asking a salesman'; 'asked my friend's dad'; 'read the *New Scientist*'), in other words, expressed in narratives of situated action, not of needs and quests.

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APPENDIX

FAMILY	GENDER	AGE	PRESENT FAMILIAL STATUS	DURING INTERVIEW	INTERVIEWERS	TVs	CABLE OR SATELLITE	VCR	COMPUTER
A	m	36	married	yes	M	2	cable	1	0
	f	35	married	yes					
	m	14	son	yes					
B	m	12	son	yes					
	m	37	single	yes	M/L	2	cable	2	2
C	m	49	married	yes	M	2	cable	1	0
	f	46	married	yes					
	m	16	son	no					
D	m	59	married	yes	M	3		1	2
	f	54	married	yes					
E	m	47	married	yes	M	4	*	3	0
	f	43	married	yes					
	f	17	daughter	yes					
	m	09	son	yes					
F	f	36	married	yes	M	2	cable	2	0
	m	33	married	yes					
	m	06	son	no					
	f	02	daughter	no					
G	m	47	married	yes	M	6	cable	1	1
	f	??	married	yes					
	f	15	daughter	no					
	f	13	daughter	no					
H	m	48	married	yes	M	3	cable	2	1
	f	47	married	no					
	m	24	son	no					
	f	21	daughter	no					
I	f	54	married	yes	M	2	cable	1	1
	m	45	married	yes					
	m	18	son	yes					
J	f	35	married	yes	M	1	cable	1	0
	m	35	married	yes					
	f	05	daughter	no					
	f	01	daughter	no					
K	f	57	single	yes	M	3	satellite	3	1
	m	47	single	no					

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FAMILY	GENDER	AGE	FAMILIAL STATUS	PRESENT DURING INTERVIEW	INTER-VIEWERS	TVs	CABLE OR SATELLITE	VCR	COMPUTER
L	m	45	married	yes	M	3	cable	2	1
	f	43	married	no					
	f	15	daughter	no					
	f	13	daughter	no					
M	m	43	married	yes	L	2		1	1
	f	38	married	no					
	m	10	son	no					
	m	08	son	no					
N	f	38	married	no	L	2		1	1
	m	35	married	yes					
	f	09	daughter	no					
	m	07	son	no					
O	m	43	married	no	L	3		2	1
	f	41	married	yes					
	f	11	daughter	no					
	f	06	daughter	no					
P	m	42	married	yes	L	1		1	1
	f	39	married	no					
	f	11	daughter	no					
	m	08	son	no					
Q	m	66	married	yes	L	4		2	0
	f	55	married	yes					
R	f	36	married	no	L	2		2	2
	m	36	married	yes					
	m	10	son	no					
	f	08	daughter	no					
S	m	41	married	yes	L	2		1	1
	f	38	married	no					
T	m	51	married	yes	L	3	satellite	2	1
	f	48	married	yes					
	f	18	daughter	no					
U	m	76	married	yes	I	1		1	1
	f	64	married	yes					
V	f	38	single	yes	I/L	3	cable	2	0
	f	14	daughter	no					
	m	11	son	yes					
W	m	75	single	yes	I	2	cable	1	0

FAMILY	GENDER	AGE	FAMILIAL STATUS	PRESENT DURING INTERVIEW	INTER-VIEWERS	TVs	CABLE OR SATELLITE	VCR	COMPUTER
X	m	67	single	yes	I	2	cable	1	1
	f	35	daughter	yes					
	f	14	daughter	yes					
Y	m	69	married	yes	I	2	cable	2	0
	f	60	married	yes					
Z	m	64	married	yes	I/L	2		1	2
	f	53	married	yes					
	m	29	son	no					
	m	26	son	yes					
	m	25	son	no					

\*This family cancelled their cable TV subscription during the period between completing our questionnaire and the follow-up interview.

Key: M = Martin Higgins  
L = Elisabeth Davenport  
I = Ian Somerville