

Narratives of New Media in Scottish Households: The Evolution of a Framework of Inquiry

Elisabeth Davenport

Napier University Business School, Edinburgh. E-mail: e.davenport@napier.ac.uk

Martin Higgins

Craigmillar Community Information Centre, Edinburgh

Ian Somerville

Queen Margaret College, Edinburgh. E-mail: i.somerville@mail.qmced.ac.uk

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, Hirsch, & Morely, 1991, p. 206)

The authors describe a study of the social dynamics of new media in Scottish households. The evolving project drew on dialogues with multiple household members elicited in group conversations. This approach to interviews captured different and conflicting points of view, a feature shared with certain social approaches to systems design. Analysis of the interview transcripts revealed that there are recurrent narratives and behavioral genres across households (and across sample groups), and that these reflect tactics, stratagems, and plans by means of which respondents navigate social space. The authors' approach contrasts with prevailing "needs and uses" models in information science, in offering a methodological framework based on group narrative and genre analysis that contributes to a theory of social informatics in the household.

Introduction

In recent years, there has been a great deal of debate on the development of Information and Communication Technologies (ICTs) in Great Britain. This debate has focused on ideas such as "the information society," "convergence," and "multimedia" (Goodwin, 1995, p. 677), which are increasingly employed in sales and marketing rhetoric. And, as the managing director of United Artists (Scotland) explained in

1995, it is the household or "home" (in this project the two are coterminous) that is the focus for this intense marketing activity:

Ultimately in the residential community, and this is over four or five years time, I see the convergence of those two devices [computer and television] and you just use one in-home screen and you pick what you want to do off that. If you want to watch television, you bring up the television. If you want to use any type of PC service you just flip it over to a different channel and you've got your whole range of PC services that you can use on an interactive basis. In fact that's how we're designing it. That's the background of design for the network. (Bonsall, 1995)

What is less clear, however, is where households situate themselves within this rhetorical framework. The work reported here (from the "demand" side) was part of an evolving study (Davenport & Higgins, 1995) and explored a perceived dissonance between vendor and consumer perspectives.

Traditional Library and Information Science models of information seeking have focussed on the individual, and offer inadequate explanatory power for researchers who wish to understand the role of communication technology in social spaces, such as homes. We view our study respondents as "interactors" (Goffman, 1983; Lamb & Kling,

1999) rather than as “users.” These interactors participate in a matrix of activities and relationships that are mediated by other people, technologies, money, and other resources.

The concerns of “information management” have traditionally been articulated inside institutions (corporate or public); it is not clear whether the prevailing models of needs and uses apply in the noninstitutional context of the household. As microorganizations that are not bound by official rules of incorporation and accountability, or by a constitution, households are officially 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 puts it (Office of Population Censuses and Surveys, 1992, p. 219).

The authors believe that methodologies investigating household information systems need to conflate research traditions from a series of different academic disciplines to meet the challenge of understanding and explaining the development of converging ICTs. This article describes a study that attempted to do this. In this article, we refer to the services and devices associated with convergence as “new media.” Within this group we include cable and satellite television, interactive television services, personal computers, CD-ROMs, Internet, e-mail, and World Wide Web. What links these items and services is their association with the expansion of communication technologies into the domestic setting.

UK Context

In 1997, a UK newspaper suggested that “fewer than two million people in Britain have PCs (not all with modems) compared with 22 million households with television sets” (Keegan, 1997, p. 2) Other reports assert that 33% of U.S. homes have a computer, while only 5% of British homes are in the same position (O’Neill, 1997, p. 15). Although computer ownership has lagged in Great Britain, the proportion of homes served by TV runs at approximately 99% (Mackay, 1995). If for no other reason than efficiency, therefore, the attempt to provide the “information society” in Great Britain is envisioned as being delivered primarily through the TV set rather than the computer screen. Of course, for this to happen, broadband capacity needs to be available directly into a person’s living room.

But, unlike the USA and Canada and other European nations such as The Netherlands, Great Britain has not been served by a significant cable television network until the last 5 years or so. Although local franchises provided some services, most viewers in the country were served only by four terrestrial channels. A cable television policy had been articulated in the government’s 1983 Cable White Paper, but significant development of the cable market did not occur until after the Conservative government altered telecommunication policy in 1991 to allow cable TV providers to also supply voice telephony. Between 1984 and 1993,

British government policy actively discouraged any consideration of television and telecommunications as comparable (Goodwin, 1995, p. 679; see also Garnham, 1994, pp. 42–51). But, encouraged by the potential of twin revenue flows, large telecommunication companies such as Videotron, Nynex, United Artists¹ started to offer both TV and telephoneservices across the country. The success of this policy change was almost immediate. To take one example, during 1994, cable telephone services increased from 314,000 homes to 717,000 (Goodwin, 1995, p. 681). Cable television penetration as of the beginning of 1996 was 1.33 million British homes, 5.9% of the total (Clemens & Key, 1996, p. 1). Of course, technological developments mean that simple broadcasting and telephony are just the basic services that the telecommunication companies hope to offer.

British consumers have also been served by the direct satellite broadcasting service, BSkyB, owned by Rupert Murdoch. BSkyB actually preceded most of the cable companies in establishing a market in British households in the 1990s. Eschewing vanguard digital communication technology in favor of desirable content, BSkyB provided a service to any location prepared to invest in a small satellite receiver dish and the subscription fee for its service. BSkyB purchased the rights to broadcast live coverage of English Premier Division soccer as well as English national team fixtures; alongside a strong lineup of films on its dedicated movie channels, the sport convinced significant numbers to pay for their television. In 1997, BSkyB’s 6.2 million subscribers (Brown, 1997, p. 2) and the cable companies 1.33 million subscribers provide service to approximately 30% of British homes.² But both BSkyB and the cable companies were already trying to lay foundations for the future.

BSkyB attempted to establish an interactive presence despite the relatively obsolete technology that underpinned their satellite broadcasting service; at the start of May 1997, they announced a preemptive move into the world of digital satellite broadcasting. BSkyB were senior partners at that time with BT in a new company named British Interactive Broadcasting (BIB), which planned to deliver “live” interactive communication to customers within 18 months. Predictions for similar interactive services from cable companies asserted that they could enter this market even sooner. However, the media reception accorded BIB—column inches in all daily broadsheet newspapers plus extensive news coverage on TV—indicated that the satellite broadcasters have scored the first blow in a putative cable versus satellite interactive battle.

¹ United Artists’ name was changed to TeleWest in July 1996.

² The precise number of domestic cable and satellite subscribers is difficult to calculate because a high proportion of British pubs, clubs, and hotels subscribe to these services also. In the summaries of BSkyB’s nine monthly reports between June 1996 and March 1997, no distinction was made between household subscribers and others (See Bain, 1997; Hayes, 1997; Snoddy, Godsmark, & Newman, 1997)

In the Edinburgh area, consumers are served by the usual urban wealth of computer retailers. National companies such as Byte and PC World have warehouse outlets, while smaller “high street stores” such as Dixons and Curry’s proliferate in urban and suburban shopping centers. As well as international Internet providers like Microsoft and CompuServe, local servers such as Abel and Craigmillar Community Information Service offer services to potential Web surfers. TeleWest also provide access to the Internet via their cable infrastructure. In addition to five free broadcast channels, households are also served by BSkyB, which is available to any location in the country, and by TeleWest. Consumers are offered a tiered set of subscription packages by TeleWest. Movie channels and sports channels are the “premium” products, and customers wishing to purchase all of these subscribe to the Gold Package; the Silver Package reduces the number of channels, and the Basic package offers no premium sports or movie channels. Pornography channels cost extra to any of these services. TeleWest also provide telephone services in the area. As of August 1996, TeleWest provided cable to 20.2% of the homes passed in their Scottish franchises and telephony to 24.2% (Phelps, 1996). It was felt that the development of converged, interactive communication to domestic locations would be provided through the television set. This was the logic behind the formation of BIB and a similar line of thinking is behind cable:

In the home market we will have initially two separate products but as soon as the price of these things start to come down to where the box there costs us roughly £100, when the price of these things gets down to 100, £150, I can see us then merging those two things onto the television so that you have PC services available on your television and your normal television services. (Bonsall, 1995)

RESEARCH PROJECT

Our project, internally funded by Queen Margaret College (QMC),³ started in 1995, and aimed to investigate how and why new ICTs were being absorbed into Edinburgh households. The project was designed with a qualitative emphasis informed by the “ethnographic turn” that has characterised media and cultural studies of audiences in recent years (Moore, 1993).⁴ As David Morley and Roger Silverstone (1991) have argued, “The objective of this kind of qualitative research is to develop a close understanding of the processes through which television and other communication and information technologies acquire meaning” (p. 150). The project involved three faculty, two part-time research assistants, and one doctoral student, working as a loosely configured research team. For logistical and eco-

nomical reasons, the team accessed local household samples around Edinburgh, and focused on methods as much as outcomes. There were three phases to the project. The first was a small pilot of an interview protocol; the second involved a widely distributed structured survey designed to gather information on possession of media devices in the area, and then follow-up interviews at 26 households. These interviews concluded with a short questionnaire that asked interviewees to respond to a series of statements about ICTs. The third stage of the research involved a number of second interviews in some of the households interviewed in phase 2. These discussions were intended to triangulate observations from the previous interviews as well as extend discussions into new areas. The surveys and interviews in phases 2 and 3 were conducted in the EH12 zip-code area on the west side of Edinburgh. The area includes affluent upper middle and upper class centers—Murrayfield and the West End—and working class housing schemes—Carrick Knowe and Broomhall as well as middle-class suburbia—Corstorphine, South Gyle, and East Craigs.

Throughout the project, the group made the following assumptions: (1) that a series of devices in the home (multimedia PCs and cable TV) could be addressed as a single group (“new media”) because of the logic behind converging services; (2) that criteria for usability derived in an HCI, or computing context, could be merged with media and cultural studies approaches (media audience ethnography, for example) and applied to this group of media; and (3) that households could be explored as loosely defined microorganizations that deploy resources to meet objectives (in some cases, basic objectives like viability).

As researchers, we were less interested in content, or the delivery of news of the world (at whatever level of specificity) than with ways in which information systems and technologies intervene in a social group (the household). Information and media systems are a means by which households orient and adjust themselves (autopoiesis), both internally and externally. We found that, in many cases, “information” in these households is not necessarily goal directed; does not imply “seeking” or “need,” and the system that conveys information (a TV set, a computer) is also a channel for entertainment and creative work. The term “appropriation” is heavily used in our article 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).⁵ By avoiding the term “impact” and its implication of a finished technology that producers launch onto an unsuspecting market where its effects are gauged and quantified (Berg, 1994; Cowan, 1987), we positioned our study within the social shaping of technology field. Here, the interaction between producers and consumers of a technology is deemed indi-

³ In 1999, QMC became Queen Margaret University College (QMUC).

⁴ We acknowledge that there is a debate within media and cultural studies about the appropriateness of this kind of study. See Lull (1988) for a critique of media studies use of the term ethnography.

⁵ Appropriation and incorporation are two of the four terms introduced by Silverstone, Hirsch, and Morley in their discussion of the household (1994, pp. 20–26). The other two are objectification and conversion.

visible and any attempt to measure the consequences of a technology must acknowledge a mutual shaping dynamic (e.g., Berg & Aune, 1994; Bijker et al., 1987; Suchman, 1987; Yates & Orlikowski, 1992).⁶ By taking a constructivist approach, and analyzing the household as a microorganization that draws on individual practices that shape and are shaped by media devices, we hoped to unpack the “black box”⁷ of consumption (Pahl, 1989, 1995). We wished to understand the distinctions and disparities that characterize controlling, managing, spending, consuming, and sharing (information) resources within households.⁸

Phase 1: The Pilot

Two specific research programs sponsored by the Economic and Social Research Council in the UK inspired the design of the interview protocols used in the project: work at Brunel and Sussex Universities, which was related to the Programme on Information and Communication Technology (PICT), and a nationally coordinated project entitled Social Change and Economic Life Initiative. The Brunel/Sussex group’s original aim was 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” (Silverstone et al., 1991, p. 223). One of the key frameworks posited by this group was the conceptualization of the household as a moral economy:

To understand the household as a moral economy, therefore, is to understand the household as part of a transactional system, dynamically involved in the public world of the production and exchange of commodities and meanings. But that involvement is not simply a passive one. At stake is the capacity of the household or the family to create and sustain its autonomy and identity (and for individual members to do the same) as an economic, social and cultural unit. (Silverstone, Hirsch, & Morley, 1994, p. 19)

We were influenced by that view that ICTs are “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 & Hartmann, 1995).

⁶ This approach challenges a number of assumptions (and terms): for example, the technology has an “impact,” that we can identify when a technology/text is “finished,” and so on.

⁷ The use of the term “black box” implies something that is acknowledged but not the immediate focus of attention; unpacking the box implies a shift of focus.

⁸ We were influenced here by Pahl’s (1995) observations on money and marriage.

There are resonances between these statements and the purposes expressed by Anderson and his colleagues in their study of the political and social economy of the household.

Households have to co-ordinate, and accommodate the attitudes, beliefs and behaviors 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. (Anderson, Bechhofer, & Gershuny, 1994, pp. 3–4)

Our approach, at a theoretical level, also had some important precursors that emphasized the role of group dynamics at the interface between households and media consumption. Morley and Silverstone (1991) refer to several studies, from both sociological and cultural studies perspectives, which attempt to understand domestic media consumption through the concept of “family systems” (Goodman, 1983), or “family dynamics” (Gornell–Barnes, 1985). In fact, they argue that the family’s interaction with technology is, like family behavior around the dining table, an important focal point for understanding family functioning.

In relevant programs funded by the UK Economic and Social Research Council (ESRC), household life is reconstructed from direct observation and a rich store of personal narratives, supplemented, where appropriate, with questionnaire and other material. Because of resource and ethical constraints, direct observation was not possible in our study. The research team made an early decision to focus on interview transcripts as a primary source of data. The interviews were intended to elicit narratives⁹ from the household members who would indicate how in relation to new media technologies they “saw their lives”. The research methodology was motivated by the premise that it is important to analyze categories that are derived from interviewees’ “own conceptual frameworks” (Morley & Silverstone, 1991). We recognized that our methods would not deliver data that could be described as “raw social discourse” (Morley & Silverstone, 1991). Awareness of the partiality of the narratives that were elicited is a positive feature of the theoretical position, and, at any rate, “it is not necessary to know everything in order to understand something” (Geertz, 1973, p. 20).

The first task was to design a probe that would invite, but not drive, personal narratives in individual households. We adapted a four-part typology derived from Dillon’s (1994) investigation into readers’ perceptions of the reading process, and their reactions to electronic text, to derive four areas for analysis: tasks, understanding of the technology, ease of manipulation and “aesthetics,” or emotional re-

⁹ The use of the word narrative needs to be clarified here. Narratives, for our purposes incorporate a series of activities: utterances, statements and stories from interviewees; inferences made by researchers interpreting the data (both oral and observational), that they were confronted with.

sponses identified with new media technologies.¹⁰ We based our interviews on a loosely structured framework which covers four areas: “activities” (we modified this from “task,” which implies goal oriented activity, 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 “meaningfulness.”¹¹ The protocol was amplified with trigger questions on salient themes that had emerged in the previous sample, with the intention of evaluating, and possibly consolidating their position as primary topics. The expanded protocol was used in a series of household interviews between January and June 1995. This probe proved to be adequate as a means to elicit narratives from members of households and track the emergence of certain topics and themes that shape the appropriation of media devices in social settings: the interplay of social space and private space; debates on leisure versus work at home; the balance of time lost and time gained; negotiations on control lost and control gained; perceptions of communality (position in the wider community) eroded and communality gained. Such issues, articulated in our respondents’ tales of power plays, mutual responsibilities, proxemics, in the social space of the home, appear to echo Silverstone’s description of the “moral economy” of the household.

The findings of the Phase 1 study (Davenport, Higgins, & Gillham, 1996) are comparable with those of others who have reviewed computers and interactive technologies for the home. The concerns of adult members of the Scottish sample are similar to those of U.S. householders in the 1980s, focusing on computers as a “job-oriented” technology, with emphasis on word-processing and educational applications (Venkatesh, 1996). Many children in the Phase 1 study, however, perceive the computer as an entertainment or leisure device: the resulting dissonance is a source of conflict in some households.

Phase 2: The EH12 Group

The second phase of the QMC project explored the role of new media in 26 EH12 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 in narratives that captured a complex of practices bound by constraints of time, interests, space, and money. The sample was relatively homogeneous as respondents had

to satisfy specified “technology ownership” criteria, and we were working in a relatively unstratified suburb of the city, whose residents are mainly white, waged, heterosexual family groups with children of different ages. We are aware that, as several researchers have observed (Jackson & Moores, 1995; Wajcman, 1994) there is work to be done with alternative constituencies.

Phase 2 interviews were based on a modified version of Dillon’s reading model (activity, understanding, manipulability, meaningfulness) amplified in the light of responses from the pilot sample of interviewees, and informed by the reading of communication studies and household economics literature. Wherever possible, interviews involved dialogue between two researchers and as many members of the household as could be assembled to allow us to capture multiple points of view and have some sense of the political and moral economy of the group. The interviews were not intended to act as focus groups. They were designed to capture dynamics at work within the household, in the kinds of exchanges and negotiations described by Silversone et al. (1994).¹² So, respondents were invited to tell stories and anecdotes as well as provide directed opinions and “factual” responses.

Control

Where do media devices come from, who cares for them, and where do they go as new devices are acquired? This topic was of interest, as, *inter alia*, a scenario that 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 of specific devices—television and PCs—and how they kept abreast of the market. In most cases, decisions to purchase were 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, and only two households subscribed regularly to specialist press publications. Where respondents used a retail outlet, a range of shops featured: “white goods” stores, department stores, PC World. But we found that many households acquired devices by means of diverse channels, what we label “opportunistic” acquisition. 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

¹⁰ Dillon’s original taxonomy covers task, understanding of technology (“information”), manipulation issues, and physiological response.

¹¹ This section of the protocol was significantly influenced by the research undertaken by Sonia Livingstone (1994, pp. 113–130). In this discussion of the meaning of domestic technologies, Livingstone utilises personal construct theory that is “designed to complement the other methods used, offering an individual and phenomenological analysis of the ways in which husbands and wives separately experienced and accounted for their domestic technologies” (p. 116).

¹² In a discussion of the benefits of focus group research for media and communications research Peter Lunt and Sonia Livingstone observe that some media research has differed from Merton’s “classical” focus group because its role has not been to support and foreground quantitative research. Instead, a group discussion provides an “admittedly approximate simulation of everyday conversation or discussion [that] . . . may be used in conjunction with, and in order to overcome the disadvantages of, ethnography, participant observation, and a reliance on publicly available recordings of discourse” (1996, p. 85)

acquired from firms going into liquidation; one was an “ex-demo” model from a friend who is a supplier. 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.”

Few of our respondents’ narratives “problematized” the acquisition process in terms of “user needs” or “information-seeking” scenarios. Motivation to purchase ranged from strategic to pragmatic. (“Strategic” refers to media that offer opportunities for the future, and thus imply a medium- or long-term plan; “pragmatic” to purchase for immediate gratification—pay-per-view for a one-off local team game is an example.) There is a notable divergence in the purchasing motives for computers and for televisions: the former were more often “strategic” than the latter (though in two cases, house purchase was related to a “TV” strategy, to acquire ready-made cable, specifically, in one case, to allow the respondent to shift to United Artists Gold Service to “keep him at home in the summer” and save money).

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, Hartmann, & Gray (1995, p. 254) reporting on home computing in the 1980s.] In the EH12 area, the school connection 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. The scenario of approaching the school for advice (invoked by two fathers) might be called “information seeking,” although these terms were not used by the respondents. 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, a husband’s cast-off machine was used by his wife, a writer.

Cable acquisition proved to be a rich source of narratives about negotiation and the juggling of interests. In several households, the migration to cable was initiated by both men and women, though, subsequently, women tended not to watch as males in the house monopolized the sports channels. (One wife and mother cancelled the cable subscription as a protest, only to reconnect later the same day under heavy pressure from household males faced with deprivation of an important local fixture.) 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 desubscribing, as they did not perceive that they had “value for money.”

Social Space and Private Space

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, 1994).¹³ 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, in our study, the computer and the television had displaced hi-fi systems and games machines, which were now “upstairs.” TV was 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 for drawing engineering charts), 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 in our sample. 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 a major department store “to fit the furniture of the room”; another large screen was housed in a custom-built brick wall 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 mentioned above.

Functional Narratives

In the majority of PC-owning households, machines were work related, and negotiations about their location

¹³ Leal (1995) provides a convincing case study of this from Brazil.

appear to reflect a “1980s” mindset, revealed in comments that are consistent with the findings in Venkatesh’s account of the early phases of his work. (Venkatesh, 1996). Respondents (two) who had adopted or (three) who had considered adopting 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 was not perceived by those who had it at home (three respondents) as a substitution for presence; in addition, it was described as “insecure and costly.” Similar observations were made about Internet. 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 when children were ill and the other spouse was unavailable.

Migration of skills across the home–work boundary was a feature of several households: two-way 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.

The everyday use of ICTs was scattered across a range of practices. 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 (via teletext) to conduct transactions (tracking shares, purchasing holidays); not, interestingly, to shop: the shopping channel was regarded 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.

Narratives of Presence and Nonpresence

The accounts of our interviewees indicated that television, as a minder of both children and adults (“I bought it to keep the wife amused”), was used tactically to manage presence and nonpresence. TV facilitates parallel tasking on

a daily basis: 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 programs (“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 young daughter’s time viewing was being limited; in another, a first grader had been, with his peers, violent at school and his 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 programs: one mentioned the James Bulger case (the recent 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 stories of balanced use of TV and PC to accommodate separate interests with one partner watching TV, while the other worked on a computer. This might be called socially acceptable isolation; another version of this was 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 was used to avoid isolation, in the case of women who watched television while sewing alone in the house; or solitary men who read or did crosswords while it was on. [One older (disabled) male respondent who claimed to watch TV from 12:30–10:30 p.m. 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 was also used as a social currency that promotes conversation [a microversion of what Silverstone (1994) calls “conversion”].

Patterns of isolation and socialization appeared to vary; they reflected choices to have or not to have company, and were 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 noncabled), circumstances allowed individual viewing in the bedroom; in other families, TV or a computer in the bedroom was 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 color TV (25th anniversary gift from family) in the master bedroom. This device was used to wake the couple up; the TV in the sitting room was used at lunchtime; at night, they

would go to separate viewing spaces if there was a conflict (“the wife” would retreat to the sewing room). In another house, *Neighbours* (the Australian soap) was viewed on the big TV in the sitting room; background TV viewing occurred in the kitchen; news was watched at breakfast time there and sometimes at lunchtime.

Narratives of Time—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 family members 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 was scanning and earmarking of appropriate listings before the week’s viewing (conflicts are resolved by the VCR); in other households, viewing was 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) centered 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 did not buy a daily paper because there was 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 soccer 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 was described as a key technology that allows the activities and interests of different household members to be juggled and balanced, though programming the device is itself an activity that competes 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 were purchased by many of our respondents (along with the radio, they are a major source of local news), comics and paperbacks were read in bed by adults and children (and favourite programs like *NYPD* are viewed from there). Unlike Turkle’s (1996) subjects, many of our respondents appeared to enrich existing habits with ICTs, not substitute for something that they perceived as an inferior medium. Library membership, reading the press, and an interest in new media appeared to go together in the EH12 cohort: to paraphrase Daft and Lengel (1984), media richness is information richness in this suburb and technology has not restricted channels of communication. [Kraut et al. revealed a similar pattern in their HomeNet sample (1996, p. 61)]. In terms of Gergen’s concept of the “saturated self” (1991) emptied of individual capability by its absorption of external messages, most of our households, far from being in a state of saturation, appear to have evolved mechanisms to self-adjust.

The Balance of Work and Play

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 were not admitted in the household, games machines might 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 “nongame” 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.” As we mention above, 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, p. 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."

Radway's observations on categorization in the household are pertinent to the issue of whether machines relate to "work" or "play": "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, p. 370). This "classifying activity" permeated many of the narratives of our respondents, with different rules invoked to cover different scenarios. Categorizing was evident in all of the areas of media resource management that we discuss above: acquisition (strategic/tactical; work/home); maintenance (men's work); location (public/private; social/nonsocial) One typical scenario is on-line access where parents categorize on behalf of children (parental use: "serious"; child use: "nonserious"): one father used CompuServe for "serious" purposes (tracking) but denied access to the 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. Such comments imply that categories (judgments about genres) from the workplace migrate into the household.

Household Members as Micromanagers: Resources, Rights, Responsibilities, and Relevance

Control of viewing was another scenario where classifying activity could be observed, both where control was 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 was linked to rules of the house. One set of rules, for example, related to children's bedtimes ("They go to bed at 9:00 o'clock; if there was anything unsuitable on before that I would switch the thing off"). Another rule (applied by older respondents) related to the position of "strangers": this 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 appeared to operate on the basis of different sets of rules: they, in contrast, construed 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:

females watch "fiction" (acknowledged cheerfully as "rubbish" by one respondent) and males "fact" or "sport."¹⁴ Our respondents conformed with 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 disrupted her movie viewing (fiction). A complex of reasons explains 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 was little explicit ontological *angst* in the narratives of our respondents. Both females and males, faced with a range of unfamiliar, or inappropriate services and programs, appear to categorize devices on the basis of function and content: "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 (in PCs)" 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 commenting on the 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 "exit" 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 interviewees discriminated their responses in terms of social practices: "It's all of these; it depends on whether . . ."

Such statements are relevance judgments (Schamber, Eisenberg, & Nilan, 1990) that reflect an interplay of personal and collective criteria. What makes a respondent classify a service or product, a TV program, or a computer facility as "of interest"? A range of factors. We have already mentioned gender. *Habitus* (Bourdieu, 1984) is another likely factor. This is explained Jackson and Moores as "a set of embodied cultural dispositions which are inculcated in the subject from the early years of socialisation within the family," (1995, p. 20). Age is yet another: "Computers are for young people"; "We watch BBC1—for historic reasons I suppose." (In this context, two older women who described television as a "social medium" independently 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). Many narratives stressed 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

¹⁴ Jackson and Moores (1995), provide a readable summary of this topic, pp. 8–11.

around television, but that its fitness at certain stages of the day and certain stages of the family life cycle is evaluated in terms of such routines.

The interplay of choice and habitual practice [raised by Anderson, Bechhofer, & Gershung, 1995, pp. 7–8] is an issue here: what happens when the “habitual routines” of individual family members conflict? Narratives that dealt with “the remote” offered examples of resolution. Though there were local squabbles (remotes are hidden from the offender, of either gender), many in our cohort avoided the “living room wars” described by Ang (1992) or the “bitter disputes” of Hobson’s (1982) respondents. Two important tactics were: first, to expand the household *Lebensraum*, by installing several points of presence throughout the house [the progression from public to semipublic (the attic) to private space described above]; second, to use the VCR (as we note in a previous section) to accommodate different time schedules. Multiple points of presence and time switching created 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, did not go to the supermarket on a Saturday, until the “wee one had watched his cartoons”—his guarantee of good conduct).

Recurrent Narratives

The narratives of our respondents told us what media devices were considered appropriate for what purposes, where they fitted into the management of time and space and how families accommodate the sometimes conflicting interests of its individual members. They revealed how media devices are embedded in group routines, and what criteria justify presence and absence in different households. Our respondents appeared to recognize programs (both transmissions and software) as linked to social practice. Analysis of the interview transcripts also allowed us to identify recurrence in narratives, some of which instantiate the salient themes identified in Phase 1, and some of which emerged in Phase 2. Many of these have been identified in other studies. We have loosely classified these under such labels as “generation related” and “gender related.” A sample “generic” narrative is “The child appropriates new technology more easily than the parent.” Kraut et al. (1996) note this as a critical theme in their study of Internet use in households: “Of all the variables, generation—the difference between teens and their parents—was the strongest demographic predictor and turned out to be the strongest predictor across all analyses” (p. 60). A common “gender-related” recurrent narrative is: “The male controls the remote switching device and thus controls family viewing,” a staple scenario in the work of the Brunel/Sussex group. Moores observes that “the remote that sits on the arm of Daddy’s chair” achieves the status of a household totem (Jackson & Moores, 1995). “Men watch sport; women soaps” is another dominant “gender” narrative. Two narratives that recurred across parent members of households in

our sample reflect the “1980s” paradigm presented by Venkatesh (1996). These are: “TV is antisocial; you switch it off when visitors appear,” and “TV is trivial (and viewing induces guilt) and computers are serious.” Young people in these households presented the counter narratives: “TV is a major social currency” and “Computers are entertainment machines.”¹⁵

Phase 3: Interacting Narratives as a Framework for Exploring Social Informatics

Venkatesh (1996) states that “for a thorough understanding of the household adoption and use of new information technologies, we need a theory of household behavior and a theory of household interaction” (p. 51). We illustrate how an analysis of interacting narratives, carried out under the dialogic conditions we describe above, contributes to theories of the sort which Venkatesh describes. The method was influenced by social approaches to systems design like Checkland’s Soft Systems Methodology, and by features of groupware products, like the dialogic components of electronic meeting systems such as GroupSystems V. In each of these cases an outcome (representation for design or a plan for action) based on multiple points of view provides an account of a group’s position that is as acceptable as one based on aggregated partial data (Davenport & Travica, 1995). In the case of the households in this study, the method yields an interpretation of the place of new media in the home that is endorsed by household respondents. In addition, the recurrence of salient stories suggests that a common framework (one that is valid outside the boundaries of the individual household) for the understanding of new media in the home can be constructed. Within this framework, distinctions between local and general narratives may tell us about cultural differences.

“Genre repertoire” theory, developed by Orlikowski and Yates (1994), offers a helpful interpretative framework here. 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 officework, 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, p.ii). (In the case of households,

¹⁵ These dissonances led us to design a questionnaire drawing on the narratives from the household interviews, and administered to 10th grade high school students in the Phase 2 sample area. The responses were analysed and the results presented in a conference in March 1997 (Greene & Higgins, 1997)

this includes “pleasure seeking”). Genres are not static, but are continually reinforced or challenged, and are thus indeterminate. Orlikowski and Yates invoke structuration theory (Giddens, 1984) 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 (1988) makes similar points in a discussion of those who view TV (“nomadic audiences”): 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 nondomestic 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. None of this is denied in an investigative approach based on narrative analysis and genre repertoires.

Radway’s “sly” tacticians are a far cry from the “users” and “information seekers” of prevailing models of information science research (Dervin, 1995; Dervin & Nilan, 1986). To premise studies of households on “need” and “seeking” or “sense making” or “gaps” deprives the subject of a voice, as such premises occlude narratives that lie outside a “needs” framework. Radway articulates this problem from a “reception” studies perspective: “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). Dervin’s “neutral questioning,” which is based on narratives of breakdown and discontinuity, is an example of an approach that prejudices the topic of inquiry. 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. 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, p. 283). In our own sample, as we observe above, situations that were manifestly problematic were not described in terms of discontinuities. Savolainen (1993) further observes that Dervin’s version of “sense making” 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.”¹⁶ Savolainen concludes that “the position of constructing sense with other people through dialogue has thus remained secondary” (p.26).

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 proposes the “related” individual as a focus for interpretation and design. We found that the framework of enquiry that evolved over the period of the study allowed both subjects and researchers to construct a sense of the place of technology. This was achieved by means of dialogues that capture the dynamics of group members interacting with devices in the institutional space of the household. We also developed an increasing unease as the framework evolved with the traditional terminology of “information studies.” Terms like “user,” “consumer,” “audience” (Dervin, 1989; Radway, 1986) carry unhelpful theoretical institutional baggage. A portmanteau term like “interactor” (Goffman, 1983; Lamb & Kling, 1999) will better equip us for travels in social space.

Acknowledgments

An early report on the initial work described here was presented as a conference presentation at ISIC 96, and was published in the conference proceedings (Davenport, Higgins, & Somerville, 1996). The authors benefited from audience feedback at that session. In addition, they wish to acknowledge the help of those who filled up questionnaires, and those who were interviewed in the EH12 area. They also wish to thank Rob Kling for his helpful comments on an earlier draft, Shaun Moores for his interest in interactors and guidance on work on domestic ICTs, and the anonymous reviewers of the paper for their constructive suggestions.

References

- Anderson M., Bechhofer, F., & Gershuny, J. (1994). Introduction. In M. Anderson, F. Bechhofer, & J. Gershuny (Eds.), *The social and political economy of the household* (pp. 1–19). Oxford: Oxford University Press.
- Anderson, M., Bechhofer, F., & Kendrick, S. (1994). Individual and household strategies. In M. Anderson, F. Bechhofer, & J. Gershuny (Eds.), *The social and political economy of the household* (pp. 19–67). Oxford: Oxford University Press.
- Ang, I. (1992). Living room wars. In R. Silverstone, & E. Hirsch (Eds.), *Consuming technologies* (pp. 131–145). London: Routledge.
- Bain, S. (1997). BSkyB and BT attempt to corner digital market. *The Glasgow Herald*, 8 May, 25.
- Bakhtin, M. (1996). The problem of speech genres. In C. Emerson, M. Holquist, & M. M. Bakhtin (Eds.), *Speech genres and other late essays* (pp. 60–102). Austin, TX: University of Texas Press.
- Berg, A.-J. (1994). From here to where? Trajectory or transformation II. In A.-J. Berg, & M. Aune (Eds.), *Domestic technology and everyday life—Mutual shaping processes*. Proceedings of the COST A4 Work-

¹⁶ Weick’s approach to sense-making implies a very different position (Weick, 1995).

- shop in Trondheim, Norway, October 28–30 1993 (pp. 1–5). Brussels: EC Directorate General Science, Research and Development.
- Berg, A.-J., & Aune, M. (1994). Domestic technology and everyday life—Mutual shaping processes. Proceedings of the COST A4 Workshop in Trondheim, Norway, October 28–30, 1993. Brussels: EC Directorate General Science, Research and Development, 1994.
- Bijker, W., Hughes, T., & Pinch, T. (1987). *The social construction of technological systems*. Cambridge, MA: MIT Press.
- Bonsall, B. Personal interview conducted by Martin Higgins. June, 1995.
- Bourdieu, P. (1984). *Distinction: A critique of taste*. London: Routledge and Kegan Paul.
- Brown, M. (1997). Reaching for the sky. *The Guardian G2*, 12 May, 2–3.
- Brummer, A. (1997). Mystery of the sky black box. *The Guardian*, 8 May, 20.
- Clemens, J., & Key, J. (1996). Trends in viewing in cable TV homes 1990–1995: An ITC Research Publication. London, ITC.
- Cowan, R.S. (1987). The consumption junction: A proposal for research strategies in the sociology of technology. In W. Bijker, T. Hughes, & T. Pinch (Eds.), *The social construction of technological systems*. Cambridge, MA: MIT Press.
- Culf, A. (1997). Switch on to two-way television. *The Guardian*, 8 May, 3.
- Daft, R.L., & Lengel, R.H. (1984). Information richness: A new approach to managerial behavior and organization design. *Research in Organizational Behavior*, 6, 191–233.
- Davenport, E., & Travnica, B. (1995). Soft decision support systems: GDSS in loosely affiliated ad hoc groups. *International Journal of Information Management*, 15(1), 57–65.
- Davenport, E., & Higgins, M. (1995). Household information systems: An integrated view. In T. Kinney (Ed.), *Proceedings of the 58th annual meeting of the American society for information science*, October 9–12, 1995, Chicago, IL (ASIS '95; pp. 133–166). Medford, NJ: Information Today, Inc.
- Davenport, E., Higgins, M., & Somerville, I. (1996). The appropriation of household information systems in Scottish homes. In ISIC 96. *Proceedings of the information seeking in context conference*, Tampere, Finland, August. London: Taylor Graham.
- Davenport, E., Higgins, M., & Gillham, M. (1996). Designing a probe to explore home information systems in the United Kingdom. *Online and CDROM Review*, 20(2), 75–79.
- De Certeau, M. (1984) *The practice of everyday life*. Berkeley CA: University of California Press.
- Dervin, B., & Nilan, M. (1986). Information needs and uses. In M. Williams (Ed.), *The annual review of information science and technology*, 21 (pp. 3–33). White Plains, NY: Knowledge Industry Publications Inc.
- Dervin, B. (1989). Users as research inventions: how research categories perpetuate inequities. *Journal of Communication*, 39(3), 216–233.
- Dervin, B. (1995). The relationship of user-centred evaluation to design: Addressing issues of productivity and power. *SIGOIS Bulletin*, 16(2), 42–46.
- Dillon, A. (1994). *Designing usable electronic text*. London: Taylor & Frances.
- Doyle, M. (1997). Four big names back interactive satellite TV. *The Daily Telegraph*, 8 May, 19.
- Garnham, N. (1994). Whatever happened to the information society? In R. Mansell (Ed.), *Management of information and communication technologies* (pp. 42–51). London: ASLIB.
- Geertz, C. *The interpretation of cultures*. New York: Basic Books, 1973.
- Gergen, K.J. (1996). Technology and the self: From the essential to the sublime. In D. Grodin, & T. Lindlof (Eds.), *Constructing the self in a mediated world* (pp. 127–140). London: Sage.
- Gergen K. (1991). *The saturated self*. New York: Basic Books.
- Giddens, A. (1984). *The constitution of society*. Cambridge: Polity Press.
- Godsmark, C., & Newman, C. (1997). BSKyB unveils BT interactive TV link-up. *The Independent*, 8 May, 20.
- Goffman, E. (1983). The interaction order. *American Sociological Review*, 48, 1–17.
- Goodman, I. (1983). TV's role in family interaction. *Journal of Family Issues*, 4(2), 405–424.
- Goodwin, P. (1995). British media policy takes to the superhighway. *Media, Culture and Society*, 17, 677–689.
- Gorrell-Barnes, G. (1985). Modern systems theory and family therapy. In M. Rutter, & L.V. Herzov (Eds.), *Modern child psychiatry*. London: Tavistock.
- Green, A.-M., & Higgins, M. (1997). “Making out” with new media: Young people and new information and communication technology. In M. Beaulieu, E. Davenport, & N.O. Pors (Eds.), *Proceedings of the second Nordic-British conference on library and information science*, Edinburgh 1997. Education (pp. 129–142). London: Taylor Graham.
- Hayes, D. (1997). BSKyB signs digital satellite deal. *The Scotsman*, 8 May, 27.
- Hobson, D. (1982). *Crossroads: The drama of a soap opera*. London: Methuen.
- Hobson, D. (1995). Housewives and mass media. In S. Jackson, & S. Moores (Eds.), *The politics of domestic consumption: Critical readings* (pp. 151–160). Hemel Hempstead: Prentice Hall/Harvester Wheatsheaf.
- Jackson, S., & Moores, S. (1995). Introduction. In S. Jackson, & S. Moores (Eds.), *The politics of domestic consumption: Critical readings* (pp. 1–21). Hemel Hempstead: Prentice Hall/Harvester Wheatsheaf.
- Keegan, V. (1997). What a Web we weave. *The Guardian G2*, 13 May, 2–3.
- Kopytoff, I. (1986). The cultural biography of things. In A. Appadurai (Ed.), *The social life of things: Commodities in cultural perspective* (pp. 64–79). Cambridge: Cambridge University Press.
- Kraut, R. et al. (1996). The HomeNet field trial of residential Internet services. *Communications of the ACM*, 39(12), 55–63.
- Lamb, R., & Kling, R. (1999). *Social interaction through information and communication technology: Reconceptualizing users*. Unpublished ms. Center for Social Informatics, Indiana University. Bloomington, IN.
- Leal, O.F. (1995). Popular taste and erudite repertoire: The place and space of television in Brazil. In S. Jackson, & S. Moores (Eds.), *The politics of domestic consumption: critical readings* (pp. 314–320). Hemel Hempstead: Prentice Hall/Harvester Wheatsheaf.
- Livingstone, S. (1994). The meaning of domestic technologies: A personal construct analysis of familial gender relations. In R. Silverstone, & E. Hirsch (Eds.), *Consuming technologies: Media and information in domestic spaces* (pp. 113–130). London: Routledge.
- Lull, J. (1988). Critical response: The audience as nuisance. *Critical Studies in Mass Communication*, 4, 318–322.
- Lunt, P., & Livingstone, S. (1996). Rethinking the focus group in media and communications research. *Journal of Communication*, 46(2), 79–98.
- MacKay, H. (1995). Patterns of ownership of IT devices in the home. In N. Heap, R. Thomas, G. Eino, R. Mason, & H. Mackay (Eds.), *Information technology and society: A reader* (pp. 311–140). London: Sage/Open University.
- McCrone, D. (1994). Getting by and making out in Kirkcaldy. In M. Anderson, F. Bechhofer, & J. Gershuny (Eds.), *The social and political economy of the household* (pp. 68–99). Oxford: Oxford University Press.
- Moores, S. (1993). *Interpreting audiences*. London: Sage.
- Morley, D. (1995). The gendered framework of family viewing. In S. Jackson, & S. Moores (Eds.), *The politics of domestic consumption: critical readings* (pp. 173–185). Hemel Hempstead: Prentice Hall/Harvester Wheatsheaf.
- Morley, D., & Silverstone, R. (1991). Communication and context: Ethnographic perspectives on the media audience. In K.B. Jensen, & N.W. Jankowski (Eds.), *A handbook of qualitative methodologies for mass communication research* (pp. 149–162). London: Routledge.
- Murdock, G., Hartmann, P., & Gray, P. (1995). Contextualising home computing: resources and practices. In S. Jackson, & S. Moores (Eds.), *The politics of domestic consumption: Critical readings* (pp. 245–257). Hemel Hempstead: Prentice Hall/Harvester Wheatsheaf.
- Offices of Population Censuses and Surveys Social Survey Division. (1992). *General household survey, 1990*. London: HMSO.
- O’Neill, B. (1997). The brain done better. *The Guardian*, 13 May, 15.

- Orlikowski, W.J., & Yates, J. (1994). Genre repertoire: Norms and forms for work and interaction. MIT Sloan School Working Paper 3671-94; Centre for Coordination Science Technical Report 166, March 1994.
- Pahl, J. (1989). *Money and marriage*. London: MacMillan.
- Pahl, J. Household spending, personal spending and the control of money in marriage. In S. Jackson, & S. Moores (Eds.), *The politics of domestic consumption: critical readings* (pp. 53–66). Hemel Hempstead: Prentice Hall/Harvester Wheatsheaf.
- Phelps, J. (1996). Telewest on course for first profits. *The Scotsman*, 6 August.
- Radway, J. (1988). Reception study: Ethnography and the problems of dispersed audiences and nomadic subjects. *Cultural Studies*, 2(3), 359–375.
- Radway, J. (1986). Reading is not eating: Mass-produced literature and the theoretical, methodological and political consequences of a metaphor. *Book Research Quarterly*, 2(3), 7–29.
- Reguly, E. (1997). Consortium plans TV-top shopping. *The Times*, 8 May, 4.
- Reguly, E. (1997). BIB will usher in digital boom. *The Times*, 8 May, 25.
- Savolainen, R. (1993). The sense-making theory: Reviewing the interests of a user-centred approach to information seeking and use. *Information Processing & Management*, 29, 13–28.
- Savolainen, R. (1995). Everyday life information seeking: Approaching information seeking in the context of “way of life.” *LISR*, 17, 259–294.
- Schamber, L., Eisenberg, M.B., & Nilan, M.S. (1990). A re-examination of relevance: Toward a dynamic situational definition. *Information Processing & Management*, 26(6), 755–776.
- Silverstone, R. (1994). *Television and everyday life*. London: Routledge.
- Silverstone, R., Hirsch, E., & Morley, D. (1991). Listening to a long conversation: An ethnographic approach to the study of information and communication technologies in the home. *Cultural Studies*, 5(2), 204–227.
- Silverstone, R., Hirsch, E., & Morley, D. (1994). Information and communication technologies and the moral economy of the household. In R. Silverstone, & E. Hirsch (Eds.), *Consuming technologies: Media and information in domestic spaces* (pp. 15–31). London: Routledge.
- Silverstone, R., & Hartmann, M. (1995). The user/producer interface; A framework paper. EMTEL: European Media, Technology and Everyday Life Network, Sussex meeting, 13–14 May.
- Snoddy, R. (1997). BSkyB signs interactive TV providers. *Financial Times*, 8 May, 30.
- Suchman, L. (1987). *Plans and situated actions: The problem of human-machine communication*. Cambridge: Cambridge University Press.
- Turkle, S. (1996). Parallel lives: Working on identity in virtual space. In D. Grodin, & T. Lindlof (Eds.), *Constructing the self in a mediated world* (pp. 156–176). London: Sage.
- Turnbull, G. (1997). Interactive TV services set to go live within a year, claims pioneer. *The Scotsman*, 8 May, 2.
- Venkatesh, A. (1996). Computers and other interactive technologies for the home. *Communications of the ACM*, 39(12), 47–54.
- Wacjman, J. (1994). Domestic technology and family work—Old and new perspectives. In A.-J. Berg, & M. Aune (Eds.), *Domestic technology and everyday life—Mutual shaping processes*. Proceedings of the COST A4 workshop in Trondheim, Norway, October 28–30, 1993 (pp. 7–15). Brussels: EC Directorate General Science, Research and Development.
- Wallman, S. (1984). *Eight London households*. London and New York: Tavistock.
- Weick, K.E., & Roberts, K. (1993). Collective mind in organizations: Heedful interrelating on flightdecks. *Administrative Science Quarterly*, 38, 357–381.
- Weick, K. (1995). *Sensemaking in organizations*. London: Sage.
- Yates, J., & Orlikowski, W.J. (1992). Genres of organizational communication: A structural approach to studying communication and media. *The Academy of Management Review*, 17(2), 299–326.