

Computers in the Home: Domestic Technologies and the Process of Domestication

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Sammendrag/Abstract:

Home computers are often referred to as 'domestic technology' or part of the 'domestic ensemble' as if those were simple and straightforward concepts. In this paper, we aim to investigate the notions of domesticity and domestication and explore the processes of integration of the home computer into the domestic sphere. This paper starts an exploration of the concept of domesticity. It then analyses how a family builds an image of the computer as a domestic or undomestic object. This analysis is based on a series of interviews with seven British families in the late 1990's. This analysis is then used to identify some of the characteristics that contribute to make the home computer domestic or undomestic, and to uncover the processes of domestication.

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1. INTRODUCTION

Our research starts from a position that in order to understand the computer within a context of the home, the family and family relationships, it is necessary to understand the social and physical environment of home life. We refer to this here as the domestic sphere, and use the phrase to designate what is most commonly referred to as 'the home', but with an emphasis on the extended social and emotional characteristics of the home environment, rather than its purely physical and functional features. In doing this we parallel the equivalent (if often unstated or implied) account of information technology in a world beyond the home, a (masculine) world of work, organisations and the market, all bound together in a managerialist and rational narrative of technology as means to ends.

Our working definition of the domestic sphere is as a multigenerational world where people seek security and protection. We see that 'the domestic' is often, to a greater or lesser extent, seen as a sanctuary not only for family life, but for all the values associated with 'civilisation'.

The image of a 'sphere' is intended to accentuate some of the emotional connotations of the word 'domestic' by emphasising the ideas of harmony, comfort and security. However, we wish to stress that we do not endorse the simple belief that the ideal outcome of family life is the achievement of domestic harmony, or even that there is such a thing as 'domestic harmony'. Instead we need to recognise that conflict is an inherent part of domestic life and of family experiences, and that an understanding of family life with computers needs to acknowledge the existence of conflicts, interests and concerns.

The research reported in this paper is based on a set of extended interviews undertaken with seven families living in the South of England in the period between 1996 and 1998. The research was undertaken using an ethnographic approach, allowing extended and discursive conversations with family members, alone and as a group. All the families had computers and in each case they were to some degree used for a variety of work, leisure and other tasks. This research began as an investigation around the question 'what do families do with home computers?'. We attempt to achieve this by giving a 'voice' to family members living in a home where there is one or more computers. This was done through the use of ethnographic techniques and open-ended and discursive interviews with families. Our research allowed us to draw a series of family portraits including transcribed extracts of interviews as well as ethnographic reflections on the information gathered through those interviews. The empirical phase of the research included visiting those families at home, discussing various topics related (or not) to the computer and observing the interpersonal relationships on display. Both the current use of the home computer and the longitudinal aspects of computer use were taken into account.

The structure of this paper is as follows. Section 2 is concerned with exploring the meaning or meanings of the term 'domestic', in particular in relation with the notion of work, and outlining some of its implications in terms of feminist ideology. An overview of the empirical work carried out with

the seven families under study is provided in section 3. Section 4 describes some of the themes that emerged from the analysis phase of the research, while section 5 briefly concludes this paper.

2. THE NOTION OF THE DOMESTIC

The word ‘domestic’ acquires considerable emotional resonance, for example, when used in conjunction with other ‘emotionally charged’ words such as ‘domestic ideals’, ‘domestic values’, ‘domestic ideology’ or even ‘domestic violence’. Equally, when associated with the notion of work, the word ‘domestic’ often conjures up the image of gender division of labour as well as notions of patriarchy and oppression of women. The concept of ‘the domestic’ also conveys the ideas of peace, caring and respect, not only as an intrinsic part of family life, but also as a natural and almost instinctive feature of human life [Hareven 1991; Ryan, 1982].

From that perspective, the home is ‘naturally’ a haven of intimacy and security and an ideal environment for the expression of human qualities and family values. Similarly, when we talk about domestic animals, the word evokes notions of loyalty and attachment as well as docility and gentleness. And we can see that, more generally, the verb ‘domesticate’ is used, not only in reference to animals, but also to humans or groups of humans. ‘Domesticating’ a person often involves the idea of disciplining them, taming them or bringing them closer to a particular idea of civilisation. Whether the word ‘domesticating’ is used in connection to human, animals or even objects or ideas, it generally means making something fit for life in the home or in a particular type of society. It conveys the feeling that an effort is made to turn something that is part of the world of wilderness into an acceptable member or accessory of life in the home or in society. This effort involves removing the violent or aggressive elements of behaviour and replacing them with a milder and tamer, co-operative attitude or appearance. The word domestic has evolved into evoking feelings such as closeness, warmth and affection, and thus the use of expressions such as ‘domestic violence’ or ‘domestic abuse’ spawn intense feelings of shock and outrage.

2.1. Domestic work

The word ‘domestic’ has not only emotional but also practical connotations, for example when it is used in connection with the idea of ‘work’. ‘Domestic work’ typically refers to ‘homemaking’ activities, which range from general childcare to ‘household maintenance’ tasks such as washing and dusting or to more ‘productive’ tasks such as cooking, and dressmaking. Such activities require a fair amount of knowledge and experience and it is often expected that such knowledge will be transmitted primarily via female members of the family, or through dedicated courses such as the late ‘domestic studies’ programmes in schools, targeted at future homemakers.

Some of these ‘domestic tasks’ have been the focus of technological endeavours aimed either at reducing the amount of efforts required to fulfil the task or at increasing its ‘efficiency’. Domestic technologies were initially expected to translate into a radical transformation of domestic labour [Toffler, 1980]. However, other research suggests that although domestic technology has raised the productivity of housework, it is accompanied by a rise in overall expectations [Jackson, 1992], principally in terms of cleanliness standards [Cowan, 1983, 1985], which leaves the domestic worker little better off.

2.2. The domestic as a feminist ideology

When domesticity is discussed in the literature, it is often in conjunction with its effect on women, either in its oppressive role or in its role as a potential tool toward women's liberation. Domestic work has long been seen as an essentially feminine task, and for many, as the essence of femininity. In particular, 'managing the domestic' was typically considered women's contribution to the household's economy. Such a responsibility could translate either in performing those tasks themselves or with other female members of the family or in overseeing the work of the 'domestics' (who were themselves largely female).

In contemporary literature the oppressive characteristics of 'domestic work' have been outlined both regarding the situation of domestic workers and the position of housewives [Glenn, 1980; Creese, 1988]. Industrialisation has been often seen as bringing about major changes in women's economic role and social status in and outside the home [Matthaei, 1982; Kessler-Harris, 1982; Boydston, 1990; Hareven, 1991; Tilly, 1994; Davidoff *et al.*, 1995]. Authors such as Easton [1976] and Hareven [1991] have contrasted the prominent economic role of women in pre-industrial times with their retreat towards domesticity and consequent loss of social status during and after the industrial revolution. In their analysis, the move from farming villages to industrialising towns and suburbia had a direct effect on the redistribution of economic roles within the household and the confinement of women within the home, thereby redefining and narrowing both their role within the family and their social status.

It has thus been argued [Davidoff and Hall, 1987; Ellis, 1975; Easton, 1976] that the development of an idealised image of the domestic was closely linked to the spread of industrialisation. Because the public world of business evoked images of immorality and misery, the private world of the home came to be understood as a shelter for security and moral values [Clark, 1976; Zaretsky, 1976]. This 'cult of domesticity' has been widely criticised for creating and developing an oppressive set of structures in accordance with patriarchal traditions [Dill, 1988; Jorgensen-Earp, 1990; Rose, 1991]. The geographical confinement of women within the home had often been viewed as symbolic of their social devaluation. Because the home had become a place considered peripheral to the happenings of the world, equating the world of women with the domestic world meant putting them in a subservient position, subordinated to their husband's authority [Zerilli, 1982]. The accent has been put on the coercive and constraining features of the 'cult of domesticity' as well as the restriction of opportunities it brings about [Allan, 1985].

However, a number of scholars have criticised the superficiality of some of the critiques of the 'cult of domesticity'. Firstly, the image of a universal 'cult of domesticity' overlooks the existence of differences in ethnic background [Geschwender, 1992a, 1992b], social milieu or geographical circumstances. Secondly, the existence of a 'cult of domesticity' may not have had only negative consequences on the destiny of women. For example, Tuchman [1981] argues that, because it portrays women as moral forces that triumph over poverty and greed, the 'cult of domesticity' may have increased women's confidence in their ability to make changes. This, in turn may have driven them into the public sphere where they initiated social movements such as moral reform and women's rights. Muncy [1991] also describes the US progressive reform movement as having been initiated by women who were working within the boundaries set by the 'cult of domesticity' and Victorian ideals of self-sacrifice.

3. FAMILY USE OF HOME COMPUTERS: AN EMPIRICAL INVESTIGATION

Against this background our study set out to explore and to develop insights into how the home computer carves its place within the domestic sphere as a functional item, as a representative of a world beyond the family, and as part of the intricate web of symbols and actions that constitute family life. Throughout the interviews carried out for this research, and their analysis, we focused on processes; how the computer's integration as a domestic object occurs or fails to occur, how families devise stratagems and strategies to tame it and domesticate it. In this section we review a number of key concepts that emerged from our research. We first give an overview of the process of integration of the home computer into the 'domestic media ensemble'. We then move on to examine the various symbolisms associated with the home computer, in particular the embodiment of the world of work. We also describe how home computers may come to be considered and manipulated as 'magical' objects.

The computer is an object that takes its place in the domestic sphere (and domestic space) alongside other home components and other technologies and its presence in particular parts of the home may be seen as changing, deteriorating or improving the domestic landscape. In our study, the home computer is often seen as a representative element of a broader range of goods or objects that are themselves charged with symbolic properties. Similarly, Moores [1993], Haddon and Silverstone [1993] Silverstone *et al.* [1992], and Silverstone and Hirsch [1992] suggest that the home computer is part of a whole 'domestic media ensemble.' In some instances, the home computer is seen as a mere "piece of electronics" that belongs to the world of gadgets and other frivolous objects or appliances. One of the interviewees explains her lack of interest for computers in a very telling way.

I don't like playing with gadgets basically.

In our study, in addition to being part of the 'media ensemble', or the 'electronics ensemble', the home computer is also seen sometimes as part of the 'consumer goods' ensemble. For example, in many instances, the home computer is categorised as a consumer good, especially by those family members who do not attribute particularly positive qualities to it.

[My husband] just wants one [a new home computer]. Like you'd like a better car or...

In our study we also saw the home computer represented in other terms, as a symbol of the world of work and conjuring up images of 'corporate culture' invading the domestic space, which sometimes result in some family members avoiding it. The home computer was also be seen as symbolising the 'cold' and impersonal aspects of technology. In particular, the computer was seen as an inferior mode of communication when compared with other communication tools such as the telephone. One of the respondents contrasts the appropriateness of e-mail in particular situations such as "a quick message" with the unsuitability of such a medium for more private or intimate types of communication.

You can't really say much on e-mail. For example, Richard and Barbra (son and girlfriend) e-mailed each other for a little while and they seemed to only say things that caused upset for the two of them. And now they never do, ever... as far as I know... I haven't seen any e-mail from Barbra for a long time. He does e-mail all his other friends but not Barbra. It's a bit impersonal isn't it? I think it's good for a quick message.

The cold, impersonal, corporate aspects of the computer could, at first sight, give the impression that it is a doubtful candidate to the process of domestication. And yet, it appears to be used, included,

and eventually accepted and integrated into the domestic sphere, often by those very persons that are most ready to stress its weaknesses and inadequacies. Many of the respondents were very aware of the alien character of the home computer but they nevertheless use it, accept it and incorporate it into their routines and habits. But we do not see any contradiction here. On the contrary, we would suggest that, for some respondents, it is precisely this awareness of the home computer's weaknesses and 'unpredictabilities' that makes it eventually acceptable, understandable, and 'domesticatable'.

Throughout the studies and throughout the analysis, we have found that respondents tend to attribute various qualities or properties to the home computer. Our research revealed the existence of a variety of beliefs regarding the role or the intrinsic qualities of the computer, ranging from the transformative properties of computers to the threat they may pose to their users, their immediate environment or even society as a whole.

I expected it would be difficult for them [my daughters] if they didn't have one [a computer]. I think it's important for them, I mean, in this day and age... I want them to have the best education possible.

[My brother] was spending his whole time on it [the computer]. ...it was taking over our lives.

We have a friend whose son [...] always draws the same picture. He's been allowed to spend too much time on the computer if you ask me.

Such beliefs may be interpreted in a number of ways, but the data suggests that the sense of magic is an essential component of family experiences around the home computer. In many instances, families and family members confer a mystical dimension to the computer and to computer use. A computer is without doubt an intriguing object. It can perform a wide variety of tasks but does so with a very particular and sometimes baffling logic. It appears robust and powerful but is vulnerable to the effects of outside elements such as water or dust or the equally mysterious effects of viruses. All those elements contribute to increasing the computer's opacity and may reinforce beliefs in its mysterious and mystical properties. It is interesting to note that such beliefs may translate either into excitement and enthusiasm towards technology or into various degrees of negativity, ranging from scepticism to fear and avoidance.

Some of our respondents exhibited an evident belief or faith in the magical properties of the home computer and related equipment and had their own idealised interpretation of what the home computer can or will do. A 13-year old respondent imagines that owning a modem will magically take care of his class work assignments:

A link leads to another, then to another, then... Before you know it, you've got your essay, I mean... all your information, you just download it and... that's it...it's all there... you just have to write it up.

The magical element of the home computer appears under a different shape in one of the interviewed families, where a father of two expressed the desire not only to get in touch with the magic of the computer but also and most importantly to put those magical qualities at the service of his family. His efforts towards championing the use of the computer at home reveal his wish to capture and release its mysterious but (in his eyes) tremendous power. The miraculous outcomes of home computer ownership will translate into a matchless education and ultimately a secure academic and professional

future for his daughters, thereby guaranteeing them a total freedom regarding which path to choose in their future life.

I expected it would be difficult for them [my daughters] if they didn't have one [a computer]. I think it's important for them, I mean, in this day and age... I want them to have the best education possible. Then... then, they can choose what they do with it. But when you don't have an education, you have no choice... I had no choice... There are opportunities out there but you have to give yourself the chance to... to pick them up. And for that you need an education... and direction. [...] And the computer... the computer facilitates that.

Another fear concerning the quasi-magical powers of computers resides in the beliefs that they may possess or acquire human characteristics. The literature offers many interpretations of such a phenomenon. Seeing the computer as possessing human characteristics has been seen as an expression of one's affinity or even intimacy with the computer [Turkle, 1984] and such affinity has been presented as one of the dangers associated with spending too much time with the computer.

4. FROM DOMESTICITY TO DOMESTICATION

This research started as an investigation of the place of the computer in the family. Increasingly though, the status of the home computer as a domestic or undomestic object emerged as a significant element in the research. Thus a significant contribution of this research is the understanding it allows of the notions of domestic and undomestic, and of the process of domestication. Here we summarise what we have learnt about the domestic, the undomestic and the domestication process through our research.

At the outset, it might be suggested that those three concepts are 'second-order concepts', the researcher's construction of the respondents' constructions [Geertz, 1971; Walsham, 1993]. Indeed, it must be acknowledged that respondents do not use those words at any point in the interviews- although this was somewhat predictable, since the word 'domestic', and *a fortiori*, the words 'undomestic' and 'domestication' are rarely used in everyday conversation. We feel, however, that talking about the researcher's 'construction' in this context is perhaps slightly misleading - although the words are not pronounced in the interviews, the concepts and the conceptions are undoubtedly there. Through many of the conversations we undertook in the research, people are talking about the extent to which the computer is taken up and integrated into their domestic life and they talk as much about this aspect as they do about its functional position (indeed more so). More generally, we saw a recurring theme of the acceptability of the computer within their home and as part of their family lives. At this point we choose to re-work our insights and their inter-connection within a perspective that emphasises the domestic and the process of domestication.

In trying to uncover what might render the computer domestic or undomestic, we first refer to the ideas presented at the beginning of this paper. We have seen that the 'domestic sphere' evokes images of the domestic as a sheltered and feminine place of intimacy and care, a warm cocoon where the individuals take refuge from the hardness of the outside, unmerciful world. But we also realised that the notion of domestic goes beyond the realm of its narrow sense as 'domesticity'. People embrace computer technology as domestic not only if it is safe, but also because they believe it can help them pursue their (domestic and social) purposes and achieve their goals. And, conversely, computer technology remains undomestic not only because it 'fails' to provide safety and

comfort, but also because it is imbued with a number of symbols and meanings that are felt to be alien or unacceptable.

In an effort to analyse how families integrate computer technology into the home and conceive of it as domestic or undomestic, we have uncovered a number of processes that may contribute to turning the home computer from an undomestic to a more domestic state. Figure 1 provides an overview of the main themes that we discovered in our analysis of the domestication process. It lists some of the principal elements that contribute to making the home computer either domestic or undomestic and depicts aspects of the process of domestication found in this research.

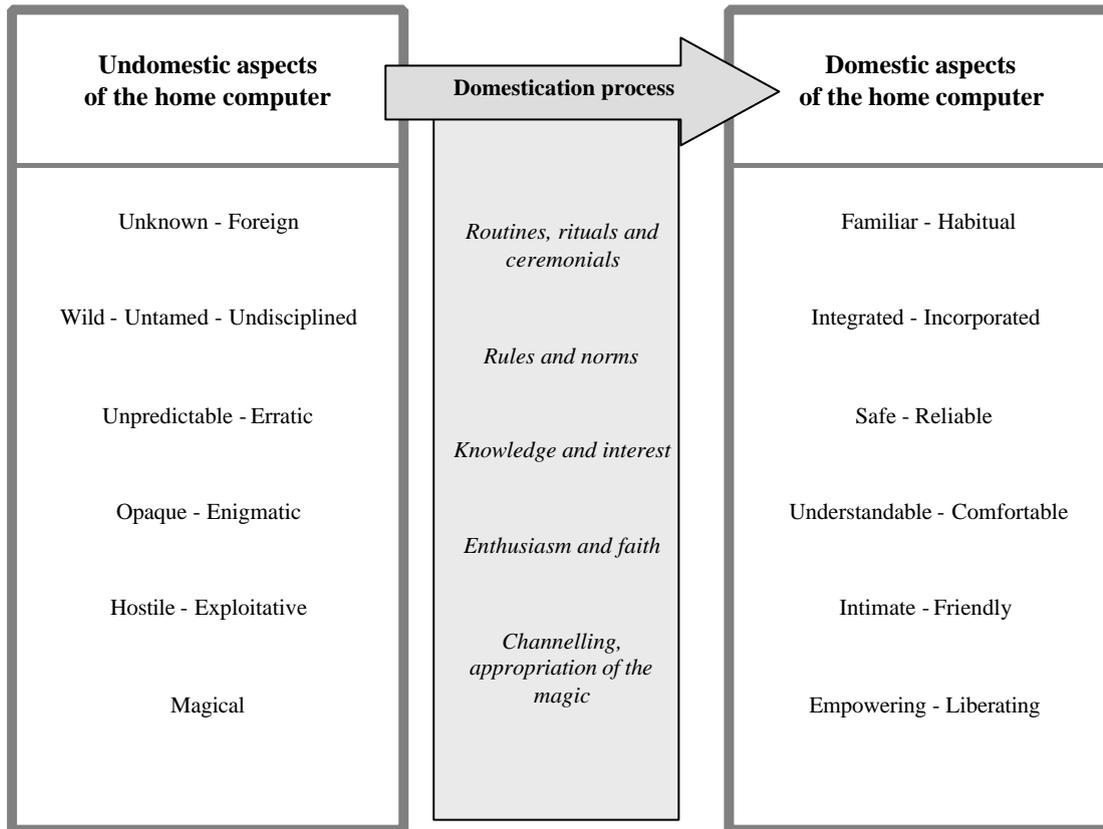


Figure 1: Summarising the process of domestication

We observed that families and family members engage in rituals and ceremonials, as well as more routine practices, in order to make computer technology more habitual and familiar. Through the enactment and repetition of such practices, which are charged with meaning and symbolism, families create rules and norms that shape (and are shaped by) the way they conceive of computer technology and relate to it. One of the respondents, for example, established a routine according to which he took under his responsibility to check his wife's diskettes for viruses before she may use them on the home computer.

We also saw that increased knowledge (often associated with an interest in the technology) contributes to making the initially alien and opaque workings of computers more understandable, and thus more familiar and acceptable. Another element that emerged from our analysis is that individual or group enthusiasm and faith in the potential of computer technology can also be seen as being part of the process of domestication (or the motivation to try to domesticate), since it contributes to turning threatening characteristics of computer technology into perceived means of empowerment. The expression 'threatening characteristics' is deliberately broad and unspecific, as we wish to convey the idea that different individuals have different perceptions and interpretations of what is threatening and what is not. For some, the uncomfortable or threatening aspect of the computer resides in the perception that it comes from the world of work. For others, these threatening characteristics may be embodied in the ethical challenges posed by having a 'window into the outside world' located within the domestic sphere. Others may be concerned with the unpredictability of the workings of the computer itself, which may break down at the most unexpected moment.

Some of our respondents clearly believe that the home computer is an empowering tool and embrace this notion and display the firm belief that the home computer will empower them and, perhaps more importantly, their children. But others do not seem to relate to the computer as an empowerment tool, at least not in the same terms. Some of the respondents have a way of patronising it, downplaying it, or emphasising its failings or awkward and cumbersome aspects when reporting that they do use it (“it’s a useful thing, but...”). In being dismissive and studiously casual about it, they make sure that their point is put across, that they will not let it dominate their lives. The notion of empowerment may seem to find little resonance in the accounts of such respondents. And, yet, when one examines carefully the situation, the idea of power is very much present in their accounts. They may not feel that they draw power from the computer to achieve higher goals in their lives, but through their dismissiveness of the computer, they are building power over the computer itself and over individuals around them who are weaker to the charms of the computer and let themselves be drawn into its circle of power.

We have also seen that some individuals try to channel the perceived magical properties of the computer to achieve their goals. Here, we have an example of the fluidity of the concepts of domestic and domestication. Some respondents may try to ‘break down’ the magic to render the computer a more common, ‘everyday’ object, with no mystery, acceptable in a domestic world where there are few secrets. Others use those magical properties to reinforce their status within the domestic sphere and carefully preserve the enigmatic, mysterious and powerful image of computer technology. In both cases, we argue, we are in the presence of a process of domestication. Whether the magical properties of the home computer are exposed, explained and put at the service of the whole family, or if one particular member of the family takes on (we might even say is given) this mediating role, they equally can be seen as part of a process that serves to make the computer more domestic and to carve it a place within the domestic sphere.

5. CONCLUDING COMMENTS

The accounts from the interviews show vividly that domestication is a complex process. Because people conceive of the domestic or the undomestic in a multitude of different ways, they engage (or not) in the process of domestication in as many different ways. The idea of the domestic as a ‘local’ or situated concept is central to this research. Interviews with families gave us a vivid illustration of this notion. They provided us with snapshots of an intimate, private world, where notions of what is deemed domestic or undomestic are surprisingly different. We see that what is tolerable to one person would be totally unacceptable to another and, conversely, that one person’s opinion on how to tackle a particular problem situation would be utterly irrelevant for another (who might not even consider the situation as a problem).

Finally, we wish to emphasise that the analysis presented in this paper is not intended to provide any single definitive model or theory. However, we believe that this analysis helps us further our understanding of the computer in the domestic sphere and appreciate its domestic and ‘domesticatable’ character. We also believe that this analysis provides a useful starting point for further research.

REFERENCES

- Allan, G. (1985) *Family Life*, Basil Blackwell, Oxford.
- Boydston, J. (1990) *Home and Work: Housework, Wages, and the Ideology of Labor in the Early Republic*, Oxford University Press, New York.
- Clark, C.E., Jr. (1976) 'Domestic architecture as an index to social history: the romantic revival and the cult of domesticity in America, 1840-1870', *Journal of Interdisciplinary History*, **7**, No. 1, 33-56.
- Cowan, R.S. (1983) *More Work for Mother: The Ironies of Household Technology from the Open Hearth to the Microwave*, Basic Books, New York.
- Cowan, R.S. (1985) 'Clean homes and large utility bills 1900-1940', *Marriage and Family Review*, **9**, No. 1-2, 53-66.
- Creese, G. (1988) 'The politics of dependence: women, work and unemployment in the Vancouver labour movement before World War II', *Canadian Journal of Sociology*, **13**, No. 1-2, 121-142.
- Davidoff, L., and Hall, C. (1987) *Family Fortunes: Men and Women of the English Middle Class, 1780-1850*, Hutchinson, London.
- Davidoff, L., L'Esperance, J., and Newby, H. (1995) *Worlds Between: Historical Perspectives on Gender and Class*, Routledge, New York.
- Dill, B.T. (1988) 'Our mothers' grief: racial ethnic women and the maintenance of families', *Journal of Family History*, **13**, No. 4, 415-431.
- Easton, B. (1976) 'Industrialization and femininity: a case study of nineteenth century New England', *Social Problems*, **23**, No. 4, 389-401
- Ellis, K (1975) 'Paradise lost: the limits of domesticity in the nineteenth-century novel', *Feminist Studies*, **2**, No. 2-3, 55-63.
- Geertz, C. (1973) *The Interpretations of Cultures*, Basic Books, New York.
- Geschwender, J.A. (1992a) 'Ethgender, women's waged labor, and economic mobility', *Social Problems*, **39**, No. 1, 1-16.
- Geschwender, J.A. (1992b) 'Ethnicity and the social construction of gender in the Chinese Diaspora', *Gender and Society*, **6**, No. 3, 480-507.
- Glenn, E.N. (1980) 'The dialectics of wage work: Japanese-American women and domestic service, 1905-1940', *Feminist Studies*, **6**, No. 3, 432-471.
- Haddon, L., and Silverstone, R. (1993) *Teleworking in the 1990s: A View from the Home*, SPRU/CICT Report Series No. 10, University of Sussex, August.
- Hareven, T.K. (1991) 'The home and the family in historical perspective', *Social Research*, **58**, No. 1, 253-285.
- Jackson, S. (1992) 'Towards a historical sociology of housework: a materialist feminist analysis', *Women's Studies International Forum*, **15**, No. 2, 153-172.

- Jorgensen-Earp, C.R. (1990) 'The lady, the whore, and the spinster: the rhetorical use of Victorian images of women', *Western Journal of Speech Communication*, **54**, No. 1, 82-98.
- Kessler-Harris, A. (1982) *Out to Work: A History of Wage-Earning Women in the United States*, Oxford University Press, New York.
- Matthaei, J.A. (1982) *An Economic History of Women in America: Women Work, their Sexual Division of Labor and the Development of Capitalism*, Harvester Press, Brighton, Sussex.
- Moores, S. (1993) *Interpreting Audiences: The Ethnography of Media Consumption*, Sage, London.
- Muncy, R. (1991) *Creating a Female Dominion in American Reform, 1890-1935*, Oxford University Press, New York.
- Rose, S.O. (1991) 'From behind the women's petticoats': the English Factory Act of 1874 as a cultural production', *Journal of Historical Sociology*, **4**, No. 1, 32-51.
- Ryan, M.P. (1982) 'The empire of the mother: American writings about domesticity, 1830-1860', *Women and History*, **2-3**, 1-170.
- Silverstone, R. (1993a) 'Domesticating the revolution: information and communication technologies and everyday life', *ASLIB Proceedings*, **45**, No. 9, 227-233.
- Silverstone, R., and Haddon, L. (1996) 'Design and the domestication of information and communication technologies: technical change and everyday life', in *Communication by Design: The Politics of Information and Communication Technologies* (eds. R. Mansell and R. Silversone), Oxford University Press, New York.
- Silverstone, R., and Hirsch, E., eds. (1992) *Consuming Technologies: Media and Information in Domestic Spaces*, Routledge, London.
- Silverstone, R., Hirsch, E., and Morley, D. (1992) 'Information and communication technologies and the moral economy of the household', in *Consuming Technologies: Media and Information in Domestic Spaces* (eds. R. Silverstone and E. Hirsch), Routledge, London.
- Tilly, L.A. (1994) 'Women, women's history and the industrial revolution', *Social Research*, **61**, No. 1, 115-137.
- Toffler, A. (1980) *The Third Wave*, Collins, London.
- Tuchman, G. (1981) 'Contradictions in an ideology: the nineteenth century doctrine of separate spheres', *Quarterly Journal of Ideology*, **5**, No. 3, 5-10.
- Turkle, S. (1984) *The Second Self: Computers and the Human Spirit*, Simon and Schuster, New York.
- Walsham, G. (1993) *Interpreting Information Systems in Organizations*, Wiley, Chichester.
- Zaretsky, E. (1976) *Capitalism, the Family and Personal Life*, Harper and Row, New York.
- Zerilli, L. (1982) 'Motionless idols and virtuous mothers: women, art, and politics in France 1789-1848', *Berkeley Journal of Sociology*, **27**, 89-126.