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The Domestication of Information and Communication Technologies

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Draft of a chapter for Wellman, B, (ed) (2003) The Encyclopaedia of Community. Sage. To appear .

This is an encyclopaedia entry.

Readership will be mainly school and university students who will have no prior familiarity with these topics.

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1 Introduction

This chapter provides a brief introduction to the ways in which information and communication technologies (ICTs) are currently finding their ways into homes in Europe. ICTs refer to a wide range of 'modern' technologies, products or services including fixed line telephones, mobile telephones (for voice and text messaging) and the various applications supported by the Internet (especially email and the web).

The chapter by (Frank Thomas et al) describes the current state of play regarding ICT penetration Europe. This chapter concentrates on the idea of *domestication* and explain how it relates to two issues which have become key in many of the ongoing debates about the future of the 'Information Society':

- Age and gender differences in access to and usage of ICTs,
- The effect of ICT use on social relationships.

There is of course considerable background to these issues. There is ongoing political interest in ensuring equality of access to ICTs for all groups in society in order to make sure that no-one 'misses out'. In the USA this debate is referred to as 'The Digital Divide' whilst in Europe it is more often talked of in terms of 'social exclusion' and 'social cohesion'. Research has shown repeatedly that those groups who are already most disadvantaged are those who are also least likely to be users of ICTs. The chapter will not get deeply into these issues but readers who are interested can pursue some of the references in the further reading section. However I will touch on the issue of age and gender differences because different ICTs have different 'gender use' profiles which give us some clues as to possible future patterns and also some clues to understanding what various ICTs get used for in European households.

After looking at age and gender differences the chapter will then discuss recent research on the potential impact of ICT use on patterns of social interaction. As with the 'digital divide' many researchers have been concerned to know what happens when people start to use the Internet (more). Do they spend less time going out, less time with their families, or does Internet use steal time from other media related activities such as watching television?

2 The domestication of ICTs

The processes by which different technologies become embedded in peoples lives have been the subject of considerable research. Some of it has focussed on the economic processes of innovation and purchase whilst others have focussed on the sociological processes of everyday use. For the former, the gross level behaviour of the population is of interest and they define those who are the first to buy technologies as 'early adopters' and the last to buy them as 'the laggards'. Each of these groups is defined to be about 25% of the population with the majority 50% somewhere in the middle. However this sort of focus on the 'purchase' decision is not that helpful when we want to know what happens to these technologies once they enter the home. Measuring overall 'uptake' is a start but we need to delve into what people in the households are actually doing with these technologies. Some may, for example, stop using them after a period of experimentation. Studies of what people do with telephones and personal computers (PCs) have now been supplemented with studies of mobile phones and the various facets that make up Internet use.

Common to all of these is the idea that 'domestication' is an appropriate concept for describing what is going on by drawing an analogy with the domestication of animals as an aid in human activities. Thus we may say that when ICTs first arrive their use is often relatively unclear except to a few aficionados and they can often appear threatening, especially to those who have least knowledge or interest in them. Over time familiarisation, experience, training and (perhaps most importantly) experimentation lead to a domestication cycle. Here commerce provides cheaper/simpler/better versions of the ICT whilst at the same time more and more people work out what they can do with it and what it is good for. The end result is a domesticated animal whose place in people's lives becomes familiar to the extent that it 'disappears' as a technology in everyday language. Two things that are critical to realise however is that this 'place' will be *different for different kinds of people* and it will *change over time*. This is most easily seen in the recent domestication of the mobile telephone which has become a tool of business, of safety and security, an item of fashion, of convenience and, most dramatically, of young people's fervid social communication. The same device, the same service, *the same ICT* but radically different places in the lives of these different people.

3 Gender and age related differences in ICT domestication patterns

A series of research projects have examined gender and age differences in domestication patterns and have, for the most part, uncovered notable differences which appear to repeat across a range of countries.

Women, for example, make far greater domestic use of the telephone both in terms of the number of calls and their duration in most developed countries. In addition usage decreases steadily with age until retirement at which point it then increases. Men show much the same overall pattern but their usage is consistently lower than that of women. These findings have been taken as an indicator of women's dominance in the role of maintainer of households social networks and as 'co-ordination hub' for relatives and other household members although with the trend towards greater female employment in some countries this role may be starting to change. It is noticeable however that this pattern is not necessarily replicated when it comes to the mobile phone. Recent research in Europe has shown that men aged 25-45 dominate mobile phone usage in terms of number of voice calls made whilst female calling is highest amongst the teens, steadily decreases with age and is always lower than that of men. This finding may reflect the suggestion that women commit more time and energy to telephony than men. Since mobile telephony is relatively more expensive than fixed line the desire for longer, more extensive telephone use may exclude women from the group of heavy mobile telephone users. There may also be issues of gendered display (i.e. male 'showing off') and an effect for work-use given that some research reports positive relationships between being in work and making more mobile calls in a number of European countries. Text (SMS) messaging on the other hand is almost totally a teen and under 25 phenomenon and there are few differences between males and females. These results point in part perhaps to generational differences but they also point to the different places that mobile and fixed line phones have in our lives – thus they point to different *domestication trajectories*.

Men and, in particular, young men have traditionally dominated domestic PC usage and this is hardly surprising given the early focus on computer games within the home PC industry and the likelihood that PC experience from male work has been a source of knowledge in the home. More lately however the emergence of 'the Internet' as a reason to use a computer appears to have shifted this pattern. If we include all kinds of PC use in our analysis we see that usage is still dominated by young men perhaps for the reason given. Women's use on the other hand is relatively flat across age groups and, in those aged 45-55 is similar to that of men. When we consider Internet use we see that young men still have greater usage rates but for those aged 45 or over, their usage (in minutes per day) decreases below that of women. What is going on? This question can be partially answered by looking at the different 'functions' that make up 'the Internet'. Recent research in several European countries has shown that use of email, whether measured as total number sent or frequency of sending them to friends and relatives is far more constant across age (although it still declines) than is other PC use and indeed than fixed line telephony. Where a gender difference is present, it is men who send more although the reverse of this result has been reported in the USA. These results may be country specific and may also reflect the relative penetration of Email into the lives of the citizens of those countries. On the other hand it may signify that the asynchronous medium of email is being domesticated into the communications behaviour of men and women in different ways. In the European study it suggests that email is encouraging greater communication by men whilst in the US study it suggests that the 'female communication role' mentioned above is being replicated in the Internet domain. In either case email appears to be a less genderised communication medium than traditional telephony.

However having a degree also has a positive (and quite marked) effect in several reported studies. This may be suggestive evidence of the more geographically dispersed social networks of university graduates who find that email suits their communication needs. Perhaps most interestingly of all, the European research shows that frequency of engaging in outdoor leisure is positively associated with heavy email. This suggests that those who have the most intense social life (the young, singles) also make the most use of all communication media available to them, a finding that has been reported in other research and which is discussed further below

4 ICT and social relationships

As with issues of genderised patterns of access to and usage of ICTs, there is ongoing debate on the role that the use of ICTs plays in supporting or obstructing social relationships. There is little consensus on this issue largely because most research to date has used survey data collected at one point in time (and using different methods) to try to assess what changes may be happening over time. The result of these studies is therefore rather a large amount of confusion. Some studies have shown that those who use the Internet the most also have the largest, most active social and community oriented lives. Given the kinds of people who tend to have access and who are heavy Internet users (as we have seen in Section 3) this should not surprise us. Other studies have reported that those who spend the greatest amount of time using the Internet report spending less time with friends and family. Again firm implications cannot be drawn from cross-sectional data because it is not possible to establish causal relationships – does lower social time lead to increased Internet use (compensation), is it the other way round (displacement) or is it merely a spurious association? Further, it may be that these effects are found at the extremes and hence skew the results, but

that for the most part 'Internet use' simply fits in and around other life activities. There is growing evidence that as internet connected devices become commonplace in living rooms and kitchens, much 'internet use' (as with telephone use) is done in parallel with other activities and in conjunction with other household members. Thus concern with intra-household isolation may simply be related to the recent (historical) physical form that 'the internet' has taken (PC plus modem in 'other room') rather than any inherent characteristics of 'internet use'.

Two studies that *have* followed people over time to understand how their lives change as they start to use the Internet suggest either that Internet use may be associated with increases in sociability for certain kinds of people and decreases for others, or that it has very little overall effect at all.

A longitudinal study in the USA found that Internet uses had a generally positive effect on interpersonal communication and community involvement but that personality traits such as introversion/extroversion had an important mediating effect. The researchers summarise their findings as a 'rich get richer' hypothesis. In other words, those who are already socially active will tend to become more so as they become more experienced with the Internet but those who are not may become less socially active. This should remind us that it is not the technologies per se, but the nature of the people that use them (and what they use them for) which determines eventual 'effects'.

A longitudinal time-use diary based study in the UK found that new internet users spent less time on hobbies and watching TV than before they used the net but that there was no significant change on any other of the 35 time-use variables. When they considered women alone, they found that new internet users spent more time 'going out' together with the same finding for hobbies and watching TV. What is most noticeable about these results is not what turns out to be significant but what does not – there is no evidence that new British internet users spend less time with family and friends whether inside or outside the home. Indeed in some cases (women) they appear to spend more. As Gershuny speculates:

"The internet can be used to search for and gather together information and compare what's available in the way of different sorts of out-of-home leisure activity from a wide range of current sources; it can be used to make arrangements and change them, to pay in advance or for others, to reserve speculatively and select subsequently; to contact friends to explore their availability for joint outings. And so on. It can allow us to do all of these things with much more flexibility, immediacy, certainty, than was possible with the preceding technologies (post, telephone, fax)—and it can also be for some purposes combined with these older technologies. In short, it makes going out more efficient—potentially at least, more pleasant, and more sociable, better focussed on our particular wants and preferences. And so, "at the margin" as economists say, we might be tempted to do more of it." Gershuny, 2002, p41.

Other researchers have argued these effects may also be a result of parallel life changes that happen at the same time as gaining internet access rather than as an effect of Internet use per se. In the light of the usage patterns described in Section 3 we might suggest that leaving home to go to college/university or leaving school/university and finding work may trigger both changes in social lives and the acquisition of the Internet. Similarly the birth of a child or retirement may also have effects on patterns of time-use and *may also* act as triggers for Internet acquisition.

Finally we should note that the Internet is not a single unitary thing - it is simply a delivery mechanism for a range of applications and services. Thus to conduct analysis of 'Internet' impact is largely a conceptual mistake. Instead we must seek to draw analytic distinctions between different kinds of Internet use (email vs games playing for example) and examine the ways these activities are performed by different people at different points in their lives. Rather than analysing 'Internet impact' we must therefore build a more complex and subtle analysis of how different kinds of Internet services are being domesticated in different households and cultures. Until future research using data collected on the same individuals over time unravels these intertwined effects, we are unlikely to have a much clearer idea of what the real ICT related changes in people's lives have been and whether or not they *matter*.

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