

A Relational View of Women's use of the Internet: Exploring bodies, space and objects.

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Declaration

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Abstract

This thesis reports on a research project investigating how women use the internet, and how this use is productive of femininity. It takes an approach to researching this technology that examines what it becomes when it is used, and looks in depth at this internet use in a small number of women's lives. Diaries, online and offline interviews, photographs and online participation were used to investigate their use of, and experience of, the internet, to investigate what is particular about women's use. The project attempted to think differently about the internet, to use a relational approach, influenced by phenomenology and home geography to argue that in order to understand the internet we need to consider embodied practices and the objects and movements that make it possible. The entity of the internet emerges in a range of modalities, with human, non-human, material and semiotic components in a constantly shifting ecology of relations, many of these gendered. It is not a simple or discrete entity. This means it can operate in the lives of women in very diverse ways, from a formal setting oriented to work, to a purely leisure use, mediated through rooms, posture, expertise and affect.

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1) Introduction

The first ideas that eventually became this thesis began in 2001. Fresh from full time study, and idealistic about research methods and theorising of the social, I began my first research appointment. I joined a small team to act as the researcher, and to carry out most of the fieldwork, on a project investigating how the internet and computers were used for learning (Furlong, Selwyn & Gorard, 2001). The project had an ambitious scope, featuring a large scale survey, 100 semi-structured interviews, most of which I would perform, and then dozens of follow up interviews, returning to the same participants multiple times. The research questions were located within education, and investigated whether the new influx of computers into homes, schools and colleges was increasing the amount of lifelong learning people were engaging in (Gorard, Selwyn & Madden, 2003).

As a young researcher, several elements of this research raised my interest. This project left me immersed in the literature on the burgeoning field of internet research. Taking part in so many interviews, and hearing so many people's experiences, gave me an overwhelming amount of information and personal stories about the range of what people were doing with their often newly acquired computers. The study was skeptical about media and policy claims, so the research was designed to investigate problems and barriers to usage of the computer (Madden, 2002). Due to this design focus, many of the people I spoke to were those who self identified as low users, or those who were bewildered by the technology; I was able to see the many ways that computer technology can become too difficult to use, or be incompatible with a person's lifestyle and interests (Gorard, Selwyn, Madden & Furlong, 2002). For some participants the pressure to engage with computers was frightening, while others were bored and frustrated by the enthusiasm they saw around them for a technology that held no obvious purpose for them.

We found that although the internet was seen at this time as about information and communication, for our respondents it was increasingly also about consumption and production. The reasons people weren't taking up use of computers were social, not technical. For higher frequency users, the internet still tended to fit into everyday life, to support ordinary daily tasks such as replacing a trip to the shops, or researching things from TV (Selwyn, Gorard & Furlong, 2005). Utopian views of the internet bringing new possibilities into people's lives were quite absent. More common were fears of the dangers that were being introduced by the new

technology (Madden, 2003). For those who were lower frequency users, often the internet was used for just one thing, such as a reference tool or for email (Selwyn, Gorard & Furlong, 2005). To be a high user, it was important to have an internet friendly social context, with private access to a machine and a support network of friends and family who were also interested. At the same time, much of the rate of use was explained by socioeconomic factors (Gorard & Selwyn, 2005), with the highest users in traditionally advantaged groups (Selwyn, 2003). By focusing on those who were excluded or whose internet use was truncated, I saw how complex these stories could become in people's lives. Patterns of usage were not simple and certainly not determined by the technology available. They were bricolage, forged under usually far from ideal conditions. People were creating their own set of uses for the technology, and for those who found no obvious use for it in their lives, the technology didn't become interesting.

But one single question leftover from the project really piqued my curiosity. This was a finding that combined some interesting insights from the project, with an awkward fact that slipped through the cracks of a multimodal piece of research. The project was only tangentially interested in gender, alongside several other stratification issues (Selwyn, Gorard & Furlong, 2005). We used statistical models to chart how moments of inequality developed across the lifetime of the participants (Gorard & Selwyn, 2005). However, this large scale modeling showed very little gender difference, and interest in this 'variable' waned within the project team. But later in the year, as we returned to these participants' homes again and again, for interviews of increasing depth, the gender differences in how computers were used became much more apparent (Selwyn et al, 2006). While in the survey data we were interested in basic access, whether people had a computer to use at home, or in other public or private settings, when I visited their homes for later interviews I found women often didn't make use of the machines to which they had apparent access. Men and children were given preference in using the computers. For example, in some houses they were primarily for homework, in others they were for men's substantial hobbies such as video editing or family history. In the final interview, participants were asked to invite a significant other who supported their computer use, and again the selection of others and the patterns of sharing computers in the home were extremely gendered. Not one of the interviewees relied upon a woman as an expert, although it was very common for our respondents to rely on a single expert friend, or network of experts to support their computer use (Gorard & Selwyn, 2004). A single configuration emerged that allowed a woman to be the lead computer user in a household, a context where literacy in the family was low, and her male partner had a manual profession and a very traditional masculinity. This allowed a woman, who likely worked in a clerical field, to be the more technologically literate member of the family. In this case the computer was often associated with homework, and the skills associated with reading and writing, as well as computer expertise, were seen as lower status.

The sharp difference between what was found about gender in the large scale statistical work, and in the more detailed interviews was a surprise. This finding showed that computer usage and expertise are not gendered in a simple way, as women were not shown to be deprived of access to and nominal ownership of machines. This means that the areas where women are disadvantaged in access to computers and the internet are in danger of becoming invisible. Women are making less use of these technologies for reasons that are more difficult to

investigate. Although parts of the project investigated discursive issues in more detail (Madden, 2003) there was little data to explore this difference between pure 'access' to machines and actual usage of them. Selwyn (et al 2006) suggests that women's relationship to computers reflects and reproduces the gendered patterning of the home in general, where women often lack authority or a space of their own. But there was also some data suggesting issues of fear, guilt, and feelings of inadequacy were significant in women's use of the technology. These sources of inequality are operating at a complex level within the home, requiring an understanding of emotion, family dynamics, and who has the power to express knowledge. This more complex picture requires detailed work to tease it out. Otherwise we are left with the danger that larger scale work will obscure and silence some of the struggles women have to gain meaningful access to technology.

This left me with a clear research problem, that women's exclusion from these new technologies was located in the detail of complex practices and relations that can be missed by large scale research or traditional categories of exclusion, and therefore is it necessary to work towards finding tools that highlight the detail of women's use of the internet. The first reason for urgency here is an activist one, as we see women disadvantaged, again, in a new area of technical expertise (Wajcman, 2007; van Zoonen, 2002), and this issue requires understanding before it can be addressed by meaningful action. There is also an academic reason, as it is important to do the work of telling women's stories, and uncovering the quieter stories of women's particular experiences with technology, which are obscured from many of the histories of the internet as it develops, as will be explored in the following chapter. This pattern of women's stories being silenced is not at all unique to the internet. Women's relations to technology have long had similar problems, and this pattern of women's stories going unheard is repeated in all kinds of fields (Gledhill, 1987)

Many attempts to address women's disadvantage in relation to computer technologies have failed to address this detail of how gendered relations operate. This includes the concept of 'girl games' (Cassell & Jenkins 2000; Walkerdine, 2007), which were intended to tempt women and girls to play games with computers and the internet, but which have fallen flat because they don't get to the heart of why it is that girls and women are not great participants in games, and in doing so have served to reproduce and maintain essentialising notions of girls' interests. This failure is based on a lack of knowledge of why girls aren't engaged with games, and what a deep solution to the problems this raises might be. This project is a move to address these kinds of issues, by trying to generate a set of methods for researching and making sense of internet use, in order to collect detailed stories of a group of women's internet usage. The Gorard et al project (Gorard, Selwyn & Madden, 2003), and other projects based on the home (Lally, 2002) indicated that the detailed story of ordinary women's lives with technology would be a much messier story than that produced by early technologists and journalists, with a greater emphasis on how the internet breaks down or requires maintenance. This follows a feminist tradition of bringing out stories about women that would otherwise be invisible. As in the example mentioned above, it is easy for women's usage of the internet, despite damning evidence that women are substantially excluded, to be glossed as not a problem, or as not having its own unique qualities. Thus this project begins from a 'women's studies' approach, of simply researching women's lives. There is no attempt to contrast these with the experiences of men, or any other specific

group. The intention is to gain detailed stories and understandings, and particularly to address those elements of women's usage that are easy to overlook.

It is in this context that I was dissatisfied with much of the literature available, as it failed to meet this set of needs. Initially much of the literature was problematised through the Gorard and Selwyn project (Selwyn et al, 2006), because it wasn't about usage, and it ignored mundane everyday contexts in which the internet is often used. This was often in environments that were not well suited to internet use, and for people who do not have the time or interest to develop expert knowledge (Selwyn et al, 2005). Much of the literature focused exclusively on the online story, and on those who were very high users, rather than on struggles and barriers which interested us. Even less research combined the online with the offline. For my current interests, much of the literature was even farther removed, as I wanted to look at everyday usage, in terms of a critical framework, with a substantial theorisation of the social. As this project developed it required a lot of work on embodiment and the implications of the body for internet use. Much of the literature on internet research, particularly at the time I began thinking about this in the early 2000s was unsuited to addressing this set of problems. This will be discussed more fully in the following chapter, but many of the issues key to my questions were not central to the big debates of the time.

This was an era when much of internet research was gripped with excitable claims about the possibilities it opened. A situation many writers since have diagnosed as a typical response to new technologies, drawing parallels with the introduction of television (Waller, 2000) and the telephone (Frohlich and Kraut, 2003). Many of the early writers were technologies and tech savvy journalists, who emphasized the technical potential of these new machines, without engaging with inequalities in access or use, or how it would enter people's lives. Therefore considering these social elements of the new technology required some recuperation, and many of the new disciplines that entered this field were not interested in struggling to find this understanding. Most notably issues of power were invisible from early accounts, so it was rarely asked who had the mobility and voice to do particular acts on the internet, or with what kind of consequences. Issues of gender online had captured the imagination of early researchers, but much of this was muddled and lacked roots in feminism or studies of gender offline. Research that addressed the internet often framed it as entirely separate from the offline world. This gives us a sense that online life is a different entity to offline life, with the illusion that we can have separate existences there. This offline space is considered to be largely free of power relations such as gender and race, but also free of embodied concerns.

This project therefore seeks to find innovative methods for researching the internet, to understand how the internet is used by women, and the role it takes in ordinary life. But also to understand what the internet means, how it is conceptualised, and what role it takes in the shifting flows and affects that produce women's lives and personhood. In this vein, this research aims to look at a small number of women's stories, to build up a detailed account of the sets of technologies they use, and the way they use them, and then to address this information in a way compatible with the theoretical positions laid out above. It will bring to the forefront several dimensions of internet use that are not common in the related literature.

Several areas of work influenced me, as they investigated this element in some detail. Close analysis of text based online spaces such as Zdenek (1999) or Sunden, (2003) used methods inherited from discourse analysis to examine how these texts operated, compared them to spoken or written language, and examined how gender was produced there. Miller and Slater (2000) used ethnographic work and thick descriptions to understand the relationships between online activities and offline and community life, as they came together in ordinary people's activities. I was interested in the material I had collected for the Gorard and Selwyn project, but wanted to address it using a different framework and different sets of methods. That project was framed in terms of education policy, and was a large scale piece of sociological work, with a predominantly quantitative focus. I wanted to address this material using smaller scale research to interrogate the more discursive elements. I wanted it to be detailed, deeper, small scale, discursive, and to foreground issues of gender and of women's particular usage.

The research questions have been devised to address this set of issues, to respond to debates and problems highlighted within the literature, which will be discussed in more detail in the following chapter. They have a methodological dimension, to develop new methods that can be used for this kind of fine detailed exploration of internet use. The overall intention is to find out how women use the internet, and to come to understand this use in the sets of relevant relations, and particularly in terms of gendered relations. They also raise the question of what the internet itself is. Projects such as the Selwyn study (Selwyn et al, 2006) that emphasise the internet in use, produce very different answers than those that research purely online (Sunden, 2001), so this project will enquire into what kind of entity the internet is as it appears in these women's lives, within their practices and patterns of usage in tandem. The first set of questions regard finding out in detail what a small number of women are doing with the internet. This will be a rich account drawing on phenomenological principles around description, to encompass the activities and time spent, but also wider life stories, objects and websites that are used, and connected stories from broader life, such as career and significant relationships. The other strand is more theoretical, to find a way to understand these stories of use in terms of relationalities and intersections, and then to interrogate how gender and subjectivity is produced through these sets of stories. The internet is treated not as something that is a neutral entity in itself, but what it is when it is used and done with (Roscoe, 1999). So these detailed accounts are used to come to an understanding of how gender is produced in internet use. To consider some of the relations raised by earlier studies, the dynamics of the home, painful emotions, and the masculine meanings of technology, as productive of gender.

Research Questions:

What do women do with the internet, day to day, and how is it integrated into everyday life and wider projects?

In this context, what is the internet, and what are its significant characteristics and modalities (in terms of discourse, bodies, practices, texts, flows, emotion?)

What are useful methodological approaches to understanding such an entity?

How does this internet operate productively, and how is gender constituted in relationship to it?

Phenomenology

As this research is very interdisciplinary, it draws on a great range of literature. This includes bringing together several areas that have little overlap with each other, and many of the theoretical ideas have not been applied to studying the internet or women's use of it before. For this reason I will introduce the key theoretical tools used in the thesis. These will be given a more detailed treatment when I discuss theorising this material, beginning in chapter 5.

Phenomenological ideas have come to form the backbone of this study. These have been central to the task of thinking differently about the internet, and finding a way of understanding it in terms of bodies and the holism of the offline and online world. Merleau-Ponty's (2002 [1945]) phenomenology, along with reinterpretations of his work from several poststructuralist sources have been most influential. Central to this is the issue of enriching the notion of embodiment, and seeing the world in terms of the experience of being such an embodied subject. This gives a dramatic shift in how to do research, and how to grapple with the stories that emerge from it. Merleau-Ponty describes phenomenology as offering a style or manner of thinking, and a style in this tradition has been developed throughout this thesis, to give a particular reading of what the internet is and how it's used.

The body in this approach is the site of the self. We inhabit it completely, and although we can never turn away from it, we need not fully be aware of it, as it becomes known to us only as we engage through it, with the objects around us. This perspective undermines dualisms by showing the body and the mind to be completely intertwined – thought and action are fully embodied. And we can only fully understand the nature of this by enacting and living through our own body. To experience and see an object is to 'plunge into it'. We move through the world, acting on it without having to think and represent each angle of motion or balance, this is all executed through our being-in-the-world. The world, and objects, are experienced only through the body and perception, with everything seen from the particular perspective our body takes up. So, for example, we can only view one side of an object at a time. All more objective views are the result of a process of bringing into objectivity and filling in what we 'ought to see'. It is this process that takes us to 'representation', and a translation into thought of language, which Merleau-Ponty argues is a step away from experience, and into abstraction and objectification. This concern, emphasizing experience over representation, will reappear throughout the thesis, as action and practices are preferred over representation and talk.

Several others give his work a treatment more suited to social research, either elaborating some of the key concepts for research, or adding elements of gender or power. Csordas (2002) addresses issues of the body and the self, expanding some of the notion of bodiliness and experience as a focus for research. He uses this shift in perspective to contrast with work more focused on language, but also shows how culture also originates with the body. Hansen (2000) extends this kind of work to deal with technological objects, and how embodied subjects engage with these machines which are intended to alter our life worlds. Again, he focuses on experience, and how technological objects and machines shape the world we live in through the experience of moving and using our bodies in an environment made of objects. Ahmed (2006) looks in detail at the nature of our engagement with the more mundane objects around us, such

as the table. She also adds issues of gender, power and sexuality, by looking at some of the meaning of our orientations and turning to objects, some of which can also hold pain, as well as representing privilege and gendered relations. Similarly Marion-Young (1980, 2005) adds vital expansion to Merleau-Ponty's work by adding gender and difference in his analysis of bodies, and exploring the experience of inhabiting a woman's body, and the phenomenological quality of embodied experiences such as pregnancy and breasts. Sheets-Johnstone (1994, 2010) reinterprets some of this work to foreground movement, rejecting the term 'embodiment' as it allows for a static body, which cannot exist. Again she considers how privilege is inscribed in movement and in the objects which constrain movement.

Relationships

Phenomenology is augmented here with a few other approaches to take objects and the physical seriously, and to address the kinds of relationships that can exist between bodies, objects, and subjectivity. These have added extra detail to some of the stories of how movements and practices operate productively in internet use. Approaches that take objects as actants in social life seriously have become a useful addition to phenomenological views of objects, as above. So that as well as considering how we come to know objects, I can consider how objects come to act on us, and constrain our world. For thinkers such as Latour (2005) and Thrift (2008) objects are treated as indistinguishable from human actors, in that they are capable of having effects in the world, which can be seen as productive and leave traces. For example a fence is just as capable of keeping sheep in one place as the actions of a shepherd and a dog.

This view of objects emerges from a wider theory of social action which includes notions of networks and flows. In this sense, objects, humans, and other non-humans can form part of a large system which operates to produce some effect. The individual elements are less important than the system as a whole. These traditions again call us to a particular style of thinking and doing research. This style attempts to throw out all old ideas of social constructs, and to follow links and chains in larger networks or assemblages, in order to pick out the steps of operations that constitute some interesting outcome. They call for meticulous observation and description to record these complex networks.

This brings us full circle to embrace phenomenological concerns, as it returns us to examination of how bodies are used and the notion of experience; which can be used to problematise much of what is thought about the nature of technology, and elucidate how mistakes, clumsiness, and mess are introduced through the nature of our bodies (Thrift, 2008). So these approaches also give us a way to enquire into what kinds of entities exist and are meaningful. And these connectionist approaches allow us to also consider objects themselves as assemblages, where larger things are made up of smaller things, with their outer character a result of the relationships and patterns of their interior (De Landa, 2006).

When we consider any system of actions to be a network like this, we are thinking of a large collection of objects or actants of different forms acting together. Some are human and others non-human, with solid and meaning-making dimensions. This gives us a way to consider systems

containing movement and repetition, but also the ways in which items that are very unlike each other can relate and co-constitute each other, as well as operate productively together. Latour (2005) gives an example of lighting a cigarette for a colleague, which brings together humans, social practices, the object of cigarette and lighter, and chemical and physical properties of those objects in action. These notions of moving systems can be augmented with approaches that focus us on the subjective and psychic dimensions of such exchanges, as well as the more physical, such as a psychoanalytic view of relationality (Layton, 2002) or Haraway's (2008) earthy analysis that reminds us to embrace and take pleasure in bodies and its infusion with objects, animals and slime.

Household Ethnography

This theoretical concern with objects, networks, and their constitutive effect on embodied life and subjectivities is supported by more ethnographic work detailing how such objects are used. There is a building interest in the field Miller (1998a) calls 'material culture', an examination of the role of physical objects in the social world. He critiques the idea that our relationship with things is frivolous, and argues that they are an important element of social relationships, and holders of emotional and intimate meanings (Miller, 2008). Through ethnographic methods this means examining in detail how objects are used, and how practices around them such as consumption, ownership and self work are carried out. This ethnography of objects and space requires detailed and meticulous methods, exemplified in Harold Riggins' (1994b) methods to examine the space of a room and the objects and arrangements within it. These approaches draw on archeology, architecture, geography and design for ways of paying attention to everyday objects.

Closely linked are such approaches to the home, which Lally (2002) calls a 'machine for living'. Homes are significant sites of expressing, but also producing and comforting, the self. These are collections of objects, furniture, and spaces that we gather round ourselves (Lally, 2002; Wise, 2003). They are also places filled with sedimented practices, and objects, furniture and tools that are used in particular ways. As a new object or new technology, such as the internet and computers enters this space, it must contend with and negotiate with the values and patterns that already exist. On these terms a place is found for it, and the internet is both shaped by what already exists, but also operates to shift meanings there. Informed by the phenomenological discussion above, we can see that this space, and the arrangement of objects and pathways within it creates the conditions of possibility for a particular ways of living. These patterns of affordances, tools and constraints allow and assist particular ways of being. The home forms not only a backdrop, but also a constituting part of some of our most important activity. By examining the use of space here, we have a means of researching repetitive practices that emerge from patterns of movement through rooms and around objects, in particular the way they shape and are co-constituted with how the internet is used, and what kind of an object it becomes in the lives of users.

Audience Research

The spirit of the research design is influenced by an audience studies approach to TV and media studies, tracing back to Radway's (1984) research on popular romance novels. This study describes a shift in her thinking which moved her away from a traditional literature or Media Studies perspective, which prioritises the content of the text. As the study went on, she realised that more important than the texts themselves was the use they were put to by readers. The nature of the books arriving on subscription, visits to the bookshop, but most importantly literature and reading being brought into home where it was not a common practice, the escapism of reading, and the relationship of the reading to the rest of women's lives were all necessary to make sense of their use. This approach to research has been extended to technological objects, such as Gray's (1992) work on the video recorder, which examines both how this technology fits into the life of the family and household, but also how it is gendered. Wajcman (2000) praises such an approach as particularly useful for feminist research. It destabilises notions of technology as pristine and questions the tendency for high status research sites to be prioritised, while more mundane ones are silenced. This addresses silences about who uses technology – the unspoken assumed users and actors are male.

This approach also sits comfortably with phenomenological and connectionist theory, as it emphasizes action, and the notion that any social object gains its meaning in use and in movement, and allows for bodies alongside content. This is becoming more popular for new media, such as videogames (King & Krzywinska, 2006), which differ from more traditional media such as television in that they are interactive. The popularity of such approaches for everyday internet use has been slower, however. Despite pioneering early studies such as Miller and Slater's (2000), which examines take up of the internet in a Trinidadian community, most researchers still use quite traditional ethnographic methods to consider place and practices alongside online activities. Issues of internet research maintaining an illusion of disembodiment are current, despite lone voices in all eras calling for work to repair this by considering places of use, and social relationships (Wellman & Gulia, 1999; McGerty, 2004). This has spawned debates investigating what makes the disembodiment myth so compelling (Dreyfus, 2001), and the difficulties of developing research methods to bridge this gap (Leander & McKim, 2000). This research contributes to this growing debate, by grappling with methods to research the internet that do justice to the body alongside online content.

Gender

All of these tools give us ways to read gender in how bodies and objects interact and move around each other. When considering the phenomenological body, this body is always gendered. Although Merleau-Ponty has been widely critiqued for the lack of gender in his account of the body (Butler, 1989), Young (1980) and others have done substantial work to extend his analysis to include the feminine body and bodily experience. Gender is held in both the character of the body itself, such as having breasts, but also in issues of comportment and how the body can be used and cared for. As implied in Merleau-Ponty's (2002 [1945]) work, and elaborated by Marion Young (1980), this use of the body incorporates the social world, so that as we move

through and engage with the world the social expectations of the gendering of our body becomes part of the pre-objective experience. Gender is also present in relationalities, as gender itself is an assemblage (Walkerdine, 2007, Harris, 2009), emerging out of a network of relations of different kinds. These can be relationships in different dimensions, levels and forms, some in terms of bodies, others texts and discourses, others about movement through space, all of these things are holders and producers of gender. We can see this in household ethnography, where the home is filled with gendered meanings, where who moves into which spaces, uses which objects, and performs which tasks all have significance in producing gender. And the gender of an actor in this space constrains what they are expected to do and what they might be able to do. Audience studies has been a rich field for feminist understandings (Wajcman, 2000). By examining the use of a technology, rather than its own intrinsic features, it shifts these technologies into the messier register of ordinary life and practices. It also uncovers stories about women's usage that would otherwise be silenced.

Summary of the thesis

Chapter 2 comprises a literature review of internet research, examining how the internet has been conceptualised across its history. This has always been a difficult question, because these conceptualisations have shifted rapidly during the internet's time as the focus of social research. During this period it has changed in terms of the computers used, online activities that are possible and also those activities which have become popular, the range of academic disciplines and the assumptions they bring, and the accessibility of the technology and thus what size and diversity of population there is online. This results in a complex research landscape, which is difficult to collect into a coherent narrative. In the early days, MUDs (multiple user dungeons / domains) fascinated researchers, who explored issues of writing the self, and notions of fluid gender identity. Today social networking is the most used application of the internet, with around 800 million users (Ofcom 2011, Protalinski, 2012), which dwarfs numbers using these earlier technologies. This new utilisation of the internet brings completely different concerns than those considered in earlier periods. Thus this chapter explores the literature in chronological order, discussing the key moments in this history. We can see the history of the technology as a process of domestication, as the internet moves into the home, and becomes increasingly normalised and used for mundane tasks. Meanwhile the literature becomes more diverse and critical.

Chapter 3 covers the methodology for this project. This chapter combines a description of the methods used here with discussion of how this design was developed. The exploration of these methods forms part of the research question, so here I discuss the problem of how to use a variety of methods to capture the internet in use, and its operation in several different media and forms. These methods address several of the issues raised from the internet literature. It brings an interest in space and material alongside more traditional concerns with texts and online material, by collecting data from both. It is also influenced by the phenomenological approach to experience, and to rich descriptions. Overall, this research design aims to examine in depth the internet use of a small number of women, producing a package of data for each,

using rich descriptions to catalogue how they use the internet day to day. The internet as examined will be the internet that appears in each participant's own account, and the path she takes through all the available technology, to meet her own needs and interests. A range of methods are used to capture this usage in a range of registers, and to treat the internet as a complicated set of practices, that can only be understood as they are used. The first contact with participants was an audio diary carried out by them at home, recording each use of the internet for a period of one week. This was followed up with a visit from the researcher, including an interview in their home, and photographs of locations that were significant to internet use. Then an instant messenger programme was used for a synchronous online interview, which was used to tour online locations important to the participant. Finally the researcher explored and participated in these websites to gain a deeper understanding of their structure and possibilities. The analysis focuses on an understanding of embodiment in the use of the internet, which includes space and objects, but also experience as it's felt through the body.

Then we move onto chapter 4 where I introduce the data as a whole, and discuss how it will be analysed in the chapters to follow. Five women took part in the full study, with some data being taken from women who took part in the pilot study. All of the participants provided a detailed package of data about their internet use. The audio diaries are utilized here to give a sense of chronological patterns throughout the week of internet use. The majority of this time is spent on a handful of common activities, such as email, shopping and travel arrangements. The final interesting category is usage related to particular hobbies. The composition of each woman's week is quite different. Some sit at a computer for much of the working day, and so dip into the internet often. Others move away from and then return to the computer for particular tasks. Use of the internet across the week has a time bound quality. Many activities are repeated across the week, but also associated with everyday rituals, such as getting up in the morning, eating, taking breaks, and returning from work with use of the internet punctuating the day. This introduction to the data as a whole is the only time in the thesis these complete patterns are examined, before we move on to look at theorising of some of the finer detail.

The findings from this research form an argument that proceeds in three stages, worked out over three chapters. The intention is to find new ways of researching and theorising the internet. These address some of the problematic issues outlined above, but also are concerned with moving towards a complex story of how the internet is produced through its usage, and its role in the lives of ordinary women. So this account prefers the complex and rich story to a simplistic or reductive one. The early parts of this argument, as expressed in chapters 5 and 6, set the scene for the final chapter of this segment, by addressing several particular areas of fine detail that need to be considered at some length. In the final chapter of the three, these detailed pieces are shown to intersect and crosscut other issues, while keeping the detail and complexity intact.

Chapter 5, introduces and elaborates the idea of bodiliness. This is an approach to the body drawn from phenomenology, particularly Merleau-Ponty's (2002) work, and since taken up by anthropologists and social theorists, and is about exploring experience, and the being of embodied life. In sharp contrast to a representational view of the body, here we are discussing the body from the inside, as embodied subjects, who experience our bodies as the starting point

for consciousness (Hayles, 1999), the self, and social life (Csordas, 2002). Our experience and engagement with the world, then, is profoundly shaped by the character of our bodies. Much of the significance of things that happen are the possibilities they open up or close down for embodied action (Hansen, 2000). This embodied engagement with the world brings us into a necessary relationship with space and objects. Thus in order to understand how the internet is used we need to see it in a context of bodiliness, and take note of how we experience it, and the objects and places that are implicated in the use of the internet. Despite the internet's reputation as a disembodied space, it requires a complex machine to make it possible, a computer. This chapter explores the nature of this object, and how our bodies enter into relations with it. The nature of computers and workstations discipline the body, with the eyes gazing at the screen and hands moving over the keyboard and mouse. At the same time this entity of the computer is formed out of an assemblage of surrounding objects and machines, to make use of the internet through the body possible.

Once we've established a perspective on bodiliness and how the material world is experienced and engaged with through the body, chapter 6 moves on to consider some of the detail of that world. The next stage in this argument is to take a wider view on the kind of environment we live in, and how larger arrangements of objects, such as furniture and rooms, create a meaningful life world. The meaningfulness of objects operates at many different levels. Objects can allow and disallow particular embodied actions, as when a wall obstructs movement into a particular space. Or they can extend the body to increase its capacity (Haraway, 2008), such as a cup allowing us to accurately carry liquid. In this way objects impact directly on experience, before representation is possible. In these ways objects can come to operate like discourse or signs, they close some possibilities down and open others, but they do this through our experience and bodily movement. In this chapter I look particularly at the nature of rooms. I want to look at the effects of differentiating these rooms with different labels, and how the different identities of these rooms is built up through the configurations of the room, objects that are there, and what tasks are done, and by which actors. When the objects necessary to use the internet enter a home, they must find and negotiate a place within this existing structure of the home. A place that is crosscut with sedimented practices, many of which are gendered (Ang, 1995; Birdwell-Pleasant & Lawrence-Zúñiga, 1999). Only some parts of the home are deemed appropriate for a computer, with space for its characteristic material requirements, and for the kinds of practices it will attract. But equally the computer can bite back and change the marking of the room it enters. Within the data, participants talk about working hard to locate computers and the internet in ways that maintain the identity of rooms in their home.

The final stage in this argument, in chapter 7, is to place the elements that have been elaborated in previous chapters into a wider picture. Several kinds of object, and characteristics of movement, space and software have been considered, this final step adds to this picture relationship and assemblage. We want to shift attention from the nature of any object and ask fresh questions about what the relationships are – and to view any object as constituted in assemblages, so that the pictures we have seen before are refocused into an ecology of relationships. This shows us that the character and meaning of objects is always dependent on the perspective that is taken in relation to them (Ahmed, 2006). We must consider the constellation of relationships that exist around something which bring it into being; some

relations being physical in character, while others are invisible, such as meanings, histories, and ownership (Haraway, 2008). Such relations exceed the subjects who take part in them, for each individual the web of relations is somewhat different, we can never fully know who does what to whom (Layton, 2009). Latour (2005) evocatively refers to an object or event viewed through such a perspective as a “moving target with a vast array of entities swarming towards it”. This adds a further layer of complexity to what kind of entity the internet is, as it is produced out of relationships and movement. To make internet use possible, many machines, software, and movement of those machines and bodies must all be mobilised, and made coherent in their usage.

Conclusions

This chapter has introduced the thesis as a whole, by presenting some of the problems that first attracted me to researching the internet, and some of the problematic that motivate the design and concerns of this project. It then explored the research questions and some of the innovative approaches to the internet they seek to find. Some of the theoretical tools that will be used in the following chapters were introduced, followed by a summary and chapter guide for the rest of the thesis.

The next chapter is a review of internet research. It seeks to give a historical view of research on the internet, and constructions of the internet since the very beginning in the mid 1980s. This sets the context for this study in a very new field, which has shifted swiftly through several distinct phases of theorising. Research on the internet has promised many things during these years, with different eras suggesting different impacts the internet will have on our lives. In the latest phase, I suggest, the internet has finally become a mass media, and entered the homes of substantial numbers of ordinary people.

2) The Internet in Historical Context

The internet itself is a large, complex, and very mutable entity. This chapter sets out to explore ways that it has been , and what some of the reasons for, and effects of, these different notions are. I will also consider how women's relations to these particular kind of internets, and the constitution of gender, have been treated in the literature. Several problems are raised with the productivity of particular views of the internet, before going on to use this set of problems to inform the design a piece of research that examines what the internet is in these relations. The thesis as a whole then grapples with ways to think differently about the internet, to find methods to research it, to sidestep some misleading assumptions from the past, and do justice to how it features in women's lives and what it becomes in moments of usage.

Because of the nature of the internet, this cannot be simply be a literature review. History and the passage of time must be included in the account, because the internet is an extremely changeable set of technologies (Wyatt, 2004). Even during the few years of this research project, which was first planned in 2005, with research carried out from 2008 to 2009, the set of technologies that make up the internet has shifted enormously, as have the population of regular users and what it means to them. Many influential pieces of work are somewhat older, and thus need to be considered in their chronology, with an awareness of how the internet was at the particular moment that they emerged.

This speed of change is highly unusual in areas of social research, so the tools to address these dramatic shifts are not present in either research or theorising. For this reason much of the research hasn't moved quickly enough. This means favored theories of the past are often employed beyond their usefulness, and historic themes and debates, which are somewhat redundant, continue to be taken up in the present. Some become negative influences on future work, as they inherit from problematic histories, such as the stream of work on MUDs (multiple user domains / dungeons) and identity, which is still producing new research although the systems are now far less popular and representative of internet use as a whole.

This chapter therefore attempts a very ambitious task, to assemble my own history of the internet, and the social research that developed around this moveable feast, in a single chapter. This account will necessarily be partial, and reflect the moments I have selected as significant,

and my own observations of why particular moves in research, theory and methods took place. But I include it here because I want to give a sense of how much this entity of the internet has shifted. This shift takes place in many modalities, in terms of what technologies have been available, what groups of people have been accessing it, but also some of the big streams of research that have contributed to it being viewed as a particular thing, and how much we can find out about women in particular.

This is an exercise necessary in order to begin grappling with the question of what the internet is, but also to unpick it from a more monolithic entity, to begin to see some of the finer detail and find a portion of interesting material to work with. As Miller and Slater (2000) point out in their groundbreaking ethnographical research, the internet is not just one thing, but a complicated space that can be sliced and navigated in many different ways. This changeability means we need to approach the internet with an unusually open mind, ready to question and problematise any pre-existing notions and received wisdom about what it is (Latour, 2005; Buchanan, 2009). These different internets and different paths through them have different characteristics in terms of the possibilities and shape of the experience, where the user clicks with a mouse, what usefulness is offered by the technology, how it can add something to a given person's daily tasks. This is the view of the internet I set out to uncover in this thesis.

Summary of historical change

Over time, the internet has changed in two major ways. One is that the technology has changed tremendously. If we date the start of the researched internet to the mid-90s, at that time the internet itself was made up of a set of very fragmentary technologies. Most of these were used with their own very specific software, which require specific skills and techniques to use. The World Wide Web (WWW) was in the early days quite a small technology, and has since expanded and fleshed out to become most of what is done on the internet, indeed it is generally taken to be synonymous with the internet. Technologies that operate outside the WWW are now marginal rather than central to the internet experience. Similarly, and more recently, computers have changed. In the early days a computer was a very expensive machine that could be augmented with a keyboard or monitor, perhaps a TV screen. Over time ready assembled machines became relatively cheap and more common in everyday homes, but still required a desk or table space. In recent times much more accessible laptops have become commonplace, and a proliferation of even smaller devices are entering the market, such as netbooks, smart phones, and iPads all of which can be used to access the internet, giving a very different experience in terms of the use of bodies.

The other enormous change, which is harder to see, is that the populations using the internet have changed. Despite a lot of writing and interest about the internet in the earlier days, it had not really penetrated ordinary people's lives. Those who were using it were experts, and those with special interests. Notable among these early users were academics, including social researchers, who were one of the first professional groups to get day-to-day access to the internet and email. This was partly due to its antecedence in academic contexts, and relationship to the fortunes of the fledgling discipline of computer science, and led to a somewhat skewed appreciation of its unusualness for early researchers in this field.

This increase in population has not been neutral. The groups who had early access to the internet were very specific, patterned in terms of wealth, class, education level, race, geographical location, gender, and all the usual markers of status and privilege (Selwyn, 2003). Thus the new populations are also structured. We have seen some widening of access to those groups who were originally excluded, but slow movement into the areas of greatest disadvantage. But this means that the new populations accessing the internet are substantially different from the early adopters. They are a more diverse group, with less interest in some of the specialist topics and ideals of early internet users. So as the interest of the bulk of users has changed, what the internet is has also changed. It is driven by different sets of interests and concerns, and has become more of a mass market media.

So as a topic for social research the internet is very new. Interest began in the mid-90s, which means we have less than two decades of development of the field. There are still questions of how to make sense of the internet, what kind of entity it is, what challenges this rather strange space offers to traditional research methods, and whether generalisations can be made across these historical periods. This means that constructing a literature review, and positioning a piece of research within it requires a balancing act. This change over time means that older paradigms and early debates quickly become less relevant, and it is difficult to make sense of earlier moments.

The newness of this field, and its substantial role in contemporary life means many disparate disciplines have been attracted to it, each of which stamp their own set of assumptions and interests on the research. The internet is talked about in many different registers. There is a substantial technologist and style journalism, a current affairs and quite common sense stream, which is operating alongside academic and research work that is very interdisciplinary. The internet has been researched from pure art, literature and dense philosophy perspectives alongside the technical field of computer science as well as other engineering fields such as human computer interaction and design. Further to this a range of social disciplines, such as cultural studies, communication studies, sociology, social policy, education, criminology, and many more. Different disciplines offer different approaches and interests. For example literary theory is often concerned with cutting edge technologies such as cognitive science, artificial intelligence and the high technology possibilities (e.g. Gray, 1995). Ethnography is a popular approach inspired by Christine Hine's early work in 2000, and her later spearheading of the field of 'Virtual Ethnography' (2005). The nature of ethnography makes it necessary to define the field in certain ways that inherited from ethnographic work in discrete communities (Leander & McKim, 2003), which lead to research addressing just a single online area.

So part of the work of this chapter represents an attempt to chart a path through these very disparate views of the internet. The intention is to find a way to view the internet that is compatible with the goals of this piece of research, to understand in detail how a small group of participants have navigated through the range of technology available to them. This requires an idea of the internet in use that makes sense of bodiliness and activity, as well as of the entity of the internet that confronts these participants and provides them with a set of possibilities for different kinds of use.

Conceptualisations of the internet: In historical context

The earliest antecedents of the internet were developed by the US military during the 60s, when the first computers were networked together into ARPANET for purposes of communication. These systems grew in popularity and interest, and by the mid-80s many similar systems had been developed throughout the US, Europe and the rest of the world. Networking was becoming a serious research endeavor contributing to the development of the emerging field of computer science. Moves to establish this discipline as legitimate, as well as to maintain the position of the US's domination of the technology (Rogers, 1998), lead to a parcel of government funding in 1985 to build the NSFnet. This was a much larger network with a more academic focus, incorporating older technology and developed protocols for transfer of data and other technology that are used to this day. In the UK an analogous scheme linking universities and other networks was called JANET.

This story of networking is of interest technologically as it pushed the boundaries of computing technology, and so it is often told. However, in terms of social use of the internet, another, independent source of internet-like experience was developing ahead of these restricted access networks. Available to the general public were dial up BBS systems, which users phoned into using their existing telephone line, using much of the same network technology as the telephone (Correll, 1994). The most famous is the WELL (Whole earth 'lectronic link) in California, but CIX in London launched in the same year, 1985. These systems allowed users to interact with one another, with chat rooms and forums. By the late 80s, larger systems including CIX were also able to plug into emerging internet services, and offer their users Usenet and the email access that is often described as the 'killer application' of the internet. Despite the volume of writing about these systems, the users could only be counted in thousands. Because these services used dial up, and were charged for like a phone call, users were localised in a small area, so that only those living close to large cities could access the largest networks. But the software was relatively simple to run, so the smallest BBSs ran on a single phone line out of spare bedrooms.

In order to understand the significance of the internet in ordinary homes we must also look to the role of the home computer, as the fates of these technologies are inextricably linked. Although technologists tend to break the internet into many parts, and historically they have developed quite separately, at the time of writing these technologies have converged. Discursively, in ordinary talk, computers and the internet are often treated as inseparable. Around the mid-70s, home computers were first beginning to appear. In the UK these were largely Sinclairs and Apples, machines that were very inflexible (Selwyn, 2002a) to use. They arrived in kit form, to be constructed by their new owner, which required considerable soldering and skill in electronics. Their utility was not much beyond experimenting and learning about the system, many functions working only after complicated additions to the system. They were available only to a select group of people who were experts in the workings of the machine, who were often called 'hobbyists', to mark them as a community of people who were interested in the machine for its own sake, as an electronics project.

Throughout the 80s these machines developed into a more accessible technology. The notion of the 'user' emerged (Turkle, 1995), as someone who runs software such as word processing applications, without needing to be an expert in handling the machine. Computers found their

way into workplaces, and this was the first context in which many people encountered them (Frohlich and Kraut, 2003). The BBC launched a series of documentaries to popularise micro computing during the 80s, and computers were also making their way into schools (Selwyn, 2002a). Ownership of computers in the UK rose from 200,000 in 1981, to 20 million in 1983 (Selwyn, 2002b). But this is a very gendered story, with women having lower ownership of, experience of and contact with computers, both in their own home and access to machines through friends and family (Durndell, 1991).

Windows style operating systems first appeared in 1984 in the Macintosh, and in the 90s for Microsoft machines, a system which hid much of the structure of the program from the user. Turkle (1995) described this as an entirely different experience for the user, who 'skims the surface' of the machine. These brought with them a new set of metaphors (Wyatt, 2004), that pervaded computers from then on, and were influential in the developing internet. These concepts such as 'windows', 'desktops', and using a mouse to 'drag and drop', created an overall metaphor of space and material, while making technically complex actions accessible. They were also extremely productive in creating a set of conditions of possibility for using such technologies. Certain paths of actions were made easy and possible, but alternative paths closed, sometimes as a result of design decisions, but also to create new, emergent patterns of use. These become increasingly relevant in the present day, when dozens of webpages and other computer screens are used in a day, and particular patterns of clicks create a single path through them, when many others might be possible. The paths taken are those meaningful for tasks, but also are produced through expertise, and become sedimented over time, just as do actions in the material world.

In 1990, the technology of the World Wide Web as it is known today began to emerge (Selwyn, 2002a; Terranova, 2004). This drew together a proliferation of incompatible systems, many of them previously dial up, such as gopher, IRC, telnet, and FTP and allowed them to run together under one protocol, developed at the CERN nuclear research centre. It incorporated the brand new technology of Hypertext Markup Language(HTML), developed by Tim Berners-Lee a year or two before. Before this date, each application required a different software and interface to learn, and were used completely separately on the computer. The first web browser, Mosaic, was released three years later in 1993. This could display graphics and text side by side and made the web a far more visual experience. Previously the internet had been almost entirely text based. This made the internet much easier to use and lead to an increase in writers and readers.

Early commentary: 1990s

In 1995, US government funding for NSFnet was shut down, lifting restrictions on commercial access. But with the enormously expensive backbone technologies now in place, commercial providers began to make access more cheaply available to private users and smaller schools and colleges. This signaled the internet falling out of the strictly academic and military hands that had contributed to its original creation, and becoming widely available and used for commerce. This was a dramatic shift, and was rather shocking to those who had initially developed it.

After this moment, the internet grew in popularity. A number of influential books written by advocates of the new technology appeared, celebrating its potential. The first was Howard Rheingold (1993) writing about his experiences on the WELL BBS. It was quickly followed by MIT computer scientist and Wired magazine contributor Nicholas Negroponte (1995) and Microsoft founder Bill Gates (1995). These books powerfully set the tone for new discourses about the internet, with their influence persisting for many years in more academic writing. They described their experiences online, while predicting that these technologies and their social and political potential would continue to grow exponentially. They predicted that these would bring great reductions in inequality, alongside enormous changes in how we lived, with the internet infiltrating every area of life, and even altering what it means to be human. The internet was seen as a self-contained place to do community (see Gauntlett, 2000 for discussion of these early themes), as well as heralding changes in communication, democracy and public sectors, and business. It is notable that this crop of authors were male, professional, white, American and technologists rather than sociologists or cultural commentators.

A momentum was generated among journalists and technologists. Wired magazine launched in 1993, and published stories about internet culture as trendy, and suddenly to be a geek had become cool (Borsook, 2000). By the mid-90s the dot-com boom was underway, so commercial interests were flooding onto the internet. Writing about the internet during this period often blurred the lines between fantasy and reality, and indeed many prominent journalists of this period were also novelists in the linked cyberpunk tradition (Wyatt, 2004). Warnick (2002) described the message of Wired magazine, the voice of technology professionals and enthusiasts, as an elitism that painted those who are not online as fearful, ill informed, regressive and hesitant. The hacker identity emerged, as a computer science and internet hobbyist who shared many characteristics; they were young men who rejected much of traditional social life, but found fascination and pleasure in the machines and their own cultivated expertise (Turkle, 1984). This was an overwhelmingly masculine and macho discourse, although also a somewhat non-mainstream masculinity (Håpnes & Sørensen, 1995). They devalued social niceties, and values such as a smart appearance (Sunden, 2003), but valorised a different kind of culture and politics often called the 'hacker ethic'. This prioritised free access to software and the collaborative development of it, libertarian politics, and metaphors that capture the importance of transparency and the pleasure of puzzle solving Wyatt (2004).

The first academic studies of the internet also emerged in the mid-90s. Two of the most influential of this early work were Turkle's (1995) book on the psychology of internet use, and Annette Markham's (1998) ethnography, which covers the period 1994 and 1998. These accounts give us an impression of which online technologies were available in those early years of so much enthusiasm. Overwhelmingly the newly developed World Wide Web technologies, accessed through a browser, were not yet central to the experience of users. Those most commonly mentioned are the older text based applications, many of which would have been dialed into directly, using a phone line rather than using the internet to connect. MUDs, multiple user domains or dungeons, were one of the most commonly described activities. These were text based virtual worlds, developed from earlier text based adventure games, where a sense of space was built up in description, allowing users to 'move' from chat room to chat room, sometimes writing elements of the environment, and interacting with others.

"The Utility Closet

The utility closet is a dark, snug space, with barely enough room for one person in it. It's stuffy and cramped and feels like a good place to get out of. You notice what feels like tools, rags, boots and cleaning supplies. One useful thing you've discovered is a metal doorknob set at waist level into what might be a door."

The exit hint "You've discovered... a metal doorknob" cues people to type a command such as 'turn doorknob' or 'open door'. This moves the participant's character from the entrance room to the next room in the MUD. Each room on the MUD has one or more "exits", which allow participants to move through the different spaces of the MUD." (Excerpt from Kendall, 2002, pg 32).

This quotation from a MUD gives a flavour of how a sense of space is written in. Note particularly the first person and descriptive language to evoke space, but also the 'movement' from 'room' to 'room', which is made using another evocative term, the doorknob. This account goes on to explain that much use is made of cardinal points of North, East, South and West, to evoke a map like layout. Also prominent in these early accounts of online activity are discussions of email. This is one of the earliest technologies, available on the Bulletin board systems of the mid-80s and so well established by this time. Usenet lists allowed emails to be exchanged between large groups of people with shared interests. Both of these books mention the brand new technology of web pages, but only in passing. There is no mention of some of the popular activities of today, such as shopping or even research for hobbies.

Themes and debates in the early days

The internet as a topic for social research increased in popularity as the 90s went on. However it struggled to get beyond many of the themes addressed in the earlier stream of journalistic work. Many of these early social researchers were outsiders. Markham (1998) had never entered a MUD before she began her research there. Her introduction to it and the process of gaining access were part of the research, just as in a traditional ethnographic or anthropological study. In contrast, much journalistic writing came from insiders, who were experts in using this new technology. Social researchers, who were not skilled or regular users, were thus poorly placed to disrupt the tone set by these experts. So much of this early research was utopian, and breathlessly enthusiastic. It continued to address issues of interest to insiders such as how online communities like Rheingold's (1994) WELL functioned, and how gender could be performed fluidly in online spaces. More recently many authors have compared this early commentary to that of the TV, telephone, radio (Heider & Harp, 2002), and even the printing press (O'Donnell, 1998). All these technologies were heralded to be world changing, with enormous possibilities to shift relations of power and decrease inequalities in society.

Utopian arguments were made in several broad themes. The first of these was the notion that the internet and online spaces could be treated as socially neutral zones. This was popular in early technologists' writing (e.g. Rheingold, 1994) but also early academic work such as Turkle's (1995). It was seen as a space where embodied markers such as race, gender, class, religion, and disability are not visible. This anonymity and break with the body allowed people to meet online

as equals, free of social forces, and allow those who did not have a voice in face to face interaction to be heard (Baym, 1995). This would be facilitated by new forms of social space. These ideas were accompanied by metaphors of evolution and progress, ignoring negative effects, such as data sweatshops, which were glossed over as part of a progress that would benefit all (Wyatt, 2004).

The other major utopian strand was a notion that the internet would provide entirely new social spaces and ways of doing community. Much was written about the nature of these communities, with some favoring the idea of intimate social spaces (Bruckman, 1999) that harked back nostalgically to preindustrial models of community. Others emphasised political functions and the public sphere, with new forms of inclusive democracy being made possible (Kollock and Smith, 1999), or as a safe space for those who might otherwise be marginalised (Correll, 1995). But some of the key debates in this era focus around how to maintain control and order in online communities (Bruckman, 1999; Reid, 1999; Kollock and Smith, 1999). This issue was particularly problematic for women, as feminist and women's interest spaces were targeted by people who sought to disrupt and antagonise those communities, colloquially known online as trolls and flammers (Evard, 1996; Herring et al, 2002). Another theme was to question whether online relationships can include true intimacy, with some arguing internet community activities leads to social isolation (Kraut et al, 1998) while others argued they could be therapeutic and life affirming (Turkle, 1995).

Many of these debates can be seen as grappling with the entirely new possibility of many-to-many communication, a feature unique to many of the new technologies, which contrasts with their antecedents of telephone or letter. This was provided particularly by email lists like Usenet (Smith, 1999), and MUDs (Reid, 1999), which additionally gave a sense that multiple, distant others were together in a metaphorical 'space', where they could all share messages as well as descriptions of actions. Users experienced a powerful sense that many others and friends could be easily accessed in their own living room, what Senft (2005) and others called 'telepresence' – a feeling that these others are there in the room with you.

Another key area of debate was the mutability of identity and the subject in new kinds of online spaces. In most of these, participants presented themselves in typed text, and described in text every element of themselves, and their thoughts (Jordan, 1999). Many of these chat environments also encouraged the description of movement and bodies. This quote from Kendall (2002, pg 48) is a later MUD, demonstrating how movements of the body are described in text, with Jet arriving and leaving to signify whether he is present in the same 'space' as the reader. Notice how much scope there is to constitute a body through description of action. The second excerpt from Sunden's (2003, pg 81) data is the text visible when you first 'meet' an avatar, and is intended to represent the experience of a first glance at a stranger.

"Jet Climbs bravely up the ladder to the platform.

Jet has left.

Jet executes a perfect swan dive into the tub of water.

Jet has arrived."

"She looks at you with brown, sparkling eyes. She is almost always grinning mysteriously, but she'll never tell why. She wears a silver silk blouse and black pants. Her black hair cascades over her shoulders like dark, special chocolate".

This suggested the idea that users could take on entirely new identities, and live them out either temporarily or long term. As Sherry Turkle (1998) suggested, this was a place where "the obese can be slender, the beautiful plain". She described one research participant who lived in a MUD as a tour guide rabbit, complete with a large carrot to nibble. This ability to shift identities were a fundamental element of utopian arguments, which required that markers of identity related to power structures such as gender, could not be seen on the body and therefore became irrelevant. It was predicted that as the technology progressed these markers would become less and less significant, and our ties to the wider social conditions that create inequality would be severed (O'Brien, 1997).

Many of the themes such as mutable identities are magnified through fictions such as William Gibson's (1985) *Neuromancer*, and suggest that the body itself became irrelevant in online space. This was seen as a positive, with the body considered a barrier to interesting experiences and social interaction. In Markham's (1998, pg 59) field notes she says "When I spend a lot of time online in disembodied spaces, I forget my body. Often I don't remember it until the physical pain is extreme, and then I resent my body's intrusion on my life online, and my online life's impact on my body" They argue that real life is just one of multiple identities that can be expressed online, all of whom can interact innovatively within themselves and others (Markham, 1998) and that prioritising the offline, embodied identity will soon become old fashioned (Turkle, 1998). In more moderate forms, this is spoken of in terms of playful take up of alternative identities, and the significance of 'writing the self' online, (Branwyn, 1994; Denzin, 1999; Sunden, 2003) where text and descriptions became all important. Gilboa (quoted in Jordan, 1999) talks about applications of this technology when she tells a story of meeting two avatars in a chat room, one who was rude and unpleasant, and another who took her side and argued back. Later she found out that both were operated by the same person, and this was a trick to generate intimacy.

Within notions of identity play is the idea is that gender identity becomes fluid, and therefore gendered relations are unimportant online. The term 'gender swapping' is coined for the practice of playing out a different gender online, and is often considered to be simple and unproblematic (Branwyn, 1994). This is observed as a common activity, for personal experimentation, therapy, play, or for political reasons. A stream of feminist theorising of the time (Plant, 1998; Stone, 1996) celebrated this potential, envisaging a world where gender could be radically altered by this technology, particularly the relationship between bodies and minds. They argued that these practices disrupted gender stereotyping, while decentring the body and binary gender difference. But this was controversial, as others argued that those playing a different gender were aping crude traditional gender roles, and that white males continued to operate as the unmarked category, allowing the assumption that all participants were male to be unchecked (O'Brien, 1999; Sunden 2003; Kendall, 1998). Others were critical of the popular argument that your own descriptive text was all that was required to make a new identity. Gender differences were found in how men and women behaved in text environments, where typically masculine behaviour was much like in ordinary speech, with men sending more and

longer messages, receiving more replies, and expressing opinion as fact (Jordan, 1999; Baron, 2004; Herring, 1993). Such issues of authenticity were seen to be very important online, with attendant discussion of the issue of anonymity (Jordan, 1999), and fears it allowed people to behave badly in ways they would never do face to face. Feminist hopes that gender swapping could reduce inequality did not extend to material inequalities, as in this era women did not seem to be catching up with men in terms of ownership and use of computers, and corresponding use of the internet (Durndell & Lightbody, 1993; Schumacher & Morahan-Martin, 2001)

Many of these debates can be seen as struggles to understand the meaning of the conventions of online space – of the necessity of writing the self into being, but also of large numbers of people interacting in an anonymous setting. These practices immediately suggest that such writing can be done descriptively of the embodied self, or as fictions and playful other identities. There is also a quality of traveler's tales to these accounts, which are speaking of an experience open to only a very few individuals. They are descriptions of exotic places and experiences that are very new. These compare interestingly to more recent accounts of, for example, social networking sites, which will be discussed below.

There was also a substantial blurring of different issues and technologies into each other, as writers struggled to make sense of this new technology. As these streams of research grew in popularity towards the end of the 90s, criticisms began to emerge that much was glossed simply as 'the internet', and not disaggregated into specifics (e.g. Roscoe, 1999). Others describe the typed communication, often even asynchronous typed messages such as email, as if they were talk, such as Thomsen et al (1998) who apply discourse analysis to emails as if they were speech. Or Stone (1993), whose research notes and description of a MUD type environment made no distinction between typed descriptions and actually walking across a room, or using a video phone type application such as the Skype of the late 2000s. These descriptions blurred many distinctions between typed versus spoken text, moving a body versus clicking through virtual rooms, and seeing and being co-present with another person versus an online technology that allowed messages to be sent. These blurs made it difficult to find understanding about how to use these spaces, and created a need for more thick descriptions that are critical of the metaphors contained within a technology.

The enthusiasm for new and popular technologies, or those that raised interesting philosophical questions also affects how choices were made for topics of study. I was particularly struck by the blurring of MUDs being treated as the whole internet. Relatively little was written at the time about how these were role playing, fantasy environments, inspired by the Dungeons and Dragons games. These games were described interestingly by Gary Alan Fine (1983), and are games where players sit together, acting out characters they have written themselves, typically featuring wizards, monsters, and magical races such as elves. So these games were designed to facilitate identity play. It is thus unsurprising that players used these spaces to play out alternative identities, and they should be treated as role playing environments, with comparisons to be drawn with the continuing tradition of offline role playing games, rather than being seen as a uniquely internet phenomenon, or as demonstrating a particular possibility for the internet.

New internet populations

Towards the end of the 90s, the internet came within the scope of ordinary households. Several more accessible technologies came onto the market. In 1996 an updated version of Windows 95 was launched, that included the Internet Explorer browser and Outlook Express for email. This widely available software meant it slowly became possible to buy a computer from a high street electronics shop that was equipped to access the internet without additional purchases or specialist expertise. Unmetered internet access began to become available in the UK, which allowed users to browse freely without constantly watching the clock (BBC, 2001). This was several years behind equivalent technology in the US, slowed by the pattern of ownership of telephone wire infrastructure.

However, for most this new package of technologies was just a possibility. Despite the technology becoming simpler to use than in the previous decade, the numbers of households who had access to the internet was still small. In 1998 only 33% of UK households had a home computer, and only 10% an internet connection (National Statistics, 1998). Those that were online were still a very particular group. The population of the internet was almost entirely male, with estimates of 95 % in 1994 (Heider & Harp, 2002) and 89 % in 1997 (Landoli & Norris, 1997), with most users still located in the USA. These internet users were young, educated, and wealthy, with most in computer related professions. But these figures didn't deter those who were on the inside from declaring the internet a universal technology (Landoli and Norris, 1997). In contrast to utopian predictions, the internet seemed to be reifying and reproducing, perhaps even amplifying, existing inequalities (Heider & Harp, 2002)

Alongside changes in domestic technology, more global shifts were happening in the internet as a commercial space. By the end of the 90s, the dot com boom was collapsing, and commentators were unanimous in declaring the internet heyday dead (Nakamura, 2002). Terranova (2004) describes this as the end of the 'old internet' as experienced by the likes of Rheingold. As non experts began to access the internet and the masses prepared to enter, it was becoming the domain of the 'net tourist', unskilled in technology and entirely ignorant of the technologist's 'hacker ethic'. In the wake of the dot com bust, commercial enterprises on the net were settling into enormous, powerful monoliths such as Amazon and EBay. Homepages authored by a single user had been overshadowed by large collaborative enterprises such as Wikipedia and Indymedia. Much on the internet had achieved similar status to other mass media. This was resisted by the previous, more limited group of internet expert users (Bruckman, 1999). Roscoe (1999), for example, mourned the passing of personal homepages as more commercial pages become common. He predicted that they would be marginalised like "amateur radio, public access television and true independent film making".

In the UK, as the 90s ended and the new decade started, the conditions began to be right for home users to increase. The early part of the 2000s saw tremendous growth. By the turn of the decade in 2000, 40% of people in the UK (National Statistics, 2005) had used the internet in the past 3 months. But this rose steadily each year until by 2004 this figure had risen to 58% of adults. In sharp contrast to the 1998 figures, 62% of households now had a computer, and 55% an internet connection. Nearly all of these users had used a search engine, and email was the most popular application, with shopping not far behind. Very few people in these newer online

populations were taking up the community oriented activities that were written about during earlier phases (Selwyn et al, 2006). The internet was becoming far more of a mass market experience, as internet users began to reach substantial numbers. I'd argue that this represented an enormous change from most of the earlier period of internet research. Using the internet was shifting from a specialist or marginal activity, and many of the activities studied extensively in the past, such as MUDs or newsgroups had become irrelevant to these ordinary home users. However, these much larger numbers than in previous periods disguise inequalities. Access was strongly patterned by gender, age, class, region, and more widely by country. Those in the most privileged groups approached 100% access, for example of those in the highest income group, 93% had a computer and 89% access to the internet in 2005; while in the lowest income group only 25% owned a computer and 18% had access to the internet. Women's access was 10 percentage points below men's (National Statistics, 2005).

By the time Christine Hine published her influential *Virtual Ethnography* in 2000, her internet experience had become quite different from the previous generation of studies. She followed the take up of a single news event over a variety of websites and newsgroups, using a range of internet technologies. The technologies she described were mainly magazine style amateur built web pages, and Usenet style listservs. The most popular technologies shared the antecedent technologies of browser and email packages, which were frequently pre-installed on newly purchased home computers. The World Wide Web formed the majority of use, and the graphics and interesting visuals it provided (Landoli and Norris, 1997; Sutter, 2000) were intrinsic to the internet experience at that time. Miller and Slater's (2000) ethnography shows a similar profile of technologies central to ordinary people's use. For them email, chat and websites form the backbone of the internet, with earlier systems, BBSs and a research focus on language practices, like trolling or flaming, reducing. Despite the new popularity of the web, many researchers were still making a clear distinction between web pages and the internet itself (Leung, 2005).

For Hine (2000) reading and linking to commercial news websites was seen as the exceptional, new technology. This enabled Hine's news story to propagate around different internet spaces. Hine investigates how these different spaces, and the links between them, create different conditions of possibility for users to act. One example central to this propagation was newsgroups, discussion forums that allow a succession of messages to be posted by different contributors one after another, and read as a conversation. Although these were treated as a neutral forum, Hine (2000) noted that the configuration of posting messages created a preference for disagreement and argument, because it was considered a waste of a message, which took up bandwidth and clogged the discussion, to make a short agreement message. Dreyfus (2001) heralds this as a tradition where "anyone, anywhere, anytime can have an opinion on anything".

The web had become a much slicker collection of technologies by this time. Search engines struggled for position, and by the start of the 2000s, Google rose to prominence and it became easy to track down a range of content (Battelle, 2005). Again we can see some of the significance of configurations; Byrne (2004) describes how Google's method of search operated to produce the web as it is. By developing its own algorithm for searching and ranking search items, called pagerank, it determined how likely a page was to be found when particular search terms were used. This particular system created a gold standard for the notion of 'relevancy', by making

judgments on how reliable particular pages were, and trusting their linking practices more than the web as a whole. Commentators were using terms such as 'Web 2.0', coined in 1999 and popular until roughly 2002, to recognise that web pages were being enriched with a new set of applications, to supersede the static web of the previous generation. Web pages were no longer just about reading, but also about users producing content and interacting. This included more flexible searching, and interactive, user generated technologies such as Blogs, Wikis, and content management systems for simple website editing. These innovative applications were marked by social networking, and ubiquitous broadband internet connections that meant small tasks could be carried out in dynamic online environments, when in times of more limited access they would have been done on standalone machines or even by hand.

Maturing of Internet Research

This period of mainstreaming of the internet, and the publication of Hine's (2000) book mark a growth in internet social research. With a proliferation of empirical work, many of the themes of earlier studies became disputed. Mundane everyday uses and users of the internet became of greater interest. This more mature body of work critiqued some of the earlier debates, with a clear feminist perspective appearing. Wajcman (2004) critiqued ideas about online community as a masculine escape from the work of community maintenance in the offline world, which is traditionally done by women. She also argued that when online populations were so skewed to be male, middle class, Western, and from affluent, professional groups, it is problematic to discuss greater freedoms in this space, and mentions the availability and significance of porn online as an example of the power that resides in these communities. Critiques of identity tourism such as Nakamura's (2002) on race and 'eating the other' showed how real identity shifts were the realm of the privileged. This was confirmed by Wajcman's (2004) observation that gender swapping had very different motivations for men and women. Men were typically exploring identity play, or even trying to gain more attention from others, while women were using a male avatar to hide from unwanted harassment.

At the same time, little innovative identity play could be located by ethnographers. Empirical work on the practice of gender swapping (O'Brien, 1999; Donath 2008) found that innovative gender identity was regulated against, popularly considered to be unacceptable deception, and restricted to certain acceptable situations. 'Gender sleuthing', or other group members trying to discover a users 'true' gender was likely, with having an unmarked gender treated as particularly problematic (O'Brien, 1999; Sunden, 2003). Typically, elaborate authenticity discourses (Slater 2002) constrained how people could present new identities or genders, and true anonymity, where it existed, was seen to be an accomplishment that required work, and was often frowned upon. Others (Zdenek, 1999, 2001) demonstrated how the texts of online spaces such as MUDs could be shot through with gendered assumptions, and negative portrayals of femininity. For example, Zdenek's (1999) assistants taking on crude feminine roles, or women's bodies treated as the exception in MUD writing, so that femininity becomes exaggerated (Sunden, 2003). Use of language online, and the responses of listeners was found to be gendered. The power relations present in offline communication were very much present in text only spaces (Herring, 2003), disputing the last of the utopian arguments.

The mid 2000s were characterised by a proliferation of different kinds of studies, and different disciplines entering the field of internet research. Methods became a topic in its own right (Jones, 1998; Gauntlett, 2000; Hine, 2006), and the particularness of different kinds of internet technologies generated interest. New literatures were being brought in to make more sense of this space, such as material cultures work and areas from media studies inherited from audience research in television; videogame studies become a blossoming discipline in its own right (Aarseth, 2001). Social research on the internet was coming of age as a field in its own right – less dependent on theory only or literature influenced work. Large scale survey figures began to emerge, and the distribution of internet access in the population, and the ‘digital divide’ became of interest. These different disciplines had varied insights to offer into the research of the internet, but also came with their own particular slant on what the internet is, or which areas were central for study. Generally there was a struggle to fix and define the internet, and several disciplines had their own characteristic ways of slicing it, giving just a portion of the picture. Much internet research took what Leung (2005) referred to as a media studies approach, treating the internet as a broadcast medium analogous to television or radio. Hine’s (2000) *Virtual Ethnography* was extremely influential in the field of social research, but inherited from ethnography ideas about how to define a field for study. These concepts, which originated in anthropological work in geographically defined areas, required a clear boundary to the field of research. This required slicing the internet into fields for study, which meant its characteristic sprawl of different applications and technologies received less attention.

Material shifts

At the same time, large material shifts affected the technology that constituted the internet. The power and speed of software increased, and the range of machines that were used to access it began to proliferate, presenting different embodied possibilities. Throughout the mid-2000s broadband started to emerge as an alternative to dial up. Dial up connections used the infrastructure of the telephone network, the 56k modems using this technology became a staple in around 2000. Broadband required more specialist technology, in the UK largely dedicated cables, which required entirely new hardware to be fitted in towns and cities. This was a costly process which was driven by commercial forces. This meant that access was dependent on geographical location, with rural areas much slower to receive the service.

However, availability of broadband again altered what was available online, as more graphically intensive and elaborate applications, which required faster speeds, became possible. Video streaming was a key example with YouTube becoming popular in 2006. An indication of the constant demand for more bandwidth consuming activities is given by the estimate that YouTube consumed as much bandwidth in 2007 as the entire internet did in 2000 (Carter, 2008). These faster connection speeds allowed a new stream of online technologies, incorporating such elements as music, film, television and gaming. Websites incorporated new animation technologies, and as the coding to produce and author them became more complicated, this came to require expert training, and was no longer accessible to casual users.

The profile of online activities for ordinary users was shifted by broadband availability and these new technologies. Concerns about the cost of phone calls which limited Gorard's (et al 2003) participants were falling away, as unmetered patterns of billing became the norm. This particularly affected some activities which passed from the periphery into the mainstream. Online banking was an unusual activity in Selwyn's (et al 2006) survey, carried out in 2002; approximately 6% of internet users reported using it. But by 2007, Ofcom's (2008) research shows it was used by 36% of narrowband users and 58% of broadband consumers. Broadband customers were thus able to access newer technologies, and a two tier system developed during this period, with technologies available to broadband using households less accessible to dial up households. This reminds us that the set of technologies used by any household or individual can be quite different.

During the 2000s the computers and devices used to access the internet also shifted. In the early days, it was common to access the internet outside the home, in libraries or facilities at colleges or universities (Bakardjieva and Smith, 2001), with very few homes having their own computer. This created a very different experience of the internet, with those using them at home having more time to tinker, but also to feel a sense of relationship with the machine (Leung, 2005). As computers began, more and more, to be considered internet devices rather than a standalone machine they also began to shift in meaning. Miller & Slater (2000) describe a machine changing from being about business and calculations to something at the vanguard of style. But all these studies were talking predominantly about desktop machines, a large and heavy box containing the workings of the machine, a similarly large screen resembling a television, and a set of keyboard and mouse, often with other peripherals. Such a machine required its own permanent desk space, ideally its own room used as an office, or an out of the way place in a corner.

As the internet became more popular in this era, the range of machines available also proliferated. From the mid- 2000s laptops became increasingly popular. These were smaller, stand alone machines, which did not require extras such as a monitor or keyboard. This meant they could be moved around the home, and stowed away conveniently when not in use. These were associated with wireless internet becoming more popular. Instead of plugging a desktop into a static cable, laptops could connect to the home internet using wi-fi, which meant they were not tied down to one location in the home or office. 2007 saw a range of new technologies emerge. 3G mobile phone technology was released, which allowed hand held devices to access the internet, browse the web, and access emails and similar technology. Netbooks also became available in that year, and by late 2008 were taking market share from laptops and gaining popularity (Lamont, 2008). These were small, light, and cheaper laptops, with lower specifications intended not to stand in for a traditional computer, but to be used for web surfing and other simple tasks. These were a cheaper option, but also fashionable and with their greater portability suitable for different kinds of uses. Thus the place of the internet enabled machine in the home shifted out of a dedicated office, into any room in the house. Similarly bodies were no longer required to sit upright at a desk or table, but could access the internet in almost any posture. These machines could also be taken out and about to less traditional spaces such as pubs or cafes, or to accompany the user on a trip or holiday.

Patterns of use

In contrast to accounts from technologists and the media, that emphasised exotic and cutting edge uses of the internet, social research found that as the internet is incorporated into everyday life, it was used for quite mundane activities (Berker et al, 2006). Typically the internet was used to complete tasks or functions that were quite traditional and not unique to the internet (Gorard et al, 2004). Even the highest frequency users do activities that are well integrated into ordinary life and everyday projects. Less active users might only use the internet for one or two activities, such as emailing or as a reference tool (Selwyn et al, 2005). Ofcom's (2008) figures show that email was by far the most popular activity, with over 80% of internet users doing it. Downloading and researching was done by about 50% of users. General surfing was strongly differentiated between broadband and narrowband users, with 77% of broadband users doing it, in comparison with 59% of narrowband. Similarly for shopping, 66% of broadband users were shopping, contrasted with a smaller 47% of narrowband users.

Email had become the most significant activity, considered by technologists (Okin, 2005), social researchers (Jackson, 2001, Bakardjieva, 2005) and regulators (Ofcom, 2008), to be the most popular internet application. It had contributed to making the internet an everyday technology, and often attracted new users to the internet. A particular individual's email use typified and characterised their engagement with the internet more than any other application (Jackson, 2001). Email was considered particularly associated with women, who are more likely than men to use the internet to maintain relationships and keep in touch (Baym, 2008; Boneva et al, 2001; Jackson et al, 2001). Similarly Miller and Slater (2000), in their in depth ethnographic work describe how emailing relatives had become 'women's work' analogous to keeping up such responsibilities by letter or telephone. This active participation in personal use of emails is in contrast to women's long reported silence in chat rooms and internet discussions, where they wrote less than men, and what they did write was less favourably received (for a review see Herring, 2003).

Shopping was the other significant online activity and one of the functions that shaped the internet as a household technology. Selwyn (2006) found it not only to be one of the most popular activities, but also one of the reasons people gave for buying a computer and setting up the internet. It was particularly associated with electrical goods, books and auctions. Ofcom's (2008) figures showed eBay, the internet auction site, to be by far the most popular website in the UK, with Amazon the bookseller close behind. Only large utility sites such as the BBC, Google and MSN (Microsoft Network) had comparable figures. The internet was increasingly associated with consumption and production, eclipsing some of its earlier associations with information and communication (Selwyn 2005). Consalvo & Paasonen (2002) argue that as the internet matured in this way, women were invited onto the internet by marketing moves, hailing them as consumers. Women's apparent inclusion in internet usage was undermined by their designation as predominantly instrumental and dumb consumers, while men are positioned as more active, and technology literate (van Zoonen, 2001; Paasonen, 2002).

In this period research also ventured into the offline world, alongside online only research that characterised the early days of internet research, identifying new ways of doing gender through

internet use. This included new themes such as the digital divide, lack of access and expertise, and the significance of work and education in training individuals to use computers and the internet. As computers and the internet became more commonplace in the home, the roles of wife and mother were played out in relation to technologies, with women's roles as mother contributing to other ways of engaging with computers (Consalvo and Paasonen, 2002), in guiding and policing children's use of computers and the internet. Extra responsibilities associated with computers could result in women strategically maintaining ignorance (Selwyn, 2005), as with Gray's (1992) participant who remarked that once she learned how to wire a plug, this chore became hers from then on. The perceived importance for children to have access to computers and for general computer literacy (Hynes & Rommes, 2006; Facer et al, 2003) could lead mothers to sacrifice their own use of scarce computer resources to allow access for their children and for them to feel guilt when they do make use of technology (Selwyn et al, 2005), even when the technology is reserved for women's own use (Leung, 2005). In combination with such self-disciplining, studies found partners and children complained about women's monopolising of home computers. The only mother in Leung's study who became skilled at videogames was considered a nuisance by other family members, and Miller and Slater's (2000) male participants complained about the expense of their partners' use, even when the time was spent doing family chores.

By the 2000s, MUDs and their attendant dial up technologies (such as Usenet and chatrooms) seemed to be things of the past. Blogs were on the research agenda as the latest and most interesting web technology (Gauntlett, 2000). The word 'blog', said to be short for 'weblog', is essentially an online diary, featuring chronological entries. These consisted of a short coherent piece of writing by the owner/author of the blog, then an associated 'comment' section, where readers could leave (usually shorter) messages. There was also often a 'blogroll', or list of other blogs that the owner recommends. Much of the academic commentary was about how they brought together a range of different online technologies, from different parts of the internet, by including links to all kind of places on the internet (de Moor & Efinova, 2002, Byrne, 2004). Blog entries typically had many imbedded hyperlinks within the text, referring to other blogs, news items, and images, generating conversations across and within the blog (Marlow, 2004). Most often they referred to chronological items, by commenting on current affairs, and referring to debates that develop across other blogs. A blog is written with readers in mind, and blogs were judged by the number of readers or comments. So blogs raised interesting issues about celebrity, and the distribution of readers and writers, so we were left with the tension between a many-to-many and a one-to-many notion of broadcasting (Senft, 2005). There was also a tension between small scale bloggers who were read by no one or only a small number of friends, and the new rash of celebrity bloggers, who were often professional journalists (Shirky, 2003).

This technology challenged older notions of 'online community', which were limited to within a single web item, like a hobbyist forum, newsgroup or MUD. This new concept of a 'blogosphere' provided a more distributed network of readers and writers, which incorporated traditional publishing such as newspapers by linking to them. It also set the scene for later forms of social networking, which rely on large webs of connections. However, the research that focused around it tended to be about the technical structure of the technology, and how it created links

and closed gaps between different parts of the web. There was little research that investigated the links to other areas of offline life, or material objects. This was very much what Leung (2005) calls a film studies tradition. Within this tradition the internal logic of this new media form is examined, but not how the users experienced this new technology, and how participating in blogging related to the rest of life.

Recent Developments

By the time of writing, the increase in internet populations continues, with the latest figures showing that 78% of UK households are on the internet; the internet has become synonymous with a computer, as only very small numbers of households have a computer that isn't internet connected (National Statistics, 2011). Although this is an increase from the middle of the decade, most of the growth was in earlier years, with only 5 percentage points of growth in the past four years. Children in the home are still a significant factor, with households with children having 84% access (Ofcom, 2009). There is some suggestion that this 78% figure may be saturation point, with those currently unconnected not expected to gain access. Many of these are in older age brackets, which have much smaller percentages of coverage (Ofcom, 2009). However, the other large group of non users are those in the lowest socioeconomic groups, with cost being the other major barrier to access. Only 56% of households in C2 and DE have access to the internet (Ofcom, 2009).

So there is still a substantial group who are excluded from these technologies. And exclusion is increasing in significance. As the internet becomes more ubiquitous welfare, common services, and taking full part in the economy can require internet access (Crawford, 2011). Crawford suggests a new underclass of users who only have access to the internet through smaller devices, such as smart phones. At one time these were considered a luxury item, but have become a cheaper way to get some internet access, as more substantial technology continually stays out of grasp of the poorest sections of society. Smart phones are becoming an increasingly significant technology, with 45% of internet using them to connect to the internet (National statistics, 2011). These give a substantially different experience, as they can be used outside the home or office, for example to check maps or travel arrangements while on a journey.

In terms of activities frequently used, the overall profile has much in common with the middle of the decade, with communication and shopping as the most popular activities. But social networking has overtaken other applications considerably. 169 million hours were spent on social networking sites in the UK in April 2011, which is 2.5 hours for every person in the UK. This is a sizeable amount more than the other most popular technologies, next in line being EBay with 30 million, Google with 28 million, and YouTube with 22 million hours (Ofcom, 2011). This new profile of internet technologies, unlike many others of the past, is truly a mass medium that is reaching most of the internet population, and at this time this includes most of the UK population. Games are also an increasing trend, now totaling 8% of online time, having increased by 33% between 2010 and 2011 (Ofcom, 2011). The explanation for this is not yet apparent, but the biggest growth seems to be mini games, otherwise known as casual games, played through a web browser or facebook. Shopping continues to be a popular activity, third

after communication and surfing, with 80% of users shopping online. EBay is by far the largest outlet, followed by Amazon, Apple, Tesco and Argos (Ofcom, 2011). Large high street chains are becoming consolidated as large players in this market. There is also a growing trend of sites which are not shops, but offer services related to online shopping, such as price comparison and coupon websites (Ofcom, 2011).

As the numbers online increase, SNSs (social Networking Services) have become the new researched technology of the moment. MySpace appeared in 2004, while Facebook, one of the most discussed, was also released in 2004, but at that time was available only to select university members and other groups until 2006 when it was fully available (boyd & Ellison, 2008). These sites consist of a public profile, which can be customised by the user, and a list of 'friend' connections (boyd and Ellison, 2008). Like the earlier, previously popular technology of blogs, these are based on graphically intensive web pages with increased functionality, involve writing as much as reading, and are about making connections with 'friends' within the system, and hyperlinking throughout the web to pictures, video, news, celebrities, etc. Unlike blogs, the writing is much more brief and mundane; self profiling and short messages to friends. The notion of self-publishing and micro celebrity is less apparent. The barriers to entry are thus lower; little expertise or planning is necessary. But this is also a very commercialised experience, with a small number of big players operating for profit, selling advertising and treating their user base as a commodity to sell, both as viewers for adverts and as subjects for market research (Maitlis, 2011).

Part of this divergence is the large mass of people. This is a technology that serves very large numbers – on a completely different scale to, for example, the newsgroups or BBSs of the past, from 16,000 users of the BBSs at their peak (CIX BBS in 1994, CIX, 2012) to the over 800 million of Facebook (Protalinski, 2012). Facebook is the largest SNS, and users in the UK spend five times longer on it per week than any other single site (Ofcom, 2011). Its overall configuration and many of its features are an effect of this larger, more mainstream user base. While earlier technologies emphasised individualism, and making links with strangers, SNSs emphasise connection and having large groups of contacts or 'friends' of very mixed interests and ages, which can include friends, family, and communities such as schools, clubs, churches or the workplace. They have the capability to support and reproduce offline connections, rather than connections made exclusively online (boyd and Ellison, 2008).

SNSs incorporate some of the pleasures of earlier home pages (Wynn and Katz, 1997), which is to share personal information for an audience of friends, and carve out a personal space on the internet. Like earlier services such as Geocities, that provided a simple way to set up a homepage, SNSs make it possible for a large mass of people to enter this activity with low barriers to entry. Much of the activity on SNSs is relationship work, producing new ways of doing friendship, acquaintance and community membership (Donath, 2008). They provide new forms of messages and emailing. These are blurring the boundaries of the definition of email, by giving such similar functionality – passing messages quickly to friends – in a somewhat different configuration. This is implied by Ofcom (2011), figures which show that email use has declined by 21% in 2011, probably because of the popularity of Facebook. These new messaging systems are following the pattern of internet enabled machines earlier in the decade by spilling over into

other areas of life. So that in contrast to an older model of an email, sent from a desktop in a work environment, now a similar short message can be sent from a handheld device that is carried on the body at all times.

Much of the research on SNSs focuses on impression management and performance of friendship (boyd & Ellison, 2008). SNSs are built around presenting an 'authentic' identity, and building on offline connections and status, changing the landscape of anonymity practices by internet users. This explodes an old theme of internet research that suggested anonymity was a fixed feature which contributed to much of the productivity of the internet. This lack of anonymity has encouraged more research that highlights crossing between online and offline, and the possibilities produced from different structures of links, buttons and menus (Donath, 2008; Ringrose, 2009)

We can chart continuations of some earlier streams, however. For example the hacker ethic is still with us, and is still strongly gendered. The founder of Facebook, Mark Zuckerberg, shares an origin story of having hacker, libertarian values with many of the founders of earlier internet successes (Maitlis, 2011 [documentary]), such as Google, and more distantly Microsoft. These are stories of a slick, hip working style, with a genius hacker figure at the centre. It continues to be a macho story, of men who valorise their lack of success in relationships and family as a form of subversiveness (Penny, 2010), and jealously guard a characteristic set of geek media output, where women are not invited as full members (Hess, 2010). There seems little shift in the arguments found by Gary Alan Fine in (1983) that 'girls will spoil our dungeons and dragons'.

The kind of trolling and swamping of female spaces online that was written about extensively in debates of the 90s is still current. In late 2011 a scandal broke among female journalists authoring blogs for large news companies, as they began to speak out about the overwhelming levels of harassment they received in those spaces (Thorpe & Rogers, 2011). Many writers revealed the scale of messages they receive, often extending to offline contexts and 'third party stalking' (Adam, 2002), publishing of personal details such as home addresses online, and threats of rape and violence (Lewis-Hastely, 2011). These reports are eerily familiar from the early days of women only spaces produced online (Evard, 1996; Madden, 2003), and demonstrate that there is nothing particular about these new technologies that protect women from traditional sexual harassment. It is more reasonable to argue that it is magnified by the anonymity that perpetrators can maintain, while journalists place themselves in the public eye.

Of course it's always more difficult to characterise recent developments, and some of the big themes are becoming more diverse. Several authors from all eras (Hine, 2001; Buchanan 2009, Dreyfus, 2001) mention the significance of the internet being in negotiation – we can't yet aim to have a settled notion of what it is. With the completion of this thesis, the internet is approximately 15 years old (1995-2011), and the popular internet even younger (perhaps 2000-2011 in the UK), with many internet users very new to this space. For this reason no research can offer a definitive account, and so this flexible quality of the internet must be included as part of an understanding. Perhaps the internet will be a set of technologies that continues to proliferate and change at the vanguard of technology. So in that case, one of the few conclusions on what the internet is that can be drawn from this historical account is that any research work will be capturing a snapshot of this shifting landscape.

At this point we can relate the development of the internet over this time to the history of some other technologies. As a technology in the home that has implications for leisure and communication we can compare it to the telephone or the television. These have both moved into the home and people's lives by circuitous routes, with, much like the internet, sticky threads into perhaps unexpected areas. Many of the earlier themes, such as utopian predictions, are common to many other technologies (Frohlich and Kraut, 2003). We can also see a clear shift from the more exotic, to the mundane. New technologies, it seems, always promise more than they can deliver (Ellis, 2000). Rather glamorous research themes of the past, such as innovative identity play, and suggestions that our subjectivity was shifting, have given way to the more every day, where technologies such as Facebook are used to plan cinema trips with friends. It is beginning to share mundanity with other household technologies such as the television or washing machine. We can compare the movement of hardware to that of television, which began life as a fantastical experience, given pride of place in the smartest room in the house, and slowly filtered into multiple rooms and children's bedrooms (Morley, 2006). A similar shifting in the location of computers in the home can be seen. While computers were originally used for specialist, solitary activities they have increasingly penetrated into everyday activities, with a proliferation of tasks performed, including sociable usage by a family together, where the space round the computer can become 'overloaded' with activities that would otherwise be distributed around the home. (Frohlich and Kraut, 2003)

Conclusions

This short history has attempted to chart the changes over time in the internet as a technology. Alongside this there was also the history of the computer itself, a slightly longer one. The internet of today is an assemblage of what, two decades ago, were completely distinct technologies. This swift change over time means that a theorising that takes into account the historical change is necessary to understand this technology, and the literature that examines it. The internet of today is a very different entity from that of 1998. The range of modalities where this difference has happened gives us a sense of how the internet is constituted in a complex array of different technologies. In this time the software environments available have shifted enormously, from text based systems founded on chat and typed descriptions in the past, as a context for socialising, to social networking systems today. The hardware is different, with broadband bringing us much more graphically intensive experience, with far more interactive actions, and computers themselves transformed from large, difficult to use machines, into very small devices carried on the body. These have created different configurations and a very different culture, including greatly reduced barriers to entry such as cost and level of expertise, which in turn has brought very different users. In the past these were expert hobbyists and professionals, while today the technology is accessible to a diverse range of groups. These have produced different ways of using this technology, and different ways of entering people's lives, as well as increasing its importance and place in society as a whole, with concurrent changes in its appearance in popular culture. This means that those who are excluded are beginning to experience greater hardship. But it's important to note that each of these parallel sets of changes are necessary in order to understand the movements. This highlights that in order to

make sense of the internet, we need to see and examine all these parts. The internet is not a simple technology, made up of a discrete set of software and technology, as some commentators have argued. It's an assemblage of all of these parts, which come together in specific configurations at each historical moment, and indeed in each moment of use as particular users bring together the set of machines and social conditions that are available to them.

Changes over time in what the internet is, have coincided with changes over time in the concerns of researchers, and in the theorising that is possible. So a historical perspective is also necessary to make sense of this literature. As different platforms became popular, they suggested different possibilities for subjectivity and gender, and therefore particular theoretical understandings. The MUDS of the early years, these suggested very different ways of doing femininity than the social networking platforms of today, with different implications for authenticity, anonymity and the use of the body. The literature has also progressed with particular influences, in part due to the key movements and players in technological development. The internet has rarely been considered in full social context, nor has the significance of the internet in user's lives, and in the population as a whole, entered mainstream debates. These technologies have often been seen as disembodied, and rarely been considered in terms of experience or part of embodied practice. Enthusiasm in the early years led to inaccurate descriptions of online technology, with metaphors taken to be a complete story, or specialist online spaces becoming analogised to the whole internet. I argue that these are a result of a struggle to make sense of particular moments of internet configuration, and can be addressed with a historical account. Later technologies undermined some of the significant debates in earlier moments of theorising, such as SNS's complete lack of anonymity, and reliance on offline friendship networks. In spite of all these shifts, we can see that women have had problematic access to these technologies, and also the expertise that animates their usage. Gender has at times been treated as irrelevant, but as time goes on it has become clear that many of the relations of internet use are gendered, from how language is used there, to how machines are shared in household, and how internet access is distributed across the population. In particular, many key issues that constrain internet use are also traditionally gendered areas, such as work and leisure, material issue, expertise, and use of language. We require a rich, relational notion of what the internet is, in order to capture the richness of how gender emerged in these relationships. This research aims to address some of these issues. It will use an innovative set of methods and approach to address what the internet is as an entity. I will be researching ordinary users, and looking at the internet within wider life and everyday projects. So here we have seen the internet in its historical perspective, and reviewed some of the approaches to social research of this elusive technology. The following chapter will explore research methods for this project, informed by this account. The aim is to find a research design that addresses the full complexity of the internet as it appears in use, and particularly to explore women's patterns of usage.

3) Methods

This chapter seeks to do two things. The first is to clearly lay out the procedures that were used in collecting data for this piece of research. The second is to tell the story of how this research design, and set of methods were developed, and to evaluate their usefulness. This project set out to explore questions about how a small group of women relate to the internet, but also to investigate how best to approach researching the internet. As we have seen in the previous chapter, the internet is a sprawling and amorphous entity, which has changed rapidly in its short history. Different eras and research paradigms have produced different conceptualisations of what this entity is, and what kind of research focus can best capture it. Debates about how to delimit a research field (Beaulieu, 2005), or what should be the unit of analysis (Schneider & Foot, 2005) are ongoing. This project aimed to understand the internet, not only in the context of a rapidly developing technology, but also in the action of everyday usage. I wanted to find a way of researching this shifting, moving, internet as it exists in the lives of particular individuals.

This research approach is an unusual one, but it brings together several streams of research tradition. In the history of technology and media research, Wajcman (2000) argues that researching technology in use is particularly suitable for exploring the silent stories of women's relationship to technology. This has been used to powerful effect by Janice Radway (1984) in researching romance novels, or Ann Gray (1992) on the VCR. This approach particularly suits study of the internet, which is a very interactive technology, whilst at the same time is deeply intertwined with other areas of life such as home, expertise, career and emotional life. Researchers of online games are calling for the importance of seeing the online space in terms of action and interaction (King & Krzynska, 2006) rather than inheriting the notion of seeing it as broadcast medium from film and television theory (Leung, 2005).

For internet research, many different ways of slicing this technology, or constructing a research field, are in currency. The most popular of these is to examine a particular subculture or locale online, for example Sunden's (2003) research in a single MUD, questioning how gendered bodies are constituted there. But increasingly researchers are unsatisfied with locating this field entirely

online, and call for research to seek out and meet participants for face to face methods (Robinson & Schulz, 2009), such as Kendall's (2002) research on masculinities, which takes her out of the MUD to participate in local meet up groups. Others seek to find ways of combining the offline and the online, such as Miller & Slater's (2000) ethnography which takes a geographical community as the field of study. Or still others who examine how the computer and internet are located in the homes of users (Bakardjieva, 2005). Some have called for a research design which follows individual users and charts their path through a range of online settings (Rutter & Smith, 2005), as it has long been noted that each individual creates their own internet through the selection of websites they make use (Postill, 2008). This approach is popular in other complex technological spaces, such as Latour's (2005, 1996) examination of scientists in action, where he calls for us to follow and make sense of the life worlds of actors.

To address the research questions

The research questions, as introduced in first chapter, are repeated here:

What do women do with the internet, day to day, and how is it integrated into everyday life and wider projects?

In this context, what is the internet, and what are its significant characteristics and modalities (in terms of discourse, bodies, practices, texts, flows, emotion?)

What are useful methodological approaches to understanding such an entity?

How does this internet operate productively, and how is gender constituted in relationship to it?

The intention in discussing them here is to refine the demands of these questions from theoretical concerns into concrete methodological guidelines, which can be used to shape a research design. As the aims of this study are to produce an innovative understanding of the internet, and explore a range of approaches towards a way of thinking differently about the internet, these are necessarily somewhat speculative and flexible. Indeed, interrogating the methods and design themselves is within the scope of these questions. A pilot study was used to refine this scheme, and is discussed below. Despite that, several elements of the design were developed and finalised in practice, with later cases drawing on the findings of earlier ones to refine the method. This is discussed below for each element of the design in turn.

The requirements of these questions divide into two broad parts. The first of these is to chart the nature of women's internet usage. This has been approached using two key principles, the first is to take Seale's (1999) argument that a qualitative piece of research should not fear counting and cataloguing when that progresses the aims of the research. So here I interrogated the set of technologies used, for what tasks, and in what schedules. These have been augmented with the simple phenomenological method of rich descriptions (Csordas, 2002; Ahmed, 2006; Latour, 2005), a method that operates to bring the ignored within the scope of analysis. The second part required by the questions is to make sense of the relations we enter into with the internet, and ask how this complex assemblage of the internet operates. And then to ask what areas of this system are productive of gender. This required a package of different forms of data,

to give rich detail about the participant's experience and use of the internet. This was influenced by the tradition of case study methods to give depth rather than representation (Dukes, 1965; Stake, 1994), and to prefer what is particular about a given case. It also drew on the tradition of ethnography, for the notion of gaining immersion into the lives of the respondents in the collection of research materials, reflecting their everyday life (Fetterman, 1989), but also a rich sense of its context and linkages with the whole life world (Stewart, 1998).

In order to investigate how the internet is used, this design attempted to be an approximation of a fly on the wall who can observe women's internet use in a completely natural setting. The intention was to examine experience, with the full affect of the room included as part of the recording. This was achieved in Walkerdine's (2007) work on children and videogames, where the children were filmed in an afterschool games club as they took part in playing the games, capturing the full action including the social negotiation of sharing and competing with others. But for adult women's use this kind of captive audience was not possible, the important moments would happen unexpectedly at different well spaced moments and locations. But this bundle of data collection methods aimed to deliver a similar kind of recording, a sense of the action as it happened, and a 360 degree view of all the modalities and formats where internet use took place.

This required an experimental use of methods to struggle to capture experience, affect and movement. One element of these was the notion of grappling with data, to find a way of thinking differently about it (Latour 2005, Haraway, 2008, Walkerdine, 2007). This suggests that the final piece of research will always be about working towards these ideals, rather than a finished product that fully achieves them. The key concrete method that allowed this grappling was description. Rather than prioritising analysis as does much social research, this project prioritised description and the concrete, in line with a phenomenological style of enquiry. This style, originating with Merleau-Ponty, and worked by those such as Latour (2005) and Dreyfus (1992, 2001) also suggests a style of writing that uses story-telling and evocative descriptions of events and thought experiments to write social research, and draw the reader into an embodied understanding of theory. This required capturing the full range of spaces and modalities where internet practices took place. This included the text on the screen, but also the placement of bodies and objects, and how these moved in action. To capture the full richness of internet use, and to avoid the pitfalls of a disembodied story, complexity and use of bodies was prioritised. The methods gave a range of different views and levels of the internet, in each of the different layers or folds that it operated. So the methods used explore the range from online to offline activity, and between embodied and material, through to text and talk, considering action and experience. Each additional method adding a modality or level to the picture.

Here I took a women's studies approach, by researching the detail of women's lives, without a particular concern for gender differences or how it related to men's internet use. Women's internet use is of particular interest for several reasons. As we have seen in the previous chapter, women have always had problematic relationships to technology and expertise, often they are excluded at a structural level. But of relevance to the tone of this research, expertise with technology can be damaging and risky to performance of femininity, as it is so powerfully associated with masculinity (Wajcman, 2000; Stepulevage, 2001). Women's usage is therefore

fraught with extra complexity, as a negotiation needs to take place between confident usage and its troublesome character (Walkerdine, 2007). Studies of the internet, as with other areas of social research, have focused on the higher status areas of cutting edge research and new inventions, rather than more mundane detail of everyday use (Gray, 1992; Sunden, 2001); it is here in the everyday that the full complexity of gendering of these technologies was revealed (McGerty, 2004). For this reason women's internet use requires the kind of fine detailed examination I am offering here.

This study used a small group of participants, with data drawn from five individuals. The emphasis was on creating a detailed set of data for each participant, and understanding of the set of relations that produced the internet for them. This study therefore does not claim to be representative of any population, nor to investigate frequencies or distributions. Instead the aim is to uncover what is possible, and what kinds of arrangements are possible (Seale, 1999). All we can claim to know as a result of this research is that these particular ways of using and experiencing the internet have happened for these particular respondents, and to gain some understanding of how the context and formation of these internets operates. It examines what becomes important, which parts link together, and the detail of how that happens. In the spirit of corpus construction (Bauer & Aarts, 2000) variation was sought in this group to show the greatest range of internet experiences possible.

Pilot studies

This project sought to explore innovative ways of researching the internet. This requires a complex design, using several methods to address the different modalities of internet use. Particularly it aimed to capture embodiment and movement, which are notoriously problematic to investigate. Therefore a substantial set of pilot studies were carried out, to test run several of the methods. The function of these pilots was to test out how to execute each of these methods, including communication with participants about some of these methods. They were also to confirm what form of data would result. These pilot individuals inevitably influenced not only the final research design, but also the set of knowledge and information I had to conduct the final analysis so cannot be seen as entirely separate from the full study.

In order to meet these research aims the research design required several elements. It needed a range of methods that investigated the different modalities of internet use. These were required to catalogue and list the quantity, timescale and range of technologies used. It also needed to tap into how the body was used in practices around this web use, to examine the sets of machines and objects that were used, and how the body was used around these objects as they were used in action. It also needed to examine the richer details of the experience of this internet use, by enquiring into the detail of these practices, and the meanings and emotionality of internet use.

As the pilot studies began, it was suggested that the first part be an audio diary, to catalogue the range of websites and technologies used, and to allow participants to make a auto-ethnographic representation of their own use. It was planned that this was followed by an interview to

explore discursive elements and complexity in this use with an accompanying tour of the site of internet use to photograph the material elements of internet use, arrangements of objects, furniture and rooms that were used, as well as some of the possibilities those space open up. The final contact with participants was an online interview touring participant's regularly used websites. This information was then used by the researcher to explore and participate in the websites.

Three pilot study participants were recruited. One was an expert on social research, who carried out the full research design as planned at the time, consisting of an audio diary, interview, photographs of the home, and then observation of her most used websites. The others were acquaintances of the researcher, who were recruited to further test out problematic areas of the procedure. These extra participants took part in the audio diary, photographs and online interviews. During this work many different methods of transcribing, summarising and coding were experimented with, particularly for unusual data such as photographs of machines and rooms.

The pilot study gave a clearer sense of the kind of material that could be achieved from each of these methods. So the content of each section of the design was altered, addressing particular parts of the research questions moved into different parts of the research. I particularly wanted to get a clear picture of the set of websites participants were using, and some quantitative information on the amounts of time used. Initially I had hoped a face to face 'tour of websites' interview could provide this, and tried that with Hazel, the first respondent. But the talk produced proved too lengthy, without giving the structured material I had intended. In the final design this list was initially derived from the audio diary, and then supplemented with more detailed talk in the interview, and then a more focused exploration of those sites during the online interview, in an 'online tour' method I developed in a pilot with Katy.

The audio diary proved to be a far more interesting text than I had first expected. Initially I assumed that it would gather mainly quantitative information (Carter & Mankoff, 2005). In fact the accounts were unusually intimate and emotional, with each of the pilot participants making recordings about emotional and upsetting events or feelings in connections with some part of their week's internet use. The procedure of the audio diaries was the most problematic section of the pilot, in that the small amount of instructions participants received made a large difference to how comfortable they were making the recordings. Communication beforehand was flagged as a substantial issue, as was deriving clear and concrete written instructions that participants could return to during the week. My final version featured very concrete instructions (see Appendix for copies of these documents) including a list of elements to include in each recording, such as time of day and length of time the internet was used for.

The pilot as a whole highlighted that three different kinds of 'talk' accounts were generated by this design, the audio diary that participants recorded alone and with a limited amount of guidance, a quite traditional, loosely structured face to face interview, and then an online interview. These had very different tones and styles that required a different approach to clean, code and analyse. The online interview, particularly with those who were experienced IM users, produced a very different approach to the material discussed, and a varied use of language. Each of these types of 'talk' had different language qualities. The audio diary accounts, although rich

with activity, tended to be quite short with participants not including as much detail as in an interview situation where they would have had constant prompting. The online interviews were briefer again, in that typing was much more labour intensive, and requires considerable motivation to make any particular utterance, which leads to slow progress and short messages.

Each of the interviews required a different style of interviewing than I had done in the past. This was particularly the case for the online interviews. This type of interview required matching my style to the respondents' style, copying the amount of online slang used (such as emoticons and abbreviations), and the amount of familiarity with orienting towards websites whilst talking about them. I also matched my speed of typing and responding to theirs. This required a specific style so as not to bombard participants with questions, or ask additional questions while they were answering the first. Similarly this method gives very little opportunity to prompt or reassure participants where there is no pre existing relationship. For the face to face interview, with most of my experience in much more formal semi-structured styles, I was surprised to find that some participants became tired, and it was impossible to continue the interview beyond an hour in length. The tiring quality of the interview complicated negotiation around taking the photographs. It was difficult to communicate my intention with the pictures, and thus it often felt uncomfortable or invasive.

During the pilot I also developed ways of summarising the material, drawing out concrete or quantitative portions, such as the detail of websites used, but also the physical characteristics of objects such as computers and desks, which were derived from the audio diaries, photographs and field notes. The final sets of transcriptions used are described in the following chapter where I discuss analysis.

Research design

The final research design consisted of a range of methods, each performed in a different modality, to capture a different element of internet practice. Unlike the traditional argument for conducting research both on and offline, to confirm authenticity (Correll, 1995), this range of approaches was to give an in-depth understanding of the experience of using the internet, and what it becomes as it was used by a particular respondent.

The research began with an audio diary. These diaries were conducted for approximately a week, by the participant in their own home. They made a recording for each session where they used the internet during those days. Participants were instructed to include a full description of the technology (both online and offline) that they used, including time, duration, tasks performed, and feelings. This element of the research gave a concrete cataloguing of the internet activities that were done over this week, and also a rich narrative account from the respondent. This method particularly captured chronology in the use of the internet, but also a dimension of action and affect, as recordings were made while the internet was in use.

This was followed by a visit to the participant's home by the researcher. This visit included a semi-structured interview, photographing of the home and objects relevant to internet use, and participant observation of this space. The interview focused on material and space, asking about

all the objects in the house that contribute to internet use. The particular richness and efficiency of interview methods to gain information meant it could be used to deepen emerging findings from the earlier part of the research design, and ask about the history and the context of their internet use. Photographs captured the set of objects and rooms associated with embodied practice around the internet. The visit overall contributed to an understanding of the embodied practice each participant used, and how the internet fit into their wider every day activities.

The final contact with participants was an online interview, using an instant messenger programme. This interview focused on the set of websites and web technologies each participant used, and the paths through which they navigated them. The interview consisted of a 'tour' of their favourite set of websites and regular routines, such as checking email and news in the morning. The participant cut and pasted URLs to the researcher to allow her to view the pages as they did, and to continue to click and follow links to emulate their passage through them. This confirmed, and enriched understanding of the list of regularly used websites that was originally developed with the diaries. Later the researcher returned to these sites to explore them alone, gaining a deeper understanding of the possibilities of each online space, and the significance of the form of use participants made of them. Both these methods brought a deeper understanding of how online technologies were used, and the profile of activities each participants did there. The rest of the chapter will take each of these methods in turn, describing each procedure in full detail, and giving a discussion of the function of each method within the design.

Participants

For this research, as with much internet research, the selection of the respondent group was paramount, as its character determined what part of the internet we were looking at (Bakardjieva & Smith, 2001). This is an effect common to any deep ethnographic style methods, where the nature of the sample constrains what areas of interest will be accessible, so it must be designed with the research questions in mind (Fetterman, 1989). In this case, the aim of the selection was to narrow the definition of 'woman' to a meaningful group who would share some characteristics, while also representing an everyday group of women, who would appear somewhere close to average, rather than the extremely high or low users of other mainstream internet research designs (Mackay, 2005).

A small group of participants were recruited, following a design that emphasised a detailed account of a small number of women's internet usage, rather than a representative group. This research had five participants, who each took part in a multi stage piece of research. The age category of 25-35 was selected. Following a particular age range is important for internet research, as there is a strong historical dimension to the appearance of the internet. Computers and the internet have appeared in homes, schools, colleges and workplaces at characteristic moments over the past thirty years (Selwyn, 2002a), so each generation of women will have had a different experience of encountering the internet, and it's desirable to have a cohort who have experienced a somewhat similar time frame. This age group was selected as they represent an era of considerable change, as computers and the internet have entered common usage. They

were likely to have been introduced to computers at school, the internet during early twenties, and to have used internet technologies in work contexts.

The participants were all mid-range users of the internet, in order to be relevant to a variety of literatures. I hoped to span online only literature, which typically investigates very high users (Mackay, 2005; e.g. Kendall, 2002), and policy and applied work looking at large populations, which on considers very low and non-users (Gorard, Selwyn, & Madden, 2003; Bakardjieva, 2005). Although the concept of level of use is rarely discussed, it makes an enormous difference. For example, much research picks up on a hacker culture, which has received much criticism from feminist writers (Wajcman, 2004; Borsook, 2000), or those such as T.L Taylor's (2006) 'power gamers', who are particular hobbyists, using the internet with specialist interests that are unlikely to enter the mainstream. Often these high users are made to look every day, such as those in Kendall's (2002) Virtual Pub, who use the internet to socialise every day; this is an activity found to be very rare by population studies such as Gorard et al (2003). At the moment this study began, in the mid-2000s, internet use was exploding (National Statistics, 2011), and a very different population was coming online. These were more average people, and the internet was therefore becoming a mass media akin to TV and newspapers. This study aims to capture the activity of these more mundane users, rather than that of hobbyists or early adopters. Although all could be described as middle class, there are a range of positions within that, with roughly half in affluent professional roles, and half in more precarious semi skilled work. Participants were drawn from towns in South Wales, a large English city, and London.

Using corpus constructing principles (Bauer & Aarts, 2000), I sought variation in household membership and the family that the participants lived with, aiming for a range of household makeups in terms of partners and children. This was to address a problem with the literature, that much talk on femininities is dominated by the significance of childcare, and I wanted to examine other elements of femininity, so included single women. In much of the literature explorations of femininity is reduced to childcare and the role of children with computers. Here we see the how the roles of wife and mother are played out in relation to technologies, with women's roles as mother contributing to other ways of engaging with computers (Consalvo and Paasonen, 2002). When women are involved in childcare the perceived importance for children to have access to computers and for general computer literacy (Hynes & Rommes, 2006; Facer et al, 2003) can lead mothers to sacrifice their own use and interest in computers and the internet to prioritise their child's access. While this is important and interesting research, I wanted to explore other ways of performing femininity in relation to the internet. The group contained a range of variation in household make up generally, with a mix of women who were partnered and living alone.

Lucille	lives with male partner
Sally	lives alone
Bailey	lives alone
Amy	lives with husband and child under one
Helen	lives with husband

Table 1: Makeup of household – full study

Participation and access

The original research design intended to contact participants online. During the planning stages of the project I participated in several online spaces to investigate accessing participants. These were selected as areas that offered a range of different positions to perform femininity from online. This followed Kozinets's (2010) approach, to gain familiarity with, and brave the barriers of entry to an online space before seeking participants. However, this method proved very ineffective, with only a single participant contacted in this way.

The first context I participated in was a MMORPG (Massively Multiplayer Online Role Playing Game), a form of game that is said to have evolved from the earlier MUDs. I played both World of Warcraft and Dungeons & Dragons Online (Madden, 2009). Here I spoke to two female gamers who were prominent in the community, AdventureStar and Elegance. Although I played extensively with Elegance over a six month period, and had several online methods of contacting her, I was never able to move the relationship to email or telephone. I extensively advertised and searched on Live Journal, a blogging community site I had used for several years, and began an extensive email conversation with Doglover during the pilot phase, but although she lived locally we never took the relationship to telephone or face to face. I also advertised on an adult dating site, and developed email contact with four people. One, Lauren, gave me her MSN contact details, and we had an Instant Message conversation during a chance meeting there. But that was disastrous – it was unclear whether she felt it was an interview or a dating conversation with teasing and flirting, where she eventually left unexpectedly. Bailey eventually became a full participant, but never gave me her main email address, or home address, collecting me from the train station when I visited her home, and contacting me only on an email address she intended to delete when the project was completed. The two others, FluffyOne and CurvyGirl never gave me any further way to contact them besides the websites system.

Finally I contacted two participants through work colleagues, Denise and Emily, who exchanged several email contacts, but eventually did not take part. One made several appointments that eventually were cancelled due to health problems. The other, who met me face to face for an initial conversation about the project, had a relationship breakup just before the study was due to start and so couldn't take part. Denise introduced me to Lucille as a suggested replacement for her in the study.

At first I was puzzled by the nature of these difficulties. But it became clear that I was not alone, and many other researchers using a multi modal approach to the internet, and trying to bring online contacts into offline methods, had struggled. Some discuss of the difficulty of building a research relationship in an online context (Kivits, 2005), particularly in spaces where anonymity is expected (Kovitz, 2011), which applies to all of the websites I mentioned above. Many spaces do not have a customary way to move relationships from the online to the offline (Orgad, 2005). In Orgad's (2005) research, she found not only did those who took part in email interviews rarely agree to a face to face interview, but for those who did it was often a challenging encounter. Many participants spoke to her in a very different tone, often far less confidently than when they had communicated online, and it was clear that the face to face interview was asking the participants to expose themselves new levels of intimacy fresh level of exposure to those who

had met her online. These customary strategies of not moving relationships into the offline are particularly pronounced for women. Those such as Elegance, who were local celebrities in their online communities due to the small number of women in this very male dominated context, have strategies to avoid harassment by refraining from giving their personal details to others they meet in the game. I hoped that a professional looking Cardiff University website would solve some of this problem (Rutter & Smith, 2005) - a copy of the website I used can be seen in the Appendix - but most of those I spoke to didn't seem interested in it; it certainly had no effect on the strong tendency of those I met online to not offer their contact details. The difficulties I had presenting myself as a serious researcher meant, that in contrast to the traditional concern of feminist research to create an informal research relationship (Oakley, 1981), I found myself struggling to construct a professional relationship, avoiding ambiguity about my sexual interest, and minimising the intrusiveness of my requests to make contact. This problem is avoided by much internet research and ethnography, as the dominant paradigm does not make the leap from an online to offline relationship (Robinson & Schulz 2009; Mann & Stewart, 2000). Some studies have offered participants immediate online interest, with such things as discussion lists on topics of interest to the population (Williams, 2006), research groups rather than forming a one to one relationship, never ask for offline details (Sunden, 2003) or make offline contact only as part of an informal group meeting, and not as one to one contact (Kendall, 2002).

There were also a large number of participants who seemed happy to make contact, but could not commit the time for an offline interview and were reluctant for a recorder to be sent. Although all had hectic life events at the time, I realised that the detail of this design requested a large commitment from participants. The demands of the research question required that I enquire and record internet use in many modalities, to produce a detailed and intimate portrait. But this meant each phase of the project asked participants to reveal and expose a fresh element of their internet use, and in turn their life, to the project. The earliest phase, the audio diary requested the participants to produce a diary in their own time, while caretaking a valuable piece of recording equipment. Research in such a diary tradition made Pinie and Walkerdine's (2011) participants intensely aware of being watched. This was followed by a visit to the home, which I photographed in a way many participants appeared to find invasive, and finally on online interview that Kivits (2005) argues requires a far more motivated participant than a traditional interview, with the respondent making time to meet the interviewer online. Indeed, only three of my original five participants went on to take part in the online interview, with one of the others making many appointments and breaking them. One of those who was interviewed had to leave the interview partway through due to a home emergency, and we resumed later.

For the final recruitment, participants were accessed by a variety of methods, largely snowballing. One, Bailey, was contacted using an online advert as originally intended, while most were contacted originally via networks of friends and colleagues. Amy was contacted through a friend, and then suggested Helen, a friend of hers. Lucille and Sally were contacted through colleagues. This resembles Kivits's (2005) experience; she originally scheduled three months to conduct her research, but eventually took a year, with most of that time spent using a snowballing method to access participants, and build relationships.

Audio diary

The audio diary was the first part of the research done by participants. Previously there was a brief telephone call to discuss the overall intention of the study, and issues of consent, and to talk through the diary and explain the instructions. Then a pack was sent in the post, with the recorder, information sheets about the project, consent form, and instructions. The instructions consisted of one sheet explaining the whole procedure, and two reminder sheets small enough to fit inside the recorder's jacket. These comprised a list of the elements to include in each recording, and instructions for using the recorder. Copies of these documents can be found in the Appendix. The recorder was a small digital audio recorder, with simple controls. It was contained inside a small plastic jacket, which included a microphone and headphones. The recorders had much more functionality than was used for the diaries, and this became an issue which will be discussed later. Some participants chose to use their own recorders and provide me with their diaries copied onto a CD.

Participants were asked to try and complete a week of diary. Although this was initially thought to be a long period, all the participants gave at least eight days, with most doing more. They were asked to make a recording each time they used the internet, describing what they were doing, describing their activities in enough detail that someone who knew nothing about them would understand it. They were also given a list of details to include in each message, and these are listed in Excerpt 1, which is a copy of the summary sheet that fitted inside the recorder's jacket. The full instruction sheet included a more detailed descriptions of each item, and example questions that could be answered in the diary entry, such as "How is [this computer] good or bad in comparison to other machines you could be using? "

In each message:

- Time of day
- How using it at this time fits into your day
- Where you are, and if applicable what machine you're using
- What websites are being used
- What tasks you're doing
- Some idea of duration
- Mood while you're using it, and any emotions that come out of what you're doing.

Excerpt 1: Summary sheet to keep inside the recorder

The function of this method, and its contribution to the research questions was to build up a sketch of the patterns of technologies participants were using. This was to include details such as the sets of machines used, a profile of websites, and what tasks or activities were performed. This data had a particularly chronological dimension, so that it gave an indication of the distribution of internet use throughout each day and the week as a whole, the amount of time

used overall, and the amount of time used for particular kinds of activities. A diary gives particularly concrete reporting of this kind of counting data (Corti, 1993), as recordings are made immediately that an event takes place. This means they can be rich in both experiential detail and accuracy of reporting, as this takes place whilst the events and timings are still fresh, thus avoiding reliance on memory (Auriat, 1993).

The texts produced by the audio diary can be compared to a semi-structured interview and are structurally rather similar. They are long stretches of talk by the participant on a small number of topics, with the participant elaborating as they see fit. The topics are responses to stimulus from the researcher, with the participant tasked to find a suitable response and speak it. This means they can be analysed as similar kinds of texts.

This provided a discursive dimension that addressed the participant's construction of these topics. Several elements of this are of particular interest to this project. The first of these is to tap into a rich context on how the internet is being used, with detail on how it fits into other tasks and activities across the participants' day. Another element of this was the detail of the emotional life of participants, and the role the internet plays in this. These diaries give a particular intimacy, as recordings are made alone and to the participant's own timescale. A final feature of the diaries that meets the set of questions this project was addressing, is their capacity to capture action, as recordings are made during, or interleaved with events, with some action either included in the recording, or during a pause between the recordings, followed by some dedicated talk explaining the activity after it's somewhat complete.

The richness of this data in relation to the research questions meant that two separate approaches to analysis were taken. The first was quantitative, using Seale's (1999) argument that counting is a method of describing in detail that should not be rejected in qualitative research work. The data was coded and transformed to give simple counts describing every element of each diary. The complete diaries were reduced and summarised into lists of the activities performed and the distribution of these activities in time. These descriptive sets of counts will be discussed in the following chapter. The diaries were also treated as a narrative or discursive text, and combined with interview accounts. These were analysed particularly for action and use of the body, using analysis methods which will be discussed in the following chapter.

Audio diaries were chosen as a method with several antecedents. The first of these is interest in autoethnography and telling the self. These add a voice besides the researcher's as the author of the material, disrupting the single author nature of a piece of research (Reed-Danahay, 1997). These participant voices are particularly useful here, because I am interested in experience, and therefore a rich and personal account of each participant's experience (Kennedy, 2005), autoethnographic approaches are particularly recommended to approach phenomenological concerns with experience (Aspers, 2004). The process of making an audio diary also draws on literacy with reality TV and ways of narrating the self. It was anticipated that participants would have a comfort in this style of talking and recording that analogised to television formats such as video diaries (Pini & Walkerdine, 2011; Stephanone & Lackaff, 2009). Autoethnographic methods that take material produced by participants in their own style are most common in the photo elicitation model (Radley & Taylor, 2003; Mitchell & Allnutt, 2008). Here participants are asked

to address a topic through photographs. All of these methods of storytelling are alternatives to a need to write, allowing participants to express themselves in an accessible way, that doesn't rely on literacy or solely on representative language use. The audio diaries also draw on the more traditional method of paper diaries, allowing time bound activities to be recorded in a concrete way (Carter & Mankoff, 2005).

These diaries had several substantial differences to an interview narrative. The researcher is not present while the material is generated, the participant is alone, and they are situated in their own everyday context. This means they are making use of their machines, space, and scheduling under their own motivation. This is a very differently situated and embodied position than an interview (Csordas, 2008). This is not an intersubjective account, generated in a relationship with, and co-constructed by the researcher (Stopford, 2004), it is one produced alone. The stimulus, rather than a set of questions or remarks made in chronological order by a co-present interviewer, that build on what the respondent has said, is a static set of instructions that remains the same throughout the several days the participant is using it. This highlights several interesting issues of the effects of co-presence in interviews. The narratives tend to have a different flavour. With the participants having more opportunity to interpret the instructions in their own way, each audio diary was quite different. Some participants interpreted the instructions quite formally, and included each detail they were asked for rigorously and briefly, while others emphasised their own talk, and took lots of time elaborating on details of interest to themselves without giving much context for the researcher's understanding. As recordings were made over a series of days, the participant may take up different subject positions across the diary, as discussed in Pini & Walkerdine's (2011) research. For example Amy presented as efficient and formal in her interview and for most of the diary, yet on one evening made a series of recordings where she was emotional and sad. This excerpt is considered in more detail in the next chapter.

The lack of co-presence has a few effects on the kind of texts this method produces. Another recognised difference is that the diaries can include very intimate and emotional content (Pini & Walkerdine, 2011). Recordings were made throughout the day and night, across a range of situations and moods for participants. In this corpus particularly intimate recordings were associated with recordings made late at night, when the participant might be tired, cold or emotional, and spoke more candidly than they were willing to do in the necessarily more formal interview situation. This is also related to having been able to make recordings in the moment, as events were unfolding around them. Recordings could be very raw and unrehearsed as the participant described current feelings and situations. This gives us an account that is also very concrete and contextualised, as demanded by such approaches as Hollway's (2000) narrative interview, or phenomenological description.

The chronological nature of the diary recordings, with each recording made in sequence, produced a set of timings that mirrored the participants' use of the internet. In this way the body of data was particularly rich in terms of time and chronology. The scheduling of the data was under the participant's control as they made the recordings (Carter & Mankoff, 2005), with the times of day, lengths of record, and level of detail fitted to the story they were telling. The recordings also had a striking concreteness (Corti, 1993). Most of the recordings in the corpus

were begun and ended specifically to report a particular incident of internet use, and this is described clearly, with the recording ending promptly. This meant the recordings were very specific to that moment, usually just as an activity was completed, or even during it. Thus they are richly contextualised, giving a sense of the full detail of the experience. They are unusually free of analysis or a sense of distance as other forms of talk might be.

The immediate nature of recordings gives a strong sense that audio diary narratives are capturing something beyond the representational talk of traditional interviews. This is something they share with elicitation and autoethnographic methods using more visual media (Pink, 2004). The diaries have content that is not purely verbal. The recordings explicitly bring together talk, actions, the immediacy of being and acting, and thinking on the spot. The participant spoke and recorded as she was engaged with the events and practices. Participants recorded events as they happened, capturing the timing and the form of that event (Carter & Mankoff, 2005). The recordings were thus capturing a more affective, detailed slice of that moment than the kinds of talk produced in an interview situation. This is necessarily a fleeting and rather delicate kind of record, which needs careful reading practices that will be addressed throughout this thesis. But I would like to argue that audio diary texts present a particularly useful medium to discuss embodiment and the material of internet use.

However, several elements of this method undermine the arguments that the researcher's hand is not present (Pini & Walkerdine, 2011). The content of these recordings contained reminders of how the influence of the researcher colours and inhabits all the talk that is produced in interviews. One element of the instructions I gave to participants was particularly misjudged. Alongside quite quantitative information I asked to be included in recordings such as 'time of day', I also asked participants to talk about their mood as they used the internet. Several participants therefore discussed emotion and mood in ways that were discordant with the rest of their account, sounding uncomfortable as they spoke. Others tried to include 'mood' as a quantitative type category at the start of each recording alongside information such as 'time', and then didn't discuss it in more detail afterwards. This excerpt is taken from Helen's audio diary, and demonstrates a discussion of her mood that entered a dialogue with these instructions. This excerpt is rather awkward and uncomfortable in comparison to the rest of the recording, as Helen described her mood as 'normal', and struggled to provide some content in answer to my request, even though, as she says, 'there was nothing'.

And I think that's it. My mood's just [laugh] normal. It's just normal. Let me put it this way. It didn't change my mood one way or another. I guess it would have done if I'd um. had a message that annoyed me. But in this case. There was nothing.

Excerpt 2: Helen, Audio diary.

With the lack of a researcher present to direct the recordings, participants often innovated and used their own structure to make the digital recording. Several participants gave me things in digital formats I couldn't use. Helen adjusted the settings and changed the format on the recorder I sent her. Lucille used her own recorder and gave the whole thing to me as a single file, with the audio unbroken into separate diary entries, rather than the separate files that my own recorders produced. This meant the entries ran into each other, and much of the chronological information was lost, making the diary difficult to interpret. As much as this technique freed the

participants to create unexpected narratives, it also enabled them to create unexpected forms of recording or unanticipated use of the provided materials. This is a common problem with diaries of all kinds, where respondents are alone while making a set of records. In a more quantitative piece of work any innovation on the part of the participant can be considered a spoiled record (Corti, 1993). This style of recording requires the researcher to be fluent with the technology to resolve any such problems (Mann and Stewart, 2000). At the same time it's necessary to ensure that participants are comfortable enough with the technology to make their recordings.

In this research design the audio diary was chosen to be the first moment of research contact between the participants and the project. Traditionally diary studies are used at the beginning of a project, to inform the rest of the research (Corti, 1993; Carter & Mankoff, 2005). I also hoped to give the participants as much freedom as possible to represent their internet use in their own terms before they were introduced in more detail to my research interests. However this may have contributed to the high dropout rate of the project, as discussed above. The diary was a very demanding piece of research, which also required participants to be motivated in making the recordings and take responsibility for the safekeeping of the digital recorder.

Visit

The visit followed the audio diary. I asked for a gap of at least a week to allow a first pass through the audio diary material, so that this could inform the interview. Sometimes, due to participant convenience, the gap was considerably longer and allowed some address of change over time issues in the participant's internet use.

I asked to visit them at the place they used the internet the most, and for all of the participants this was their home. I also asked to see the computer they usually used, and to spend time in, and interview them, in the room with it where possible. In all cases I was able to spend most of the time close to the computer. During the visits I conducted an interview with participants, took photographs throughout the home, and spent time with them informally, not drawing a clear line between observation and interview (Hammersley & Atkinson, 1983). I accepted offers of food or drink, to spend time chatting and taking part in other activities whenever I was invited. Much of the observation concerned rooms, objects, and use of the space. For this reason field notes were an important record for some of the visits, as a lot of material was covered outside the recording time, or was non verbal so not on the record.

An overall interview schedule followed a shared structure for all participants, but for each of them this was adjusted to include information from the audio diary. The template guide and one personalised guide are in the appendix. Websites and computers that had been mentioned in the diary were included in the schedule, and I spent time before the interview visiting and using the websites that had been mentioned. The interview also allowed me to ask any clarifying questions, or to ask for extra depth on any element of the audio diary that seemed interesting.

The topic guide covered three broad areas. The first was to follow up the audio diary, asking questions about their experience with the diary and whether any difficulties had arisen. Then it deepened some issues from the audio diary, by asking how the week that was included in the

diary related to a 'usual' week, and any other seasonal or unusual variations. And then a little background information and history about these websites and practices. Then I asked for any elements of internet use that hadn't featured in the diary, for example an overall explanation of how she used email, and then anything necessary to complete the story of their usual patterns of internet use. The second broad issue was each participant's history with the internet, and particularly to contextualise some of her interests mentioned in the audio diary. I asked for key moments that had shaped current use, such as where the internet was first encountered, or what had attracted her to particular choices during her life.

The final and largest section asked about material issues, which were the overall theme of the visit. This began with detailed questions about the machines the respondent used to access the internet. It went on to explore issues surrounding the computer, such as how it was originally purchased and how ownership was managed with others, the maintenance of machines and any problems, and peripherals such as printers. I also asked about their location in the home, how rooms were used in relation to the internet, and finally the impact of significant others in the use of machines.

The style of the interview used was semi-structured and open ended. On Gaskell's (2000) scale of interview styles that extends from a survey interview, to ongoing qualitative observation, these interviews tended towards observation. Although a topic guide was used, this was largely nondirective and unrestrictive. For each participant the list of topics was tailored to their interests before the visit, and this continued throughout, with topics of interest to the participant given more time. They were combined with a period of observation, both informally before the interview, and more formally in the taking of photographs afterwards, which is discussed in more detail below. This format, an interview combined with observation can inform one another to give a richer level of detail (Hammersley & Atkinson, 1983), in this case an understanding of space.

All recordings, from both the interviews and audio diaries were transcribed verbatim, including pauses and significant background noises, but not to a discourse analysis quality. Transcriptions quoted in this document include full stops to represent brief pauses, note extra sounds and laughter, but have also been transformed into rough sentences where this increases legibility. Given the loss of information in producing an accurate transcript (Coates & Thornbarrow, 1999), and the change in content that occurs during transcription (Antaki, 2001), particularly for extra-representational detail, such as timings, sounds of typing or movement, this transcription was treated as a first level of coding. The recordings were thus used throughout as the primary tool for analysis, and listened to many times during the analysis.

The contribution of the visit to the research questions was primarily to address material issues, objects and embodiment. These were addressed both in talk during the interview, but also by having the researcher and respondent in the same room, speaking and interacting with the spaces and objects of interest. This allowed me to gain a deeper understanding of the use of this space and the intercorporeality in its use (Csordas, 2008), by participating and making use of the facilities and affordances for placing cups, sitting and clearing up afterwards as the participant would during internet use. The goal here was to study the 'world-as-experienced' of this space and set of objects (Aspers, 2004).

The interview section in this design operates to bring together several threads of other methods. A semi-structured interview allows a large amount of material to be covered during a given amount of time (McCracken, 1988), and also highlights how many of the more specialist methods used in this design, although rich and detailed, provide shorter 'messages', or amounts of 'information' which produce different kinds of meanings (Kozinetz, 2010). The nature of these alternative meanings will be discussed extensively through the rest of the thesis. This added volume of material and flexibility allows this to be a space to clarify and deepen findings from earlier parts of the research. It also allowed for giving the participant information about the nature of the study and how their data will be used, and was the part of the design that contributed most to the research relationship (Kivits, 2005)

An interview method also picks up more elaborate discursive and narrative practices, with the respondents justifying themselves, retelling familiar stories, and doing the work of self-presentation on the spot, engaging with the researcher (Antaki, 2001). Similarly it allows the richest area for intersubjectivity in the project, as the participant and researcher are together in the same room (Layton, 2009; Stopford, 2004, Hester & Francis, 1994). Thus it gives a text that can be analysed, alongside the audio diary material, as a rich piece of spoken discourse, with a slightly different inflection as it is a co-production of the respondent and researcher.

The interview situation was distinct from the audio diaries in that it was a co-construction, between the interviewer and the interviewee. Both were present and contributed to the text that was produced, which added a different inflection and level of meaning for analysis (Hester & Francis, 1994). This is also a space where participants were doing complex social work; Layton (2009) argues that all that is present in the room contributes to the account that is produced. Of particular interest to this interview, on the topic of space and objects is that in addition to intersubjectivity, both people are also in relationships with the objects and rooms around them, which enter the interview situation (Csordas, 2008). For example, in sharing a meal with Amy and her baby prior to the interview, I participated in leaving the empty plates and leftovers on a side table with her computer as we drank a cup of tea and began the interview. Taking part in this everyday act – storing food items on their way back to the kitchen – helped me to understand later how paths were carved out through these rooms, with both eating areas and the location of the kitchen significant in how this space gained its identity and meaning. These objects also stood constantly as 'stimulus items' (Hester & Francis, 1994), to be discussed and described during the interview, while we sat next to them and used them.

I have a background in a non directive counselling style, and this inevitably influenced my performance in the interview situation. This resulted in a style which is largely 'non directive' (Hammersley & Atkinson, 1983), encouraging the participant to continue and open up with reassurance and encouraging noises, but also to use silence to give space for more talk. Although the respondent was encouraged to speak for most of the time, stimulus questions were used throughout. The style was conversational, including some statements of my own opinion and questions which challenged the participant (Speer, 2001), these were quite limited, and most questions were passive in tone, supporting the participant's worldview. It was also influenced by Hollway's narrative style (Hollway & Jefferson, 2000), which emphasises asking participants about concrete and recent events and feelings, rather than inviting speculation or

explanation. Therefore the topics of all interviews were kept close to participants' own experience, asking them to elaborate on concrete incidents that they'd taken part in. This was compatible with the phenomenological approach to the project overall, which emphasised description at a simple level, rather than analysis and explanation, and is a cornerstone of this method. It also takes assumptions from discursive psychology and storytelling approaches (Plummer, 1999; Mischler, 1996) that talk and particularly telling stories are a way of understanding the world, but also that the choices of what stories to tell and words to use are constrained by what is made possible, and that frameworks and stories are told and retold. So that in the interview situation the talk emerges from a store of stories and discourses that have been rehearsed in the past, with the participant working on the spot to generate fresh combinations and versions, presenting the self but also struggling to give the researcher what has been asked and do a good job. Notably interviews are an approach that produces more rehearsed stories than the more raw accounts of the audio diary.

Photographs

Towards the end of the interview, after asking questions about the rooms in the house, I turned to talking about what would be useful for me to photograph, and discussed with the participants some of what I was looking for. After ending the formal part of the interview, and a brief discussion, we walked around the house, eliciting more talk about the significance of rooms and spaces. I took between eight and fifteen photographs, to record significant elements of objects and space in the house. The overall aim was to catalogue the computers and other internet enabled machines, but also the relevant spaces and objects around them. This included computers and related machines, such as printers. I also photographed the immediate space around them, such as desk areas, chairs and storage rooms. I then documented the rooms as a whole, attempting to capture the whole space and the possible routes through the room. Then I photographed any locations in the home that were notably not used for the computer, particularly those that had been used for computers in the participant's history in the house. These included table or desk spaces, or spare rooms that had been considered as possible locations but dismissed.

Field notes were important for this section as lots of information was exchanged that could not be recorded to tape. These included extra detail that was mentioned during conversations while we toured the house. But also because only limited sections of the home could be photographed, other details such as layout of hallways and the locations of important rooms such as kitchens and bedrooms couldn't be photographed, therefore these were recalled later by drawing simple maps.

This data contributed to the research question by deepening the recording of material issues relating to internet use. It kept a detailed record of the objects and material antecedents of using the internet, while emphasising the importance both of the objects necessary for internet use, but also surrounding spaces and the rooms themselves. The use of these objects and rooms enables us to explore how bodies are used in relation to the internet, which is highly dependent on the machine and its siting (Bakardjieva & Smith, 2001).

Influenced by Harold Riggins (1994a 1994b) work on working with rooms and spaces, these pictures were used to produce detailed descriptions of what could be seen, as a first level of coding, analogous to a transcription. Two different sets were produced for each participant, one for the machines that were pictured, and another for the complete rooms that the internet was used in. These used many of Riggins' (1994b) techniques, describing in detail and as neutrally as possible what can be seen, including shapes, colours, orientations and relations of objects to each other.

Photographs are an unusual type of research material, in sharp contrast to the more traditional language-based records. They are frequently collected in photo elicitation studies (Radley & Taylor, 2003, Langford, 2001), which owe much to the paradigm of picture elicitation (Weber & Mitchell, 1995). In this approach photographs are taken by participants, and the taking of the picture is a communicative act. Often these photographs are used as a stimulus for follow up interviews or similar talk based methods (Mitchell & Reid-Walsh, 2002). This means the pictures become very much supplemented by the accompanying talk. This leaves photographs and their content with much the same problem that Hansen (2000) describes for technological objects, the power and interest of the photos is collapsed into discourse. This is true of Radley & Taylor's (2003) study, where photographs are used as an expressive piece, and interpreted in terms of narrative and cultural understanding.

In contrast photographs were used here in a similar manner to Hansen's (2002) project, to capture the direct impact objects have on experience. Photographs were used for what they could elucidate about space and the use of the body. The visual gave a rich record of the context for bodily action (Pink, 2004). Through them the visual could stand in for the whole of embodied practice, as they reminded us of the significance of gaze in organising and producing space. This was particularly true of the labeling and demarcating of rooms (Mitchell & Reid-Walsh, 2002). They widened the focus, and disrupt the narrative elicited in talk based methods. Instead of collecting recollections, or stories, they accessed what was unsayable and unrepresented (Reavey, 2011). This interest in the non-representational (Thrift, 2008) permeates this project. For De Busso (2011), photographs allow us not only to get beyond talk, but to capture data about experience itself. Instead of accessing representations about the body, as we do when we speak about, a process which keeps it in the abstract, photographs tell us something about 'being'. She argues that photographs show us not just what 'exists', but also what we can 'do' (De Busso, 2011). They contribute to the overall aim of this project to capture action, event and practice alongside a more traditional analysis of talk, being faithful to the idea that our experience is multi modal (Reavey, 2011). In this way photographs of space can become evocative of both the moments of arrangement and sedimentation of the objects, and to see them as a trace or residue of actions that have happened, and particularly those that have been repeated over time.

Photographs provide a record that is capable of containing more than the photographer originally saw or was able to recognise (Ellis, 2000). This allowed very detailed recording of the types of machines that were available to respondents, and how they were located in configuration with other objects, far more accurately than a verbal recording. Similarly a large amount of material on arrangement of rooms could be recorded. These photographs proved to

contain much that was not observed at the time, particularly detail that captured small moments of meaning, such as knick knacks and the orientation of chairs. This richness, however, is associated with some difficulties in interpretation. Photographs on the one hand are ambiguous, and some argue they are mute (Miller, 1998a), and open to many competing interpretations. The meaning of photographs can also shift over time. For Radley and Taylor's (2003) participants, photographs of hospital beds, at the time they were taken during patients' hospital stay, represented both the unpleasant meanings of medical procedures carried out there, and a cosy sanctuary where the patient recovered and made space of their own in the hospital. But when they were interviewed a second time, later at home, the positive meanings had largely gone. The (ex) patient was now putting all that into the past, and didn't require a place of safety within the hospital. In this later moment, the photographs of hospital beds were entirely negative, with the positive meanings evacuated. We can see here that photographs are permeable to being positioned in different ways. And some of these stick, while others are in flux.

These photographs were viewed particularly in ways inspired by Riggins' (1994b) work, where he urges that to fully understand space and material, photographs must be extensively studied to understand the full subtlety. Similarly Ellis (2000) describes this superabundance of information. That is, that there is always more present in a photograph than is referred to in a commentary or associated narrative, or than the author of the photograph intended to record. Photographs taken away from a scene and examined will reveal, in their own content, detail that wasn't apparent at the time of their taking.

But like the photo elicitation paradigm, photographs here also form part of a wider set of communicative acts. They were part of a visit by the researcher to participants' homes. This involved sitting in their usual rooms in the presence of the objects, often eating food and drink and making other uses of the space, chatting with participants, and taking part in an interview. So the photographs must be considered alongside other kinds of looking at and making use of space that took place that day, and also their taking formed a stimulus in the interview setting, a context to allow concrete questions to be asked about the use of this space (Hester & Francis, 1994). My photographs, like Radley and Taylor's photos were characterised by 'banal aesthetics' (Taylor & Radley, 2003), in contrast to the stylised, charming holiday snaps of her mother and a penfriend as young women in the 40s and 50s, used by Mitchell et al (2008), or the rich variety of album making projects she instigates. They record mundane physical items, which must be enlivened by a reading that considers them as elements of experience and use of the body (Csordas, 2008; De Busso, 2011).

Finally, photographs play a significant role in the storytelling of this project. As I transformed my respondents' accounts into a piece of social research writing, (Seale, 1999) these photographs enlivened the story. In the telling or presenting they can transform the material from a large corpus of data into a story that captures women's internet use, but also the implication of bodies and space in that use. The photographs inspire a kind of fascination – in much the same way that quality transcription of talk fascinates an audience or listener. At once it plunges the researcher or listener into the world of the research site, drawing their interest to the detail of

the participant's life. It can cause a shock to go through an audience, or a deep, visceral understanding of the affectivity of participant's lives.

This part of the design was difficult to negotiate with participants. At this point in the relationship, I had shared an initial phone conversation, the audio diary, and had spent some time in the home doing an interview. With some participants I had also shared food or social time, or had more extensive email and telephone conversation. However, this part of the visit often became uncomfortable. Participants often seemed tense and uncomfortable when I took photographs around their home. I also became defensive and as the project went on was less willing to take extensive photographs, or to ask to photograph parts of the home that were less easily explained, such as other tables spaces in the home like kitchen tables, which I had recorded in early visits. It was clear that this method relied more on the relationship with a participant, or a clear and assertive performance of its necessity, as it could be experienced as rather invasive by participants. This is illustrated quite simply in the fact that participants will usually tidy up even if they are asked not to (Miller, 1998b) and will be reluctant to reveal spare rooms or bedroom spaces that are not always open to guests. A walk round the home will highlight the location of other members of the household, pets, and other things such as piles of ironing that are traditionally concealed. This will be discussed in more detail later, as I realised that the overall research design made increasing demands on participants to be exposed in different modalities.

Online interview

An online interview was the final contact with participants. It took place over an instant messenger package, in synchronous chat. In all cases, except for one of the pilots, participants already had a system on their computer that they had used before, and the researcher installed and used their preferred choice. The packages used were: AOL messenger, MSN messenger and Skype. So this interview was entirely typed in a real-time environment, in the form of line by line short messages. Using participants' own usual software meant that a small amount of additional information was available as part of the profile they made available to friends, such as their usernames and userpictures. Because this was the final contact, often a meaningful amount of time had passed since the audio diary at the start of the study, so this allowed a change over time dimension. For example Amy had returned to full time work after her maternity leave, which meant all her routines had completely changed. She found her priorities very different and spending time with her young son in her precious leisure time had squeezed out almost all internet use. A time was arranged for the researcher and participant to meet inside the instant messenger. If they were less familiar with its use we spoke on the phone to make arrangement, but other participants found email sufficient. I sent an email or text message to remind participants the morning of the interview, and often text messages were used to either postpone the session or confirm they were coming if they were late. I planned to keep approximately one and a half hours as the maximum interview length, taking my cue from the face to face interviews. Some participants were happy to go on for considerably longer.

The interview consisted of asking the participant to 'show me' their usual websites as we took a tour, moving together through the URLs of each website. I asked that participants choose their own method to show them to me, suggesting either a 'morning routine' format, or that we just go through one at a time their favourite websites. For most respondents this meant going through their usual morning routine, such as checking email, news, and other favourite websites. For others we followed a shopping routine. And finally I asked for any websites that hadn't been mentioned previously. Before each interview I prepared a list of all the websites participants had mentioned previously in the study to prompt from if those weren't mentioned initially.

Participants opened these websites using their usual method, and then cut and pasted the URLs as messages to me, so that I could open the same websites. I also asked them how they would usually reach the page, for example by typing in the URL, or having a shortcut somewhere on their own browser or computer. Once we were on the same webpage, I asked them about the layout of the page and which sections or links they would usually attend to, what text on the page they would read, what they would be looking out for and notice, for example which news headlines they would be attracted to look at further. Then we talked about the route they would usually take through the website – which links would be clicked on. Then, as they moved through the site in their usual way, I followed them by clicking on the same links. I printed out copies of the most important sites when these were possible (some would not format correctly), and wrote notes on the print outs, as well as typing field notes during the conversation.

This format meant that participants often carried out their usual chores during the time of the interview, such as checking email or shopping. This meant sometimes there were long breaks between their messages as they were busy. This method also only allowed recording of World Wide Web pages, which I could access unproblematically with a browser, so that some respondents' usual use was represented better than others, as some used special software, such as BitTorrent regularly for their online routines, or news websites that required logging into their email address. Others used very few large websites, or paths through websites, with most of their story was made up of ways of moving from site to sites, such as reference material like dictionaries or weather forecast.

The aim of this method, and its contribution to the research questions was to document the set of websites that the women were using. Although these were discussed in other areas of the design, at this moment the intention was to confirm a definitive list. This information was then deepened, by gaining an understanding of how the sites were used. Rather than treating them as a monolithic set of texts, I traced the path through each site the participants took. By taking a tour with participants, these websites were seen not as 'flat' documents, but as something that was used interactively as a tool. Parts of each page were ignored or skipped over, with many substantial features of websites ignored, while participants moved through in terms of their own interests and skills to use the page, and to follow their own interests. Like movement through the home, movements through websites became sedimented over time, so that for example Amy knew exactly which search terms to enter into the shopping site she uses to bulk order nappies, without being distracted by any other element of the page.

Online interviews are quite singular, and have very little in common with a traditional face to face, semi-structured interview. They have some similarity to email interviews (Selwyn &

Robson, 1998; Mann & Stewart, 2000) which have a longer history. But they are different in that they are synchronous (Clarke, 2000) – the conversation takes place in real-time, with messages following immediately after one another. Although this leads to them often being compared to speech, they have a very different pace and resultant text, with Kozinets (2010) arguing they are a very different method. Instant message chat, like much online talk is part-way between speech and edited text (Sunden, 2003; Crystal, 2011). It contains ‘time lag, is generally lengthier and more fragmented, contains interruptions, false starts, lapses, and sporadic infrequency’ (Kozinets, 2010). This results in an interview that can take much longer than a face to face interview, with much less information exchanged (Markham, 1998, 2004). This reduced information is partly due to the effort of typing, with this method requiring more motivation from participants than a similar face to face interview (Chen & Hinton, 1999). These limitations lead Kozinets (2010) to argue that synchronous online interviews are almost useless, with its interview like characteristics at the level of a structured survey interview, rather than a semi-structured interview. He declares that it can be useful in the kind of specialist form presented here, to explore website use. In this case the interview is focused on making sense of the paths participants take through websites, where they click with the mouse, and thus the form the website takes in use (Hine, 2001). For this reason the online interview suits some of the intentions of this method. The aim was not to produce an ‘interview style’ narrative, but to generate a quite specific set of information in this study, that is not entirely representational, but more about sharing practices and doing active tasks with participants.

An online interview of this kind therefore requires particular techniques to establish a conversation. The culture of talk necessary can vary substantially between different online spaces, with Facebook for example favouring very brief messages, whilst chatrooms are a context for longer exchanges (Kozinets, 2010). Much has been written on the topic of the lack of non-language cues available (James & Busher, 2005), with others arguing that there is also a lack of rapport in this space, and wondering if synchronous chat can ever contribute to developing a research relationship, or whether it must always rely on one previously generated through other methods (O’Connor & Madge, 2001; Kivits, 2005). Similarly, there is no knowledge for the researcher of the material and embodied qualities of the participant’s environment. Nothing can be known about the room they are sitting in or other people present (Mann & Stewart, 2000). It appears that this is a context largely free of the rich intersubjectivity (Layton, 2009) of an offline meeting. As Kivits (2005) describes his efforts to generate a research relationship using these methods he found that his relationship with a number of participants failed for reasons that he was unable to understand, despite his efforts. In this context, a synchronous interview requires the researcher to use several strategies to engage the respondent. It is necessary to articulate reassurance that the interview is progressing, and a demonstration of listening. In the absence of physical cues, this requires active reading of the participant, for cues that they are finding the exchange confusing or unsatisfying, and the specific task of keeping them interested and involved, but with an expectation that drop out can occur at any time (Kivits, 2005; Mann & Stewart, 2000).

The timing of an exchange is much slower and more effortful than talk. All responses are typed, so rely heavily on the skill respondents (and researcher) have as typists. But also on the skill both have as instant messenger users, which use a lot of practices and etiquette such as abbreviations

and emoticons (O'Connor & Madge, 2001). Also these conversations can be confusing to read, as there is always a time lag while one person finishes typing, and several short messages can be shot off in the speed it takes the other person to type one longer message, or to pause to do a different activity. There is a danger of a mismatch between interviewer and respondent in terms of skill both as typists and use of emoticons and other conventions of online chat (O'Connor & Madge, 2001). In these interviews I tried to match my style to the participants, avoiding these specialist practices until I saw the participant use them first, and to avoid moving more quickly than they did.

This dependency on typing means the interview can move quite slowly, certainly the amount of material that can be covered in a given amount of time is much less in an online interview (Markham, 1998, 2004). Particularly in this case most participants did not give me their undivided attention, continuing with work or childcare tasks during the interview. This is not surprising as often instant messengers are considered to be a sideline activity, done in free moments while other activities take up the bulk of the screen space. This is in contrast to something like a telephone, where speakers typically give the conversation their full attention. It was also difficult to arrange this method with the group of participants. Only three online interviews were performed in the full study, whilst two were disrupted by the participant arriving late, cancelling several times or leaving before the end, and one planned interview never took place due to constant cancellations by the participant. It seemed that this method presented an extra level of difficulty for participants, perhaps because they were required to step out of their usual day to log on and meet me at a particular time, or perhaps because they were asked to enter that space and reveal a further element of their private activity to me. This is certainly a method that requests a lot of motivation from participants, and in this case formed the final stage in a research design which had contained several substantial requests for exposure from them.

Participant observations

This final phase of the research aimed to gain a deeper understanding of how the participant used their set of web pages. I visited the websites to study how they were used, and to follow the paths through these websites that participants had taken. Information about these websites was taken from previous portions of the study, with the online interview giving the most details on how the pages as a whole were approached and navigated through by participants. The audio diaries also contained information, mainly about tasks performed and timings, as did the face to face interview. In this way a list of websites was generated for each participant, along with a package of information about which links and features of each website were utilised, and some of the projects and intentions the participant had for each page. Each website was visited by the researcher, where I emulated the participant's use of the site. I experimented with how to move through the page, spent time reading the site to understand how it was intended to be used and something of how the page positioned users to encourage and direct their movement through it. I also explored the sites more generally, seeking to find some of the possible uses that were different from those the participants took.

As part of this process, larger and more complex websites were addressed using a 'transcription' style technique analogous to the one I had used with objects and space. This was a neutral, detailed text description of what could be seen on each page, and the possibilities for hyper linking to other pages. This recorded the path through the website the participant took, as well as alternative paths that were disregarded.

This part of the design contributed to the research questions by deepening an understanding of what the participants' set of websites became as they were used, and the nature of their paths through the whole set of websites. It explored the modality of written and read text alongside the other modalities of internet use previously discussed, highlighting how this kind of material is used in action, through practices of clicking and moving through pages. This explored, for each participant, what was used to produce what Postill (2008) calls a 'personal internet'. At the same time making a distinction between Turkle's (1995, p39) notions of what is 'technically possible' and what is the user is 'given permission' to do by particular configurations of web pages, and also examining those possibilities and preferred routes that are ignored by a particular participant performing a particular task. The nature of these hyperlinks is constitutive of the practices that are possible here (Beaulieu, 2005).

This notion, that participation and observation is required to make sense of web use is widely advocated. The internet consists of a rich variety of different kinds of 'spaces', each with their own culture and unique characteristics (Hine, 2001). Many authors call for a 'disaggregation' of the internet, by examining particular spaces, rather than treating the internet as monolithic (Miller & Slater, 2000; Hine, 2001). Therefore it's necessary to closely study and become immersed in these spaces with observation (Kozinets, 2010). Less popular an idea is that paths through sets of web pages, and the relationship between how different web pages and technologies are used together require study. As researching the on and offline together gains popularity, there are calls for work to consider these relationships (Robinson and Schulz, 2009).

This part of the research was always the most speculative. It was informed by the prior phases of research and recording, with some participants providing much more detailed information about their precise movements than others. Because this method could only be used for World Wide Web pages, and other publicly accessible web technology, it gave the fullest story for participants who used a lot of WWW pages in their internet use. This particularly didn't apply to Lucille, whose use of web pages was quite circumscribed, but her use of other technologies was much richer and couldn't be examined with this method. Similarly, the extent to which I could build up a picture of participants' usage, and what kind of picture I was able to generate varied considerably based on the kinds of websites each participant used. For example a large commercial shop such as Argos was incomparable to a small, intimate community site. Some participant's usage involved flicking to quite brief sites, for example Lucille who made most use of dictionaries, weather forecasts, and other reference pages, where what is interesting is the movement between and around websites, without much interest located within the sites themselves. So what this portion of the research provided was packages of quite personalised information about each participant. In some cases this provided rich data to examine, such as complex identity work. While in other cases the information from this section can be seen only

as a background to the larger set of data about a participant, such as Lucille's use of predominantly reference material.

Ethics

The project was accepted by the Cardiff School of Social Sciences Research Ethics Committee before any research was carried out, and an ethics report was produced for this committee once the research was underway. It was determined not to contain any sensitive elements. All participants discussed ethics with the researcher, and signed a form that had been approved by the Ethics Committee. A copy of this form is available in the appendix. The form gave permission for all the data recorded to be used, but also ensured participants knew they could leave the project at any time, or remove any portion of their data from the corpus. At a few moments in the study when participants shared particularly sensitive information they were reminded that I could remove it from the study if they wished, but none asked for any to be removed. Additionally, when snowball sampling was used I explained to participants that I would discuss no part of their participation with their acquaintances within the project, including confirmation of whether they had decided to take part or not. All data is reported with pseudonyms, some chosen by the participants. But also for some participants extra identifying detail has been altered to anonymise the data. For photographs this is not always possible, although none contain pictures of people, and therefore sensitivity has been used in the presentation of this data at conferences and similar venues not to take it to contexts where the home of a participant might be recognised.

Conclusions

This chapter has introduced and discussed the methods used in this research project. The research design sought to address the research questions by gaining an in depth understanding of the internet as these participants used it. It included a range of modalities, to explore how their practices unfold, and operate together to be productive of both a personal internet, and of feminine subjects. This was accomplished by a design that returned to each participant multiple times to collect data addressing these different modalities. An audio diary allowed the participant to describe their own patterns of usage, providing a chronological account with a narrative that resembles an interview narrative, with a richer element of self work. A visit to participants' homes to interview them and take photographs addressed material issues, documenting the machines, objects and space used for internet use, as well as eliciting background to the rest of the data. An online interview explored how the participants' set of websites was used, and their paths through them, which was followed up with participant observation on these websites. The following chapter will engage with the body of data as a whole, introducing the participants, and then summarising the corpus of data within some broad themes. It will go on to address how this data was analysed, and introduce a discussion of this analysis that will continue in the subsequent three chapters which explore these findings.

4) AN INTRODUCTION TO THE DATA

In the previous chapter I discussed the methods and described the procedure for the data collection. I will now use this chapter to introduce the participants and the data that was generated, before going on to discuss the methods I used to analyse it. The following three chapters will explore this data and its theorising in more detail, developing an argument about how the internet is used through embodiment, use of space, and finally relationality. These arguments have been summarised in the introduction, so won't be discussed further here, except to say that these more theoretical chapters do not give us scope to meet the data as a whole; excerpts from the data in the chapters that follow are presented to serve a theoretical argument, and are therefore somewhat fragmented from the original corpus of data. So this chapter serves to give a broad overview of this data. Here we will view the corpus as a whole, structured in its own terms. It consists of a basket of detailed information for each participant, covering her internet use in all its modalities. This chapter will summarise this data, giving us a picture of each women's usage of the internet, and an overview of what these profiles of use have in common, as well as highlighting some of the differences. We will explore some of the simple count data from the audio diaries, before drawing out some of the substantial themes that describe the day to day usage of the internet this corpus records. The final part of this chapter will discuss the analysis of the data in terms of embodiment, giving a worked example of an evening of internet activity for Amy, and the particular reading that will be used in the following chapters.

Overview of the data

The research design used a package of research methods to follow each women's own paths through internet use. So the resultant data is ordered around the participants, building a

detailed picture of each one's internet use. The data is in a range of media, audio recordings produced from audio diaries and interviews, field notes from the home visit, photographs of the home, instant message interviews, collections of web page images and field notes. Much of this has been transformed during cleaning and analysis to highlight concepts of interest, such as material and movement. So there are also detailed written descriptions of objects, rooms and web pages, alongside transcriptions and summaries of activities.

Participant	Data	Date	Size / comments
Hazel (pilot)	Audio diary	Nov & Dec 2006	20 recordings
	Interview + photos	8 Dec 2006	2hrs, 15 photos
Alison (pilot)	Audio diary	28 Nov –5 Dec 2006	8 days, 12 recordings
	Photos	15 May 2007	8 photographs
Katherine (pilot)	Audio diary	14-18 Feb 2007	5 days, 8 recordings
	Online interview	19 Feb 2007	2hr 20min
Amy	Audio diary	11-22 Apr 2007	12 days, 54 recordings
	Interview + photos	1 May 2007	48min+53min=1hr 40min, 27 photographs
	Online interview 1 Online interview 2	18 Jan 2008 31 Jan 2008	
Lucille	Audio diary	Feb 2008	8 days
	Interview + photos	16 Apr 2008	1hr 19min, 11 photographs
	Online interview	14 May 2008	2hr 50min
Bailey	Emails	7 May & 3 Jun 2008	2 sets of answers to basic questions
	Interview + photos	30 Jun 2008	57min, 9 photographs
Helen	Audio diary	30 Jan- 12 Feb 2008	14 days (8 with recordings), 43 recordings
	Interview + photos	7 Jul 2009	1hr 38min, 6 photographs
Sally	Audio diary	23 Nov–2 Dec 2008	11 days, 57 recordings
	Interview + photos	27 Apr 2009	1hr 46min, 7 photographs
	Online interview	28 May 2009	1hr 30min

Table 1: Data collected.

Most of the data was collected in 2008, with some parts in 2007 or 2009, with the pilot studies taking place in the academic year 2006/07¹. The time span for participants varies, with the shortest taking four months from start to finish, and the longest 18 months, as respondent illness delayed the final interview. Most of the participants completed all parts of the design, but Bailey did only an interview visit, and Helen didn't manage to do the final part, the online interview. The duration of this fieldwork period gives some sense of change over time, as Helen and Sally, the two later participants, show signs of using the internet in a newer style, with laptops and leisure uses of the internet replacing the older style of desktops in dedicated offices. This will be discussed further in Chapter 6.

Four audio diaries were collected, with one from the pilot also analysed fully. Participants were asked to aim for a week of usage, but to do as much or as little of that as they could manage. In fact most did slightly over a week, with two doing eight days, one doing a week and a half, and one just shy of two weeks. These vary in how detailed they are, and how many recordings are included. They all have multiple recordings for each day the internet was used. For some these are less than a minute, others speak extensively in each recording. Some participants accurately giving details of times, web pages, and so on, while other messages are more difficult to understand, with less information about timings, what specific activities were done, or when the recordings were made. Some of the weeks were slightly unusual, Helen was ill for several days in the middle of her recording period. Amy was on maternity leave at the time of the diary, so her usage patterns altered significantly a few months later when she returned to work. For all the participants the audio diaries have some element of action, with talk and commentaries given as the internet is being used. Some contain a series of messages a few minutes apart as the participant works on an activity. Other diaries contain more summing up of the material as they were made late in the day and reporting on the past.

There are five interviews in the corpus, and one from the pilot. All of the participants gave an interview. One interview was relatively short at an hour, with Bailey who was the most reluctant participant, but all the others were well over an hour. Between six and eleven photographs were taken in the home. With most the researcher and the participant ate a snack or had a drink together at the start of the visit, and the tone was informal. The research relationships with participants were varied. About half were tired by the end of the interview, and were pleased to see me leave, the other half invited me to stay and chat for longer. I felt uncomfortable by the end of these former sessions, but found it difficult to judge the mood.

There are four online interviews, one a repetition with the same respondent, with one from the pilot. Only the participants with whom I formed the strongest research relationships completed this final stage in the research design. By this time there was more of a relationship with two of the remaining participants and these interviews were much longer, with one doing two separate interviews because she ran out of time to complete it. The other was nearly three hours long. The longest interview with Lucille progressed very slowly, as she was performing work tasks and

¹ This PhD project has included a pause for illness, a period of part-time study, and changes in candidature, with a long break between Spring 2007 and Winter 2008. This coincided with the fieldwork and resulted in a long period of research.

her everyday activities such as checking email concurrently. These interviews also generated lists and paths through websites that I was able to return to later to investigate in more detail the structure and function of those websites.

Each participant's bundle of data spans several collection methods, which have produced very different kinds of texts, and several dimensions of internet use, some emphasising time, others bodies, and still others discourse and text. At times this produced an unwieldy set of material. This, coupled with the intention to read this data rather unconventionally in order to tap into experience and action, has required innovative ways of combining and reading through the material. So the raw data has been cleaned and transformed in various ways. These were held alongside transcripts and the original recordings in performing an analysis. They were intended to highlight or make visible particular elements of the data, to allow particular reading practices to examine traces of material and movement.

These materials were transcribed and cleaned to produce several additional texts. The audio diary was collected as a series of short recordings, although because participants prepared their own audio diaries some were in different formats. The recordings themselves were used as the primary means of analysis, but several transformations of this data were useful to gain different insights. As well as being transcribed verbatim, each recording was summarising into websites and activities used, and laid out chronologically. This gave a slightly different picture, as it enabled a clear view of how many, and how close together recordings were made. In some cases multiple recordings were made in quick succession documenting a single event in using the internet, while at the other extreme some days involved very little internet use. This allowed the recordings to be read in terms of the events and their chronology, and follow events as they unfolded in the respondent's week. These chronological accounts were summarised further into charts that will be discussed later in this chapter. This chart codes each activity into one of five bands, and lays them out in terms of hours per day, with all participants' data side by side for comparison. This allows us to see patterns across the week. It became clear that the bulk of internet time was spent on a small number of tasks such as email and shopping, with more specialist activities done much more rarely. Where transcriptions are quoted in this thesis they are presented in standard written form, including every word that was said and extra sounds, but not timings or simultaneous text. Grammatical marks such as full stops are used to denote short pauses and as in standard authored text. Although this does little justice to the recorded material, to provide accurate discourse quality transcription is outside the scope of this project.

Photographs, again quite an unusual and experimental method, were transformed in several ways. Two descriptions were prepared for each set of photographs, one of the computers and other relevant objects for each woman, and another of whole rooms that were significant to internet use. The photographs were combined with field notes and interview material to generate sketches of the floor plans of rooms in the home. This set of data is used particularly in Chapter 6, to gain a sense of the spaces the internet is used in, and the patterns of movement that happen around the computers. These diagrams were eventually used to draw imaginary lines that participants walk through their homes, using information from all of the data, to gain an understanding of how arrangements of rooms, as well as the tasks and activities performed in them, operate to produce particular ideas of the internet. This notion of paths was also used to

analyse use of web pages, by describing these in similar terms, noting the paths that participants took through them, by particular patterns of clicks, searches, and items of interest.

Each of these forms of data offered different elements to the final analysis. The audio diaries contained much action material. They turned out to be quite unlike interview narratives, and provided very different kinds of details. Two important strands were that they contained activity, and were often made during the use of the internet. This gave a sense of pacing, and a clear sense of the timing of these activities, but also insight into the kinds of frustrations and moments of difficulty that arose, as well as some of the impulses and interests that shifted as the activities were done. There was also a lot of intimacy in the diaries, as they were made alone, late at night, or during other moments of vulnerability. Often these were retold in the interview, but as a different style of narrative, whilst the audio diaries contained the events in action, as they happened.

Photographs were important for considering space, originally the item of interest was the computer itself, but later movement through the home became of interest, and the photographs were valuable for demonstrating such details as the relationship in space to the computer's location and other relevant things like food preparation, or alternative rooms. They also demonstrated clear differences in the layout of rooms, such as desktops in office space compared with living room arrangements.

The interviews, in conjunction with spending time in the home with participants, gave some commentary on this use of space. This included details of the history of the use of space around the computer, and such issues as the set of reasons, or at least the origin story, of particular uses of space. These histories were as diverse as Sally's ex partner having used the spare room as a home study, and therefore this style of internet use having negative associations, and Lucille's interest in downloading films having originated in trips to the video shop.

The online interviews allowed a similar survey of online activities and spaces to the photography phase. During this interview I confirmed the details of websites and activities that had been mentioned throughout, and ensured that I had a complete list of the sites that were used regularly. But more importantly I gained detail of how those sites were used, which elements were important and helpful, and which were ignored. Again, these varied across the corpus. Some participants used very few web pages, instead favouring specialist software like VOIP (Voice Over Internet Protocol) packages or BitTorrent.

The participants

Five women took part in the full study, and three in the pilot. A larger discussion of why this group of women was chosen and how I negotiated access can be found in the previous chapter. Overall I sought variation in the makeup of households, with a mixture of living arrangements concerning partners and children. This resulted in approximately half of the participants being single women, with various dating arrangements and contexts, and half living with partners (all male), again with a variety of forms of relationship. A single participant had a young baby. They were all computer literate women who used the internet regularly. When the study was

conceived in 2005 this was a slightly more rare state, although in 2011 as the project completes this is true of a much larger percentage of the population.

Amy

Amy was on maternity leave during most of the time of the study, and worked in an engineering field. She lived with her husband and baby in a house that they owned. She lived in the suburbs of a large city which she had moved to in order to go to university. Her home had two computers. One was sited in the living room, on a coffee table next to the sofa. This allowed her to watch television at the same time as using it, but it offered no comfortable position to sit and type. Another computer was upstairs in the room her husband used as an office for his small business. This was a much better machine, in a more comfortable workstation with a desk and office chair.

Amy's use of the internet was focused around mothering roles, and time was often tight to get access to chores like email or shopping. Much of her internet time was spent doing thrifty shopping, related to her interests in being green, and saving. She often found herself tired and frustrated with badly designed websites or special offers that didn't work out. Amy spent less time online than most of the other participants, her use was more task focused and less interested in leisure.

Sally

Sally lived in a flat outside town. She worked long hours as a social worker, sometimes bringing work home to complete on her own computer. She was single and lived alone, but had been using online dating, and began seeing a new partner shortly before the study. Sally had a laptop, which she usually kept in the living room. She could tuck it beside the sofa when not in use, but usually it was out on the coffee table, and she could use it while sitting comfortably on the sofa.

Sally was the only participant to use social networking sites, and used these alongside email to keep in touch with distant friends and make arrangements with those she saw frequently. Sally was also a canny shopper, and spent about six hours in her week browsing and looking for bargains, shopping for travel and concert tickets, clothes, and DIY items. She not only shopped online, but also read coupon and consumer advice websites, and combined online shopping with visiting the high street to compare prices and try on clothes. More than the other participants, Sally used the internet as a leisure activity, and when she had an evening with no other plans would watch television and surf the internet from her sofa.

Lucille

Lucille worked in academia. At the time of the study she was completing her PhD and worked several casual jobs, which meant her week was a mixture of working in an office and from home. She was from Scandinavia, and had lived in the US, as well as many parts of Europe. She had always worked in technical occupations, and had a very high level of expertise with computers and the internet. She lived in a small flat in the centre of a small town, which she shared with her partner. She had moved in quite recently, and had swapped some of the usages of rooms, making a larger room the study, and relegating sleeping to a small box room at the back of the

house. Lucille's home contained four separate computers. Both she and her partner had high spec desktop computers located in a dedicated study. She had an old computer in pieces stored in this room, and an older laptop she had recently refurbished to do extra tasks.

Lucille spent most of her work days at a computer connected to the internet, so intermittently used several online tools all day. She checked her email throughout the day, but also many reference websites, such as dictionary, weather, train times, and television listings. Lucille was extremely computer literate, she set up and ran the network in the house, and prided herself on her knowledge and use of the internet; this was reflected in how many efficiency tasks she did online. In comparison to the others, Lucille did a wide range of different tasks, using several more unusual items, such as several non web online technologies. On two occasions during the week she spent large blocks of time, one of four hours and one of ten hours, doing larger projects online, one a work project, and the other planning a holiday.

Helen

Helen lived with her husband in the outskirts of a large city; she owned the house and had lived there for several years and planned to stay. She was from the USA, and moved to the UK eight years ago to be with her husband. She had a long term illness, and worked one day a week, with paperwork to complete at other times. Most of her week was spent in the house, and for a five day period in the middle of her diary she was in bed, and didn't use the internet or keep her diary. Her husband worked from home during some parts of the week, so part of her internet use involved negotiating the shared space. There were several computers in the house, and a number of smaller devices such as a 3G mobile phone and a netbook, with a new desktop for Helen that had been recently ordered. Helen and her husband each had their own computers. His was a desktop in a small study in a box room which had its own printer. Hers was a laptop which seemed to dwell in the living room, having its own small purpose built table on wheels. These computers appeared to be shared, with Helen often using his computer to print during the day, and his laptop for email when travelling.

Helen's internet use was dominated by email, which accounted for over half the hours she spent online. For Helen using the internet could often be uncomfortable, so these email checks were partly about obligation for family and work. She also had distinct routines associated with going online, checking her email alongside news, celebrity news, and leisure sites. She tended to follow links from emails and surf around to different areas. Helen also had several well practiced routines that she performed during the week, such as ordering library books in conjunction with a website directory of novels and reviews, or bulk buying lottery tickets for the month.

Bailey

Bailey lived alone in South London in a small council flat. She had lived in London all her life. She kept her place very smart and clutter free. Over her career she had worked a variety of different jobs, including language teaching and a role as a piano teacher, and was pursuing becoming a Pilates instructor at the time of the research. Bailey had a desktop computer, which was located in her kitchen on a breakfast bar. She had previously owned a printer, but disposed of it as she found it cluttered up her space too much. Similarly she was able to get rid of her stereo when

she realised the internet could be used as a substitute. Bailey had originally bought her computer while studying for a degree several years earlier.

Until recently Bailey had been a very light user of the computer, but had just ended a relationship with a man who encouraged her to use internet chat to communicate with him late at night. He also introduced her to a range of different internet applications. Bailey was reluctant to share many details about herself, so although I visited her at home she didn't want to take part in the other parts of the study, so I know less about the specifics of her internet use.

Pilot study

Hazel, Katherine and Alison took part in a pilot study. Although they didn't do the final research design, they necessarily contributed to my understanding of the material, in some cases highlighting very interesting issues and contributing the best example of them in the data set, so I will cover them very briefly.

Hazel lived alone in a small house in the suburbs of a small town. She was a student and had travelled from Canada to study. She had an old laptop, which was supplemented with a keyboard and mouse. It was on its last legs and she hoped to soon buy a new one. It was sited in a dedicated study, on a desk which was not really suitable for it. The bulk of Hazel's internet hours were spent using email, which she did for several hours a day, checking many times each day, five times in total on the most frequent day. Much of this was leisure email, which she spent a lot of time looking forward to or worrying about. She also clicked through links, and subscribed to several newsletters and other email items that took her to other parts of the internet. Hazel took part in all aspects of the study.

Katherine lived with her partner in a small flat they shared with a friend. She was studying for a language degree and writing a novel. She was from Scotland, and had moved around a lot trying to find a course that suited her. Her partner was very interested in computers and so had many in the flat in different states of repair. They each had their own laptops, and several older desktops. Katherine did most of her internet activity on her own dedicated laptop. She had a distinct routine of checking email and news sites. She also had several substantial hobbies that used the internet, such as blogging and costume making. Katherine prepared an audio diary and did an online interview.

Alison was single and lived in the suburbs of a small town. She lived in a shared house, so most of her time in the house was spent in her room. She was from the UK, and had recently moved to start a PhD. Alison had a laptop computer, which she used mainly in the bedroom. She had access to a desktop computer set-up on a desk in the living room which belonged to a flat mate. Much of Alison's time online was spent playing online computer games. She spent two long sessions of over six hours, with shorter sessions of about an hour on most days. Her other online activities were email, and a little shopping, which she did on her own laptop. Alison did an audio diary and allowed me to take photographs.

Profiles of use

This section will summarise what women were doing with their time online, using mainly the audio diary material. This part of the data collection was used to provide somewhat quantitative information (Seale, 1999) about how internet use slotted into women's week, in terms of the amount of time spent, and what kinds of activities were done. This data brings us towards the first element of the research questions, to simply catalogue what women were doing with the internet, and what these profiles of use look like.

When drawing up these charts, initially three types of activity were labeled, and these covered the vast majority of activities the women did during their week. These are labeled in blue, dark green and light green, and represent email, shopping and travel. The 'travel' category can be considered a subset of shopping, although it is considered a category in its own right, as it was such a large proportion of the shopping done in the diaries. For most of the participants, only a couple of incidents outside these three types happened during the diary. For those women who did do activities outside of these three types, these were generally quite idiosyncratic, personal activities, related to specific work or hobbies. Surprisingly, general browsing was not one of the major types. In itself this is an interesting result; most of the time spent with the internet is on a small repertoire of items, with most of these very 'standard' items, done to some extent by all the women. These are quite a mundane selection of activities, and fairly task focused. Notably the more exotic activities featured in the internet research literature, and discussed in chapter 2, are not seen in this group.

Other colours marked on the chart were again subsets of the larger categories, both forms of social activity, with Facebook and other social networking (e.g. internet dating) in turquoise, and online telephone calls in navy. These are both methods of keeping in touch related to using email. Most of the unmarked activity was working. Almost all of the participants do some blue (social and email) and some green (shopping) activity during the week, with these very frequent activities taking up most of their online time. All of the participants used email to some extent, with this being the largest single activity in the corpus, as the bulk of most participants' week. This will be discussed in more detail below, as it is a very important use of the internet for all the women, central to their internet use and that ultimately structures much of their relationship to the internet.

Key	
Blue	= Email
Dk Green	= Shopping
Light Green	= Travel
Navy	= Online calls
Turquoise	= Facebook and networking
Grey	= Other
Each segment is roughly half an hour of time.	
The bold line represents midday.	
The time given is the time that session began. Where no time was recorded that session's location on the table is estimated from other information.	

Amy Audio Diary Timings											
Weds	Thurs	Friday	Sat	Sun	Mon	Tues	Wed	Thur	Fri	Sat	Sun
8:56			10:30	9:14							
13:45			11:39	9:27							
	21:53	21:05						20:29			16:05
	22:29	21:05									21:11
		21:05									Later
		21:05									22:00
		21:05									22:00
		21:05									22:00

Sally Audio Diary Timings								
Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Mon	Tues
				7:15				
				8:00				
		8:15		9:00				
		10:00		9:30	9:30			
	8:20	11:15	8:00	11:45	11:00		11:00	
17:50		12:15	21:00	Lunch	12:00	23:00	18:50	15:15
		18:30		12:30	12:30		22:15	17:40
		19:00		17:45			22:15	Later
				19:00				18:20
				Later				20:50
				Later				21:11
					Later			
					Later			

Lucille Audio Diary Timings							
Fri	Sat	Sun	Mon	Tues	Weds	Thurs	Fri
				10:40			
Morning				11:00			
	11:00		Morning	11:00	Morning	10:00	
16:00	12:00	16:00	22:00	11:00	Afternoon	14:30	13:00
18:00	13:00	14:00	22:30	11:00			13:00
	17:00	Afternoon		11:00			13:00
	18:00	3:00 (am)		11:00			13:00
	18:00			11:00			13:00
	21:00			11:00			13:00
	22:00						13:00
	22:30						13:00
							13:00
							13:00
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							20:00
							20:00

Helen Audio Diary Timings									
We	Th	Fri - Tu	We	Th	Fri	Sat	Sun	Mon	Tue
	10:30								
	11:00		11:00	11:15	11:30				10:45
13:30	22:41		13:00	13:30	15:45		13:00		12:45
17:17			14:30	13:30			13:00		13:10
18:00			Later	13:30			15:30		13:40
19:30				13:30					13:40

Hazel (Pilot) Audio Diary Timings				
Thursday	Friday	Saturday	Sunday	Monday
9:30		9:15		
10:30	9:00	11:15		9:30
12:35	Midday	15:20	12:20	
15:15	13:10		22:00	20:00
16:00	15:15		22:30	
	22:15			

Figure 1: Usage diagrams for each woman.

Shopping was something done by all the women in the full study, and was the 'second activity' shown up in this project. This category included making purchases, as well as research towards

buying. This research is becoming a substantial category, with Ofcom (2011) noting that a large category of websites that offer services related to shopping are developing. This includes coupons, promotion of special offers, and advice on how to get discounts. Styles of shopping within the corpus were quite different. Lucille and Helen made large supermarket purchases during the period of the diary, and spent less than an hour on it in their weeks. This was an efficiency activity as it avoided a trip out and was described as less time consuming and inconvenient than making the trip to do the shopping in person. At the other extreme, Sally spent six hours out of her nine days of recording on shopping. Some of this was brief chores such as buying a road tax disk, but much of it was elaborate research for later shopping, hunting for bargains or finding out what was available. In the interview she described that in buying clothes she might visit the internet to find out what was available, then the high street to try on a set of items she'd identified as interesting, before returning to the internet to make her purchase and get the best price. The excerpt below shows Sally describing some of her strategies for shopping. However some combination of both brief shopping, and more elaborate shopping activity were common to all the women, with all of those in the full study not only doing some shopping, but all but Lucille doing several different kinds, researching for large or unusual purchases alongside brief chore type shopping, and more freeform browsing.

Louise: *some other stuff you were talking about. Shopping and stuff. You mentioned EBay. And you were just getting started on EBay. What's happened with that?*

Sally: *EBay I haven't done much on actually. I did buy my chair for my furniture upholstery class.*

Louise: *Oh that's the chair there.*

Sally: *Which I'm starting to upholster. Um. So. That's the only purchase I have from EBay. Though I did this week start looking. Um because I I just booked a holiday to Rhodes. And thought I didn't want to spend a fortune on things I'll never wear again. So I've been looking for sarongs and other things on the internet. Hats and things. I thought if I can find them reasonably cheap I can pass them on. So I don't tend to use EBay a lot. I do look at things. I knew I wanted to go out and buy a present for my friend's little girl. She's just had a baby. So I went on to things like the Mothercare site the Marks and Spencer site and looked at clothes.*

Louise: *Yea.*

Sally: *Rather than spending hours and hours going round the shops I thought I'll have a look online. Then I'll know what I'm looking for. I ordered Xmas presents for my sister.*

Louise: *Yea*

Sally: *I went on The Oasis site. I found some brilliant deals on there. And I bought her a dress that was 20 pounds on the site. In the shops it was still selling for 85*

Louise: *Ooh nice.*

Sally: *Really good for different things like that. I bought recently. I wanted some cookbooks for slimming world. I've done that before and lost a lot of weight. I didn't want to waste my time going back to the classes. Because I know how to do it provided I followed the system. I thought I don't want to go to a class just to get the books.*

Louise: *Yea*

Sally: *I ordered the books from Amazon. They were cheaper than they were if you bought them in the class. My friend's boyfriend likes random. (.)I can only describe it as novelty*

toys. [laugh]

Louise: Yea

Sally: She mentioned he wanted some racing nuns. So I had a look.

Louise: [laugh]

Sally: So I bought him some random wind up racing nuns. It might cost then 50p for postage. I use it a lot for things like for buying concert tickets. Rather than hanging about on the phone. I bought U2 tickets. I've already got an account so it goes through much quicker. Quicker than being on the phone trying to find. I've done a few bits like food shopping. With Tesco's and Sainsbury's But I tend like to look round the shop and get deals and things so.

Excerpt 1: Sally, Interview.

Travel activities deserve a category of their own, although this is really a subcategory of shopping, including buying tickets and researching pricing, and planning itineraries. Lucille, who was planning a big trip, spent four and a half hours on this activity, most during a single day. Excerpt 2, below, gives an indication of the kind of activity Lucille was doing towards planning of journeys, and also some of the expertise involved in knowing a wide variety of useful websites. Sally was also planning a holiday and spent three hours, spread over three days, planning and researching for it. The others spent just half an hour in their weeks, with Helen researching accommodation for visiting guests sometime in the future, and Amy spending a stressful morning coordinating with her family to plan a daytrip that afternoon.

What other shopping do I do online? Plane tickets, train tickets. That kind of stuff. I forget. Yesterday I did go quickly on EasyJet. Coz I'm thinking about this wedding. That I talked about days ago. I have to. We already know some travel we're going to be doing this year. We should be buying the tickets now and trying to get those really really really cheap ones. Yep. I'm just [click] uh do it now. Just shopping now. I like to shop for. I like to shop for plane tickets. EasyJet I find much cheaper. Whatever works. And so I have a range of sites I look at. So I go to check all the Europeans trains anywhere on the continent. There's a great German website for that. You can see the fares going from any point to any point. So I'm going to be fiddling with that probably for the next hour.

Excerpt 2: Lucille, Audio diary.

The composition of each woman's week was rather different, with internet use taking a different shape and structure. For two of the women a large portion of the day was spent at the computer and internet, while for the others they moved away from, and then returned to, the computer during the day, which meant that large chunks of time, including whole days, didn't have any internet use in at all. For Sally, the internet was a substantial leisure activity and source of relaxation in the home, used similarly to television, so on any evening she was in the house several hours of internet were used. She also sometimes used the internet at work, where she did brief tasks, being careful to be 'reasonable' in terms of work rules, and sometimes to do work activities online. Lucille similarly spent her working day online. Her leisure activities were less circumscribed by work, so her day was peppered with personal tasks such as reading the news and banking.

Amy and Helen both used the internet less. Amy provided twelve days, and used between zero and an hour most of her days, with two evenings when she spent a longer time shopping. Every day she was online she looked at email, and on many days didn't do anything else. Helen gave fourteen days and used around two hours each day. She had a four day break while she had some health problems. Again email was used on each of these days, and was about half the time spent. For Hazel almost all of her use was email, and she checked this multiple times across the day.

The diary displayed that internet use has a significant time and chronological dimension. Many tasks were repeated throughout the week, and done at particular times. It was related to other repeated daily activities such as food, bedtime, and morning routines. Most of the women did some kind of online activity first thing in the morning, and by looking at these charts we can get a sense of the shape of their days. Hazel sat at her desk to begin working at about 9am, with email being the first activity she did there. Lucille made a later start, and where a time was given it was between 10 and 11am. Sally had the earliest mornings, starting at around 8am, and checked into the internet either before she left the house for work, or arriving at work before her official day began. Helen often suffered from insomnia and ill health in the morning, and struggled to make her checks at around 11am, apologising for her lateness. Amy had a young baby to care for, so her morning routine was the most fragmented, she was able to check her emails at some time in the morning on three out of the nine days of her diary. We can also see that the different women had different routines across the weeks and days. Characteristically most used the internet several times throughout the middle of the day. For some this was at work, for others it was for tasks that cropped up during daytime tasks, such as consulting reference material. Then there was optionally a session during the evening. For some, this formed an evening of leisure activity, for others a final check of email before bedtime, or staying up late to complete tasks. Notably Amy had two long sessions of shopping late at night, both times when she felt particularly emotional and unfocussed, staying up much later than she intended to.

The participants also varied in how patterned and rhythmic their activities were. These routines applied far less to Lucille, who worked flexible hours during the week. Although she tended to be online first thing in the morning, unlike others she didn't always check email at this time. The rest of her day and week were less routine oriented. She went online during the daytime, late afternoon, as well as quite late at night. Her week included two long sessions of one-off activity, shopping and planning for a trip, and then working late into the evening. In contrast Hazel's week consisted almost entirely of morning email checks, checks periodically throughout the day, and then an optional evening session. Similarly Sally's is tightly patterned around her working week, although this is less clear from the diagram as her work consisted of some days in the office and others in the field with clients. For Sally other social networking had taken on some of the role of email, being used first thing in the morning or last thing at night to contact friends.

The home has many routines and rhythms, and it is no surprise that the internet enters these and become integrated with existing rhythms. As Gorard et al (2004) note, computers and the internet are usually used to complete tasks that would have been done anyway, using more traditional methods, such as shopping. Women can have a problematic relationship with the

time needed to make use of the internet, as the home can be a space of work as well as leisure (Wajcman et al, 2008; Miller & Slater, 2000). This is in contrast to men's leisure time, which is often more time consuming (Cockburn, 1985). These divisions of leisure time are one of the ways gendered relations are constituted in the home.

Email

The following section will continue the overview of this data, by considering use of email, the most popular technology in the corpus, in more detail by drawing on all of the modalities of data. This treatment considers the data as a whole, and the complete pattern of email use in the participants' lives, and illustrates in more depth the shape of internet usage in the lives of these participants. The intention is to explore the functions the internet serves in participants' lives and the arrangements and strategies that are being used to negotiate it into a set of goals and tasks for everyday life. Here I will draw out a few of the key themes to make sense of how email is used across the accounts, before going on to discuss how this data will be analysed and theorised more deeply in the following chapters.

Several participants reported how an interest in email had prompted the purchase of a computer. For Sally when an ex partner moved out and took his computer with him, it was the computer she missed and she wanted a computer of her own mainly for email. Similarly when Amy speculated on how the need for computers in her house might alter in the future, the main issue was when they would want to check email, and the time pressures to do that around childcare and work. For two participants, Sally and Helen, email was so ubiquitous it was barely considered to be part of internet use. Sally struggled to describe her email activity in the audio diary, as she had her email package open all day at work, sending dozens of emails. Helen recorded several days of no internet use in her audio diary, because she was too ill to sit at the computer. But she mentions in another recording that she managed to check email on those days, either through her husband, or managing a few minutes at the keyboard to make sure she wasn't needed by clients. Email also has a particular emotional significance. It can form a substitute for social life, a link with the past, and other lifestyles. It's also associated with a lot of pleasure in relationships, where the women have patterns of expectation of waiting for nice messages from friends, or checking activities and anxiety about difficult emails and arguments.

Email is a quite extraordinary technology, perhaps as important in its place in women's lives as the rest of the internet combined. It can be compared in function to the telephone, and is 'competitive' (Lally, 2002) with it in the sense that their functions overlap and can be substituted for one another. It is also a much more elaborated technology in the lives of all of these participants, with many practices they've developed to make it work for them, and many connections and threads into other parts of their lives.

Email is generally considered, by technologists (Okin, 2005), social researchers (Jackson, 2001, Bakardjieva, 2005) and regulators (Ofcom, 2008), to be the most popular internet application. It has contributed to making the internet an everyday technology. A particular individual's email

use typifies and characterises their engagement with the internet more than any other application (Jackson, 2001).

Email has been consistently a popular technology since the internet was first conceived, with messages sent by engineers quickly morphing into an early form of email, and Bulletin Board Systems, the precursor to the internet in households, supplying similar messaging systems. Newly popular social networking such as MySpace and Facebook also allow email like messages; mobile phones and similar devices are beginning to allow email to be sent from anywhere. All this variation operates to disrupt email as a single unitary set of packages and functions. Although it seems likely that email will remain one of the most popular and attractive functions of the internet, the form it takes is constantly shifting, so that its place in everyday practices also shifts, as does its integration with others methods and technologies of communication. Email is particularly associated with women, who favour communication, and are more likely than men to use the internet to maintain relationship and keep in touch (Baym, 2008; Boneva et al, 2001). Similarly Miller and Slater (2000), in their in depth ethnographic work, describe how emailing relatives had become 'women's work' analogous to keeping up such responsibilities by letter or telephone.

Email itself is a very complex and flexible technology. At the most basic level, an email is a message which contains a sender, a receiver (perhaps multiple), a subject or title for the email, and a message of any length. It is sent asynchronously, which means it sits in the inbox of the receiver until they collect it. But this basic format lends itself to many different ways of negotiating through the possibilities, and can operate in many cultural spaces. Unlike many communication technologies, such as Hine's (2000) newsgroups which prefer medium length disagreeing messages, there is no 'preferred', specific format or set of conventions governing emails. In different contexts they can be negotiated very differently, with different functions and different productivity. Given its popularity and complexity, it can be an illusion to consider it just a single technology. Looking at the possibilities it opens can also help us to see how newer technologies such as social networking can take over parts of its function, and there's an argument to consider all of these as a single technology, as the lines begin to blur. Despite the richness of this media, email can be truncated under certain conditions, such as 'work email', which is often a much more limited category. Although this may technically have the functionality of a full email service, it will be constrained by policing from a combination of explicit rules from the employer, and internalised rules of correct engagement in the workplace.

Email in the data

One common form of email message in the diaries was a very brief one used to make immediate plans with friends. In terms of time, these could be almost real time messages, with Lucille for example, using email during the day to plan her evening with her partner. Helen similarly contacted her partner in this way when they were both in the same house working, he upstairs in a spare bedroom/office room, and her in the living room. Sending messages in this way had several effects for Helen. Her primary explanation was that it was part of a strategy to allow them both to work from home without overly distracting each other. These emails allowed them

to avoid having to stand up and move to the stairs to shout to each other, so they were about matters as mundane and immediate as whether they would like a cup of tea. Making plans with friends using this method was done by most of the women, with some participants, notably Lucille and Sally using it most days to arrange or confirm plans. This was with close friends who would likely be seen later in the day or week.

This contrasts this with a style of email that is more like a traditional letter. These were conversational or news filled emails sent to friends and family. The functionality of these was more for friends and family who were far away. Writing and receiving them was a pleasurable pastime in itself, with Hazel and Lucille both talking about this pleasure, and particularly about waiting or hoping for emails from friends to arrive. For both of them this was an early morning treat, for both because they had family and friends in other time zones who might have written while they slept. Lucille also tended to send her emails late at night as a response to this time difference effect, as we can see in excerpt 3, a quote from Lucille's diary.

So I have to get the website here. For email. It's kind of a drag to have to look up email in the morning. But usually it's because I've been sending out late at night. I send out. Like to someone I work with. Just a reminder of something. Or my friends, they usually go out late at night. So usually get an answer. So. OK. Ok (.) [typing noises] Woow. There's nothing interesting. No answers to my emails from yesterday. So basically all of this email is work related. Is nothing [sing song voice]. Recreational. No friend writing to me. Or something. Today. S' ok. So I just have to get going.

Excerpt 3: Lucille, Audio diary

Email also has more functions for formal messages than any comparable older technologies such as telephone or letter. Helen spoke about sending an email to follow up a conversation to get it in writing, saying "*some people, no matter how well you think you've explained will insist later that they didn't understand or forgot*". Similarly, Sally makes a lot of use of the receipt function on her work emails so that people can't deny they've read her emails.

Less formally email allows other types of specialist message, such as sharing a communication with a group of people. Some receive newsletters and click through the other areas of the internet, with email checking starting a session of browsing or wider reading, while others don't like to click through and go elsewhere. For Amy checking email was associated with various chores such as shopping, banking, sorting out bills and bargain hunting, so she received emails that were part of the cycle of performing these chores.

Of course one of the primary purposes for email in the group was to maintain relationships. This is a form of emotional work, one of the most described element of using email, and one of the areas of participants' lives that the internet has changed. This area of using email gives a sense of pleasure at contact with people, which spilled over into considering online social activities as a leisure activity, something to fill a spare hour that could be comparable to hobbies in the home, watching television, or reading a magazine. The need for internet use to support relationships and the relationship work that needed to be done could ripple out and require other shifts in how everyday practices were performed, or how the home was moved through. These kinds of uses lead to women reporting an emotional relationship with computers, the internet and email.

Some find the computer begins to feel like a friend, and is incorporated into the identity (Lally, 2002) or stands in for the people they love and communicate with (Whitty & Carr, 2006). But these can also present difficulty in communicating using email, in terms of missing the extra communicative potential of the body, facial expression (Leung, 2005), or to make sense of other people's practices with using the technology. Hazel said that for her emails were '*a substitute for social life*'. Which suggested her particular style of usage; she used email to drum up a lot of relationships and networking. Overall, though, most participants used the internet as one small part of their practices and strategies to maintain relationships, with people they had become friends with throughout their lives.

Relationships to other technology

Comparisons were often made in the corpus between internet technologies and the telephone. These internet activities directly and explicitly competed with the telephone, in their capacity to allow messages to be sent between friends. Perhaps surprisingly, when the telephone has often been cited as a technology deeply imbedded in women's lives, it was common in the corpus for women to say they didn't like the telephone. Both Amy and her mother disliked the telephone, as seen in excerpt 4, so although Amy was one of the least prolific emailers in the sample, she had been able to use email to take the burden of some of her responsibilities to keep in touch with family. Hazel also found phoning unpleasant, and others said that although they didn't actively dislike talking on the phone, they found it much more convenient to shift to other methods of contact. Most of these allow, for example, that messages can be dealt with at any time, rather than immediately, as well as saving time. Email was also popular because it's free, particularly in comparison to mobile calls.

Louise: *I meant to ask. How much does email figure in your life?*

Amy: *It's great, I hate the telephone*

Louise: *Yea*

Amy: *Coz there's no faces involved. Not sure quite why that is. Um. And email you can reply when you want to which is what my mother likes. My mother just turns it on when she wants to check her messages*

Louise: *Mmm*

Amy: *I keep in touch with my mother that way because we both hate the telephone.*

Excerpt 4: Amy, Interview

As well as noting this comparison, several participants mention and slightly resent the situations where phone calls are necessary; speaking to older relatives, or friends who won't cooperate and take up newer technologies. Lucille and Hazel both talk of friendships that risk damage because both partners don't use the same repertoire of technologies, which Lucille describes in extract 5. In extract 6, Sally discusses the loss of talking on the phone, describing how skills associated with speaking on the phone, or even face to face, are lost as email and text messages have become the primary way of communicating with friends.

Lucille: *You've got Skype contact for example. That sort of stuff. Email. And if they don't write. One friend of mine she's a lazy writer. You send her an email and get like two*

sentences back. So I call her. That email contact we were not in touch for ages. Because she didn't really write. So that kind of. Becomes an obstacle to staying in touch. It's so much easier to stay in touch with all these techy people.

Excerpt 5: Lucille, Interview

***Sally:** Everything social is either via email or on text. I think it's distracted a lot. That's one of the things I've found with internet dating. It's a phenomenon we've all talked about at work. The ones of us who are doing the internet dating. About four of us at one point all doing it. People don't talk on the phone anymore. It's all email and texts. Abbreviations and things. People not having the same contact. Some people um if they haven't got as developed social skills. I think. In some ways people struggle more. I'm lucky in my job I'm used to talking to people I don't know and visiting strangers. So in some ways I'm quite socially confident. But they would struggle with face to face contact. Or might not have the social skills around appropriateness and things. I think that's a huge factor. And my friend said don't you ever ring to arrange. And I said I don't really. It's email or text. That's a big thing. It tends in all honesty now to be. My siblings keep in contact via texts. The only people who tend not to is people like my granny*

Excerpt 6: Sally, Interview

Several other technologies were also relevant across the corpus for contact with friends. Skype appeared in several accounts, which gives an experience similar to the phone, but is also popular because it's free. It seemed to have a different feel to a telephone call. Text messages using a mobile phone were also associated with emails, as a similar form of message, and could be sent for free by some of the participants using the internet. Facebook also has provision for both instant messaging and email style messages, which will give a notification both on the webpage and in an email inbox that a message has appeared. In excerpt 7, below, Sally described how Facebook was increasingly becoming more used than email amongst her friends. The machines involved can also vary. Laptops or smaller devices such as internet enabled mobile phones become important while travelling for keeping in touch. Sally particularly uses the internet to contact friends who are travelling, and the internet allows messages such as emails to be sent to people whose location wasn't known, who couldn't have been telephoned.

I've friends who are travelling. It's easy to keep contact. With people. And lots of people these days don't tend to send emails. Not through your email account. It tends to be via Facebook. Or they'll send you like a quick two sentence message. So I find you know I'm on there doing that. And responding to people that way. Whereas I think. Years ago when I used the internet. It was very very rare. I've used the internet don't know how many times today. Work. Different things. Looking at different things and charity information. Before, say nine years ago we had very nice computers sat on the desk that we never turned on

Excerpt 7: Sally, Interview

But probably the most interesting moments in the comparison of email and other technologies come when they are innovatively combined. For example a story from Sally's data, in which a social dimension is added to other internet activities. While using the internet to buy tickets for this year's Glastonbury festival, she began looking at photographs of her and friends having fun in previous years and feeling nostalgic, which then lead to emailing those photographs to

friends, reaching out to involve them in the process and make connections with the past. So this combined using the internet to buy tickets, looking at photographs stored on her computer, and then emailing those photographs, in a string of actions made coherent by her intention to plan an enjoyable trip with friends, and her emotions of nostalgia and anticipation.

A similarly complex moment emerged from Amy's use of Freecycle throughout her data, a website that allows users to donate items to strangers, and receive donations from others. During her diary she regularly checked this to arrange swaps of baby items. But this meant she had already planned items she had to submit as donations, prepared them and posted messages advertising them, and also searched for items she needed. After contacting strangers to request items and make arrangements, she went on to use the internet to plan her travel, before driving to meet them to exchange items. Using this method she had made several friends with babies the same age as her own son. So a number of different impulses and internet activities intersect in this one set of tasks, which also contributed to her identity work as a frugal, environmentally aware mother.

Time and email

The use of Email social life had a framing effect on many of the routines of day to day life, discussed in the charts above. While most of the participants talked of emails increasing convenience in comparison to telephone, none mention the extra work and disciplining it called for. Email requires constant vigilance in checking messages; unlike the phone it doesn't alert you to a new message. And this is reflected in the urge to 'check' that occurs throughout the accounts. All the participants check email nearly every day, even when Helen is sick she finds it necessary to 'check' through her husband. In excerpt 8 Hazel describes how this can create a compulsion to constantly check for new messages.

I'll be working on something. Like in a word document. And um. Let's say I'm working on something here. here. Like. [keyboard sounds] Some notes right. And I'll just be struggling. Struggling with writing in here. And immediately I'll just do this. [keyboard sounds]. And check. And check and check and check. And check. And um. [sounds of email program opening] I can quickly see here that I've got like some junk mail. And you know that there is nothing interesting. Or personal. And then I'll put it back down and then I'll wait a while and then I'll check again. And then I'll check my other account which rarely has anything interesting because I don't use it for anything.

Excerpt 8: Hazel, interview

This affects the landscape of social life. Most participants worked on a computer all day, and email could pop up at any time. Sally commented several times throughout her data that she found it impossible to diary all of her internet use, because she found it hard to consider email as a usage of the internet. They popped up right onto her screen, and many she answered immediately. Amy felt herself outside this loop as she'd made a decision not to check her leisure email during the working day. She found friends and contacts expected instant replies, and not doing so could create misunderstandings. Hazel was one of those who expected an instant reply,

and talked about the pain of struggling to understand the many friends who didn't do so, and trying to console herself not to find it upsetting. For both Lucille and Hazel, the timing of their day had been impacted by the hope of a pleasurable contact with friends through email.

As discussed above with regard to the internet as a whole, it has associations with timing and chronology and the rhythm of the day. This was particularly characteristic of email, above all other internet activities, which gave participants a sense of being in contact with family and friends, and also with work and other larger projects. Emails also framed internet use for most of the participants, with email acting as a reason to log onto the internet in the first place, and as a springboard to other activities, as links are clicked or tasks are suggested. So more than any other internet activity email was associated with leaving or arriving at home or at work, with many audio diary entries begun with a participant having recently arrived home, "I've just got in" and check into their email immediately, as seen in excerpt 9.

Just checked email for first time in the day. I usually get up and go down and make some tea or something to eat then come up and turn on the computer, check private account first, then [work] account second, which is on the web. Web mail.

Excerpt 9: Hazel, Audio diary

Similarly, email could be associated with other time bound elements of the day, such as beginning and ending work, taking breaks, or eating food and snacks. Many of these were marked by checking emails, which could signal the start of a period of work or activity, but also could be used as a pleasurable or restful activity when work was finished. The very start of the day was also a common time to check emails, either when first waking up, perhaps while eating breakfast or drinking a coffee, or at the start of the working day, as in excerpt 9, where Hazel describes her early morning routine. Checking last thing at night was more associated with leisure emails that would bring pleasure or a treat. Time demarcation through using email was often marked by use of space, email required the characteristic seat at the computer, although this could be modified by having a snack in that space, which slightly disrupts the work style arrangement of body and gaze. Clear breaks from the internet could be signaled by moving into a different room, and similarly if email was taken as a break activity from more active work elsewhere it would follow moving into the room with the computer. These phrases are used, particularly in the audio diary as a phrase that stands in for starting or stopping using the computer, as in extract 10 from Helen's audio diary, where she describes taking a break from the internet as to 'get up from the chair', extracts 10 and 11 show other variations on this kind of talk showing movements of the body to signal beginning or ending an email session.

So I am going to spend a bit of time. After IMDB I'll probably do a quick cute overload² check. Then it'll probably be time to get up from the chair for awhile.

Excerpt 10: Helen, Audio diary

I'm upstairs um at the computer, I've brought up my tea and my toast and it's 9 o'clock. Looks like my computer didn't shut down properly, so is doing it now.

² Cuteoverload.com, a blog style website showing photographs of baby animals.

Excerpt 11: Hazel, Audio diary

Okay it's now noon. I've been out and now I'm back and I'm checking my email.

Excerpt 12: Hazel, Audio diary

Addresses

When talking about social contact over the internet, email is an important thing – it is of course the main technology used for social activity. But this is not a simple technology; there are lots of ways of using it and many forms that it takes. A distinction that appeared in every account in the corpus was that between work and leisure email. This distinction adds extra function to the practices of email, and solves a set of difficulties, such as information coming into the public domain, or emails being unreliable as people are swamped (Haddon, 2005). Haddon describes, as do my research participants, elaborate systems of email accounts reserved for work or leisure, as these are transactions that might attract spam, and the practice of giving a special email address to dating sites (Whitty & Carr, 2006). These can also be managed through time and space, with leisure emails reserved as an early morning or evening activity with a cup of coffee and relaxation (Ward, 2006). These technologies can also be used through others, with some emailers not touching the keyboard themselves, but passing on notes or dictation for others to prepare as emails (Bakardieva, 2005; Sewlyn et al, 2005). Not much detail was given in the corpus of practices for maintaining work relationships, but friendships and family tended to be mediated through leisure email. This means 'leisure email' becomes a more substantial and detailed assemblage in participants' lives, that was much more integrated with other practices and goals. It provided an interesting comparison with work email, which in comparison was used as quite a flat set of functions to contact people through work. Leisure email had more scope to be integrated with other technologies. Initially the telephone which it competed with, and at the tail end of the research period it also competed with social networking sites such as Facebook. But it also had relationship to actual meetings with friends, and making other kinds of arrangements and moves in the maintenance of those relationships. This more complex array of arrangements made this form of email a different technology to the more constrained 'work email'.

The decision by some participants early in their email career not to allow leisure email to leak over into work was partly to avoid complications with employers, but was also a move that kept this pleasurable relationship space free of concerns of work. This allowed it to be checked in the evening or during lunch breaks as a leisure activity without the encroachment of work. The women all had more than one email address, with practices around managing and making use of them. The most common distinction was between work and leisure, but additional extra addresses could provide other kinds of productivity. Helen had a dedicated shopping address intended to attract spam and keep it away from her primary addresses.

As women checked their email they moved between the different addresses in different ways, which reflected their overall patterns of use. Some women prioritised the leisure over the work, with Lucille checking her work address sporadically, with the leisure one for higher priority

friends. Similarly Helen checked her personal account first, but she preferred only the most formal work contacts to use her work address, and long term clients to switch to her personal account. In contrast Amy and Sally checked their leisure emails only during breaks or in the evenings. Sally felt pressure not to use the internet for leisure at work and polices her use there carefully. Both Sally and Amy had specific confidentiality issues through work which required special software, and meant email could only be checked at specific sites. Amy's had to be on a special laptop she had borrowed, which couldn't access the internet in general. For Sally parts of her work email could be accessed from home, but confidential files had to be carried and entered on the work premises.

Bailey's collection of email addresses gives a sense of some of the complexities of negotiating different addresses with different productivity and function. She had six email accounts set up for different reasons. These are described in excerpts 13 and 14. She started out with a hotmail address of the form firstnamesurname@hotmail.com using her married name. When she and her partner separated she returned to her maiden name and got a similar address for that name. But she had to maintain both, because old friends still emailed the older account. This highlights the problem that despite attempts to manage email, others do not necessarily cooperate when they send messages. Helen similarly had problems persuading her clients to contact her on the email address she'd prefer. Bailey then joined an adult personals site, which was where I originally contacted her, and upon realising it would generate a lot of email, she set one up especially for it to keep that email separate from her other addresses. Then she wanted to use yahoo chat, and that required a yahoo address. Still later she wanted to send an anonymous message to an ex lover's partner, so she set up a completely anonymous address. She then found that address useful, and quite a different experience having such an anonymous address, when she was used to having her full name on display, so she kept it up.

I always check my e-mails. I have 2 x accounts with Hotmail, 1 with Google mail and 1 with Yahoo, 1x [internet dating]³

Excerpt 13: Bailey, Email

Louise: *What are all the email accounts for?*

Bailey: *I was married before. I'm separated now. I've gone back to my maiden name. So I created a new address for my name*

Louise: *Yea*

Bailey: *Inevitably people don't listen so I've kept them both*

Louise: *Yea*

Bailey: *When I started [internet dating] I Just kept that separate. It's not something I wanted everyone to know I'd done.*

Louise: *Yea*

Bailey: *It just seemed to make sense. Originally I had my contact address as the yahoo account. It was going to be a nuisance. So I got a new one*

Louise: *What's the other Google one?*

³ All data written by participants, as emails or instant messages are presented here as typed.

Bailey: *I'd originally made that about two years ago. I was seeing this guy. Quite complex situation. He was seeing someone else. I wanted to write her a poem. She's young. I felt bad because of what had happened. I had something I wanted to say to her but anonymously. I wrote her a poem. Then I started using it for other things*

Louise: *Yea*

Bailey: *I started using that. If I want to be anonymous I can with that. So I like that.*

Louise: *Yea*

Bailey: *Having had [Firstnamesurname@hotmail.com] it was nice to be anonymous*

Louise: *Yea*

Bailey: *I can't remember how that. I think it was because I set up. I don't know why I have the yahoo. But it came in handy.*

Louise: *Yea*

Bailey: *But I never use it*

Excerpt 14: Bailey, Interview

These indicate several interesting points in the management of email addresses. There's a moment of starting an address, but also then the maintenance of it. Such an address is meaningless without being regularly checked, emails sent from it and the address distributed to friends, who then trust it enough to use it. Although Bailey doesn't need to keep up maintenance on the yahoo address, for example, in order to use the chat, she likes to keep a tidy inbox. We can also see how the purely technical interacts with people's preferred practices. Bailey is constrained unable to delete her married name email address, because she can't be sure that all her friends know of her new address, and might miss emails she would like to see.

Email and disciplining

The disciplining of work and leisure emailing is characteristic of much of email use, and of wider internet activities. For Sally, in excerpt 15, usage is also constrained by time and space at work. So she checks her personal email at home before she comes to work, or arrives at the office before the working day begins. At line 10 she explains this as a fear about losing her job, so that to use the internet or her email inappropriately is very guarded against. For Sally much of her work activity can be done online, with lots of emailing and searching sanctioned as work activity, but as she describes other colleagues can be more constrained than her, and not able to use the internet for these tasks.

1. **Louise:** *So when you're at work do you keep stuff like Facebook strictly in the lunch hours or does it filter in.*

2. **Sally:** *Um I would say it filters filters in occasionally. Because normally in work before I start. We start at half past eight. So I probably would have had a look before then.*

3. **Louise:** *[yea]*

4. **Sally:** *Now and again looking. I would never do it over my lunch hour.*

5. **Louise:** *[yea]*

6. **Sally:** *I would never. I've been I've known people who. Couple of years ago. People have had stuff like sites where they're selling something on EBay. And all sorts of things.*

7. **Louise:** *hehe*
8. **Sally:** *And they've ended up losing their job. And watching sport and stuff. I wouldn't do that but. My time would never go more than added up over my lunch. My lunch*
9. **Louise:** *Yea*
10. **Sally:** *I value my job too much*
11. **Louise:** *[laugh]*
12. **Sally:** *Really. Yea. But no but you'd see how people could probably get caught up in spending a lot of time on there. Um but um. There is a sensible usage policy. On your lunch if it's in a healthy way. We're not restricted. Whereas I know certainly. My friend worked in a different authority. They can only access for whatever it is. For their you know. Whether it's to do with their work or personal because they're on a break. The can only access it between say 12:30 and 2:30*
13. **Louise:***[yea]*
14. **Sally:** *And the rest of the time they can't get any access at all.*
15. **Louise:** *Oh so they're not able to do stuff like searches*
16. **Sally:** *No. they have to have special permission. Or they can only use it in that timeframe. I use mine day in and day out.*

Excerpt 15: Sally, Interview

But there are other ways email use can become problematic. For Hazel lots of her internet use was divided into 'good' and 'bad'. Work activities were considered good, and so were current affairs and cultural items. The bad was torturing herself, by looking up ex lovers or other things she misses in her life, or obsessive checking, particularly of email. Email could be checked many times a day, or even every few minutes. Hazel described this repeated checking in excerpt 9, which we saw a few pages ago. This kind of repeated checking was common across the corpus, with Lucille checking the weather often throughout the day, and Helen looking at 'cute overload', a website with photographs of baby animals. These were associated with a feeling of comfort during the check. Hazel was hoping, when she checked, for social emails from friends. But this can also deepen feelings of loneliness, as well as disrupting other activities. These checking practices were also associated with strategies to avoid them. For Hazel this was combated by moving away from the computer and turning it off, and also by trying to spend restful times in the evening or morning in a different room from the computer doing alternative activities that were seen as more positive, like watching a film on DVD in the sitting room.

Analysis

This chapter ends by discussing the methods used to analyse and theorise this data, to produce an account for the rest of the thesis. This approach was taken to gain a deep understanding of women's use of the internet, to see that internet as it becomes in use, as a technology that is about 'doing things with' (Roscoe, 1999). This will be followed by a worked example, before we go on to the following three chapters which discuss this analysis in depth. The overall intention of this research design has been to get access to a deep picture of internet use, including many dimensions, in order to not lose embodiment and the movement that is implicated by it (Sheets-Johnstone, 2009). This has included bodies, online texts, furniture, objects, software,

clickthroughs in web pages, every day practices such as eating meals, expertise, and so on. So a wide range of different materials have been collected for each participant. These touch on different levels of embodiment, movement, how bodies are used, but also different kinds of 'text'. These are gleaned from different ways of recording – for example some are present in talk, literally a participant describing a particular event or opinion, while others are told through action, such as a recording of the sound of fingers typing, and sighs or small exclamations as a webpage is searched through, or as photographs of that keyboard, and its location on a desk or in a room, in relation to lots of other things, still others are field notes diagrams of the layout of a home in terms of doorways and pathways. These require different kinds of interpretation and reading practices to make sense of, and differences in the balance of power between respondent and researcher in how to choose to present and articulate material. The analysis was begun with a package of data for each participant, showing a detailed profile of each respondent's internet use, capturing its many different modalities.

The production of a whole package of data for each participant, and also this quality of getting a 360 degree view, in a range of media of both embodied and talking/writing practices suggests a particular kind of analysis. My analysis needed to take advantage of the richness of this data, and avoid collapsing it back into any single one of the dimensions. Particularly I wanted to take advantage of some of the felicitous moments when action and events have appeared as traces in this data, in ways that are not entirely predictable and certainly not evenly distributed across the data. This analysis emphasises, as Hollway & Jefferson (2000) call for, making linkages across the whole corpus of data, and using this large collection to gain understanding of each participant's own meanings, rather than cutting, fragmenting and coding from this collection.

Description forms the backbone of this analysis, and the whole study. The final corpus consisted of many forms of simple description, alongside counts and lists that survey the internet technologies, objects, and timings of participants internet use during the time of the study. These perform an important function in thinking differently about what the internet is in these women's lives, and creating the possibility of fresh ways of theorising it. Rich, detailed and methodical description brings out things that can otherwise be glossed over, and locates silences. For technology in general and the internet and women's use of it in particular, there are many large silences. In the parlance of technologists and traditional use, these machines are often treated as simplistic and discrete, with very little leakage into other areas of life. The enormous amount of emotional labour that goes into their operation particularly is ignored, the constant work of maintenance of machines, and the struggles when they break down or fail to perform as expected (Thrift, 2008) are often left out of the story, as are how the internet is linked with other machines, objects, and then with everyday life and practices. The gendering of many of these relations is therefore also rendered invisible.

Several layers and forms of transcription were used in this study as the earliest stage of analysis, and these have been described earlier in this chapter. This was part of a struggle to think differently about the internet and find new ways of making sense of it, and of the collection of data. This struggle to think differently about embodied experience is evident in, for example, Miller's (2008) *The Comfort of Things*, where he experiments with methods of researching and writing about his participants' special objects. These are presented in the form of 'portraits',

standalone short pieces giving a detailed description of each object and its place in the participant's life. Here he argues for the importance of 'posing questions' to the house and enclosed objects, not just to people through talk. Traditional transcriptions of talk are devised to support a particular kind of analysis (Coates & Thornbarrow, 1999), and these transformations are no different. They operate to highlight the material, space, and action located in the data, to allow these elements to be read and interpreted. This is always a shaky position, sliding backwards and forwards between the danger of reduction of this rich material, and moments of capturing some of the action or the acts of objects. This work contains many dangers. There is a risk of pinning down an object or movement to reduce it into something static, or to return to a fetishisation of familiar texts (Sheets-Johnstone, 1994) making it essentialised and unambiguous. But despite these problems, the documents I produced as descriptions of space and movement became increasingly important as the analysis and ordering of the data progressed. These became the documents on which the analysis was based, just as a transcription or coding frame would operate in traditional text research, as the initial level of analysis and bringing forward of particular parts of the data.

This analysis also takes several influences from text analysis. The first of these is that we can never have a final analysis of the material, these readings are particular. They are intended to answer particular kinds of questions and trouble particular problematic ideas about the internet. At the same time they exist in a particular time and place, and most importantly are made by a particular researcher in this time and place. Once we begin to talk about relationalities, it's important to acknowledge that I as the researcher am present in every relation I discuss in this thesis (Harris, 2009; Hollway & Jefferson, 2000), as all of the research is designed by myself, elicited from participants as a request from me, and wherever I go in my collection, ordering and then analysis of that data I am there. Another key motivation in this analysis is to prioritise the concrete, and productivity. I'm interested in how a particular discourse or material issue opens possibilities for other things to happen, or, conversely, closes them down. This raises a constant thought experiment about how things could have been otherwise, what other sets of possibilities could have emerged. This is in some ways an inheritance from discursive approaches, where language is seen as an act, that is used to do things and create effects, such as to shore up the self (Henriques et al, 1984), or to make an argument for legitimacy (Billig, 1996). Although ideas about productivity are also important in other traditions, such as Latour's (2005) argument that he is only interested in actants that produce traces, making a change in the world that can be recorded. This exists similarly in Deleuze and Guattari's (2004) notions of assemblages and networks. What makes such networks of flows meaningful is that they act on the world and create changes there, traces that we can pick up and find later. This disciplines us to a style that is concrete and tightly focused on action and movement around that leave traces we can find in data, but also suggests that these traces are possible and readable. For Nik Rose(1998) such an approach keeps us focused on questions that ask not about the essential of things and what they 'are', but about what it is they can 'do', what comes out of their movement and activity. This takes us away from essentialising and into an interest in action and doing, and what an object or body is capable of and can produce.

In order to locate this reading of bodies and action in the data, I immersed myself in the ways of thinking differently advocated by Thomas Csordas(2002, 2008) , Maxine Sheets-Johnstone (1994,

2009, 2010), Sara Ahmed (2006) and N. Katherine Hayle (1999), to think in terms of being and experience, rather than representation and abstract bodies. These approaches, and this shift in thinking, are described in detail in the following chapter. Doing this work required a great shift in my own thinking and making sense of the world, and a very new set of reading practices. This revealed that a great deal of social research treats the body in the disembodied manner criticised by these thinkers, and was a surprisingly painful process.

So this package of data was subjected to a reading in terms of experience and being, this particularly highlighted use of the body and movement rather than static pictures. This was true both for looking at data, but also for diagrams such as those I introduce in chapter 6 that are necessarily still, but describe a situation of motion. This set of reading practices, which searched for a rich account, prioritised experience and its corollaries, was used beside many transformations of the data, as described above. In the chapters that follow several diagrams and simplifications of the data will be introduced, which were produced as I transformed and coded what I had over and over again to produce different readings. These traced different paths and flows through the material and meaning of respondents' life worlds. In dialogue with objects (Miller, 2008), we can see the conditions of possibility in arrangements of objects, and the paths marked out by the layout of furniture, doorways, or stationary items that cluster around workstations. Haraway (2008 p3) advocates such a 'grappling' with the world in order to make sense of it. When dealing with movement, and the fragility of experience, it is necessary in the understanding to move backwards and forwards between static accounts, and those that include movement. For example in this project the photographs and interviews and many of the charts I have drawn up are static. They are snapshots of one particular moment, which is sliced out of a flow of movement and action. It is easy to lose track of this vitally important fact and interpret that staticness as representative of the thing being studied, or, on the other hand, of despairing that the movement has been lost and can't be spoken of. I argue for a reading practice that looks at the static but infers, imagines or assumes that it comes from a world of movement.

A worked example

To illustrate reading practices that prioritise embodiment issues, this chapter will finish with a worked example from the data. Below is an excerpt from Amy's audio diary. It comes from a series of nine recordings, made on one Friday night, between 9:05pm and 12:30am. Shown here are the three earliest recordings. As the evening goes on, in the following recordings, Amy goes searches on Google to find advice on how to lay a patio, presses a wrong key so ends the recording. About an hour later she makes another recording, saying that while she's been surfing a DIY reality TV show has started on the TV, and she wonders if she could get a place on the show for her garden, so looks up the website of the production company. By this time she is calling herself silly and says she will go for the night. But twenty minutes later she makes another recording, saying she's getting 'soppy' about the program and has been distracted by an advert for a jewellery website. She makes two more recordings over the next half an hour talking about looking at jewellery, feeling tired, and wishing for a treat.

Recording 16

Friday 13th April 2007

21:05 (timestamp– 21:07)

Hi It's Friday (.) um (.) same week. The 13th 21:05. I've just had an argument with my husband. I'm sitting watching telly despite all the chaos around me. A::nd Um and I'm looking up B&Q (.) on the internet. Using Google. I'm typing in B&Q [typing sounds] with an ampersand and get [clicks] B&Q online. First hit. Not a sponsored link. W w w dot dee iy why dot com. The reason I'm looking this up is that the husband has been renovating the garden for two years and it still looks like the Somme. So um He says it's going to cost two grand to buy the bricks and the planks and the (.) slabs and things. We don't have two grand. And um But I think he's buying quality stuff and I maybe we need to buy cheap. So I'm looking up on B&Q about it. That's what the argument was about. Not about cheap about (.) what we should do. And I'm feeling grumpy. I'm feeling cold because the temperature has dropped and I'm sitting here in my pyjamas. And I've had a hard night because my baby wouldn't go to sleep and he cried and it was really hard work. And hard on the heartstrings as well. And on the telly is Midsomer Murders which is just weird. About ESP and things. So here I am on the usual B & Q website And it's the usual crappy website with menu down one side and font that's too small. And uh. Garden. Okay. Uhh [sigh][clicks].

Recording 17

(timestamp - 21:08:30)

Okay paving and decking. Patio project kit 229 pounds they reckon. This appears to be on some sort of offers. I'll click on that. [pause] oh. I'm halfway through well I've just clicked on a particular offer. And it's asking me if I want to complete a short survey. This is just annoying now so I'm going to click off. Usually I do that sort of thing because I like to comment on websites. Midsomer Murders is back on so now I'm distracted by that. Will continue with this in the next interval when the advert comes back on.

Recording 18

(timestamp lost)

Okay. Having looked at B&Q I realise I know nothing about how to lay a patio, so I'm going to look up how to lay a patio on the internet.

Excerpt 16: Amy Audio diary

I'd like to draw attention to how embodiment is present in this transcription. I'd also like to highlight the differences between a reading that's about representation or discourse, and one that is about embodiment and action. I'd argue that the elements of this recording that concern embodiment and movement are essential to understanding this moment for Amy, and getting a sense of her experience over the three hour period of that evening, and of the nine moments

that she shares with us. Each of these elements constitutes some part of her experience, and were they not in place it would be a very different situation. The first thing to consider is that these recordings are made over the course of a particular evening, and are tied into those events in a particular way. Amy is not in a vacuum: as she makes each recording she is acting on the world around her, and attempting to complete some tasks on the internet. As she speaks to make the recording, she is thinking and performing actions. We can see this is the case by Amy's use of the present tense and active language, the sounds of typing, clicking, the pacing of her talk and of each recording and use of the websites. We can also see Amy gain new information, and change her mind and progression of ideas as the recordings progress. In Recording 17 she was reading from the new information she's seen on B&Q.com. In Recording 18 and the following recordings she became distracted and looked up other things. The timestamps recorded by the digital recorder indicate that the first two recordings were made 82 seconds apart, representing the time it takes Amy to move from searching for a website, to finding that website and navigating through it.

But lots of things are happening to Amy as an embodied subject during this period of a few minutes, which contribute to her experience that evening. It is late at night, and the temperature is cold. Amy is in her pyjamas, which both contributes to her feeling of coldness, but also has a meaning in terms of her working day being over; furthermore it implies a situation of vulnerability and that she is 'shutting down' for the day. The recent events also position her experience, she's had an argument with her husband and a hard time with her baby. These all contribute to, and are fed back into, her emotional state. The possibilities for how she can act and what she can do here is also constituted through the arrangement of the room and the furniture and machines in it. We will explore Amy's living room in more detail later, but this arrangement of the computer in view of the television, seen in Photograph 1, meant she could watch and use the internet at the same time. During the recordings she passed back and forth from one to the other, at times focusing on the television programs, and at others on the internet. This particular arrangement created the conditions for being distracted and attracted to remain sitting at the internet for long periods, particularly late at night and in an exhausted or weepy state. She was able to move through these websites by clicking through, beginning with a focused task, and being distracted by a combination of feelings, the television, and adverts. She was downstairs, which is again both meaningful and functional; at bedtime to be downstairs means to be breaking the preferred use of rooms, but also means she was distanced by space from her husband and baby who were upstairs. Her actions were motivated by the task with the internet, to find out information about patios, and her task with the patio, which is to ultimately get it completed. But under these embodied conditions several other motivations creep in, when she clicked on an advertisement for jewellery she felt sad that her current life was hard work, and there was little time or money for treats for herself. This complex of embodied issues, time, temperature, clothing, arrangements of furniture and machines, navigation through websites, her location downstairs, her emotional state, recent events with her husband and baby, as well as the task at hand are all important elements of this particular moment. And a reading that prioritises them gives us a way of understanding Amy's evening that acknowledges the richness of the experience, and how the whole scene becomes significant in contributing to it.



Photograph 1: Amy's computer and its relationship to the television.

This chapter has introduced us to the data, taking a broad view on the corpus as a whole, considering the participants and their profiles of internet usage. It then went on to explore in more detail how email appears in the accounts and some of the broad themes we can draw out about the way the internet is used and fits into the participants' lives. Then I discussed the analysis that was applied to the full data set, before demonstrating an example of how to read a section of audio diary in terms of experience and embodiment. The next three chapters will develop these ideas further. In chapter 5 I'll explore the shift in ideas necessary to consider bodiliness, then in chapter 6 look at arrangements of rooms and furniture and how these are co-constitute action, and finally in chapter 7 the full set of relationalities that constitute a scene such as Amy's above.

5) Considering bodies, objects and the material world

The previous chapter introduced the data as a whole and some of the broad themes that emerged from it. This chapter is the first of a series of three that theorise this data and develop the core argument of the thesis. Here I will elaborate the first building block in this argument, which will be built on and developed further in the subsequent chapters. This first step is to argue for a particular way of viewing embodiment and experience. I will introduce the notion of bodiliness, a phenomenological view of the body, as the seat of our consciousness and experience, in contrast to a representational view of the body as a resource at our disposal. This approach to the body requires a shift in theorising, to view the world and the data in terms of embodied experience. I use this notion to consider the objects that are implicated in use of the internet, and to consider how the body is disciplined into particular postures and practices in order to operate these machines and objects. The chapter considers several arrangements of computers, tables, chairs and televisions from the data, and discusses how these provide different conditions for use of the body, and in turn the conditions for different styles of internet activity.

How to treat bodies

This first section elaborates a concept I call bodiliness. Once this is established, I will go on to address some of its implications for the embodied practices of internet use. This term is taken from Csordas (2002), and reflects the concerns of phenomenologists following Merleau-Ponty. It is roughly analogous to the notion of being-in-the-world as a way to understand embodiment. In stark contrast to representational accounts of the body, it directs us to investigate embodiment in terms of how it feels to inhabit a body and live as an embodied being. This notion became pivotal to the entire of this research project, informing the research methods, analysis and conclusions. It represents a large shift from the framework this project was originally conceived in, immersed in concerns of discourse analysis and the significance of language in shaping our

reality. Bodiliness instead orients us to an interest in how social life and the world is experienced for embodied subjects.

Hayles (1999) gives a clear statement of this kind of position by critiquing a view of the body as a resource, something we own, that we must care for, but also can use and exploit. In this view the body is seen as a prosthesis – like a glove puppet or costume that we put on and must operate from some emotional distance. It is understood as an object for control and mastery. This is very different from the phenomenological, or bodiliness view she suggests, where rather than having and owning that body, the body *is* us, we inhabit and are that body. The body is intrinsically the seat of the self, forming the grounds of being. Our subjectivity is inextricably an embodied one. Csordas (2002) extends this point, arguing that the body is the grounding not only of the self, but that all social life originates in this embodied subjectivity.

I will now turn to consider what it means to live as such an embodied subject, and what it means to do research as an embodied investigator, studying the worlds of other embodied beings. This term bodiliness alludes to and invites us to think about the qualities of being embodied, the special kind of engagement with the world that all people have. This means that we start out knowing a little about any person, because we know the terms of their experience of the world, which come from perception and experience, are bound by time and space, and that they are motivated by embodied concerns. It has a wide ranging set of implications for how to study and make sense of the world.

To live in time and space means having extension into the material world, having a solid physical shape, which has many mundane implications for how this physical body relates to the rest of the physical world. This body always takes up space, so that you always must be standing, sitting or lying in a particular posture, in a particular place, and in a particular room or geographic location. Your body being located in a particular space means no other body or object can occupy this space. It means always being visible in particular ways (from whatever angles, partial in different ways – for example people might see that you've had a new haircut or are tired, but can't see that you have thrush or are waiting for a delivery), and make an impression and an everyday impact on the environment (wearing out shoes, flattening a cushion).

This physicality also gives us a special relationship with objects and places. It means coming into contact with objects all the time, such as wearing clothes, or medical aids like glasses and hearing aids. Many, if not all of, our ordinary acts would be impossible without everyday objects, such as reading at night time (lamps), drinking a cup of tea (cups), or walking long distances (shoes). The importance of objects to embodied beings, and how they can alter the conditions of embodiment will be considered more specifically below. Time means being in a particular place or state (your current age or level of tiredness) at one time, and then moving, in chronological order into others. It also means never being truly static, with every moment that passes, changes and movements take place in and through the body (changes in hunger, temperature, walking into a different configuration of room or posture).

This means our experience of the world is profoundly shaped by the character of our bodies. Our bodies are a particular size, smaller than a mountain, and larger than a mouse, which offers

a particular perspective on the world (Csordas, 2002). We have a front and back, arms and legs, particular ways of moving around (Dreyfus, 1996). The philosopher Hubert Dreyfus (1992) invites us, in a lecture on artificial intelligence, to imagine what different lives (and subjectivities) we would have if our bodies were made of the child's toy silly putty, illustrating this point by throwing a chunk of the bouncy, stretchable material at the wall, so it bounced across the room between the walls and chairs. He argues (Dreyfus, 2001) that our bodies give us a stake in the material world which contributes to our spiritual and intellectual life, provides elements of understanding the world, to distinguish relevant from irrelevant, sense of the seriousness of success or failure.

Our bodies also give us a special way of experiencing and coming to know the world, through our selection of senses that give perception of the world. The limits of these senses define the edges of our world of experience. And as time passes we must experience every moment – with perceptions of the surroundings, all the time looking, hearing, feeling and making sense of events around us, but also sensations, of the ground under our feet, perhaps discomfort or pain, and to live through these. We also feel through our body emotion and feelings, those as innocuous as boredom, through to the full richness of the unconscious.

Hayles's (1999) shift, from having and owning a body, to being that body, fully inhabiting and being it, and the wider shift in theorising from a representational to a bodiliness treatment of the body is a difficult one. It requires a rereading of all texts, theorising and ideas in order to accommodate the embodied quality of subjectivity. We need a renewing of the significance of embodied practices and of the material world. The violence of this shift is often alluded to, such as Donna Haraway's (2008, pg 27-31) anger when she critiques Deleuze and Guattari's (2004) contempt for worldliness, and the ordinariness of flesh and aging. She entreats philosophers to grapple with the mud, and meet the gaze of our embodied living. Sheets-Johnstone (2009, 2010) uses activity and work shopping to inspire this kind of feeling for bodies and action by doing things, rather than discussing them which allows a slip back into representation. Reanalysis of textual data in terms of bodiliness is common in this new tradition, such as Hansen's (2000) reappraisal of the famous Julie story (told, among other places in Stone, 1996). Here Sanford Lewin, a male New York psychiatrist posed online as a disabled woman for many years, garnering many friends and lovers. Many writers (Kendrick, 1996; Stone, 1996) interpreted this story, and the success of the persona of Julie, as a demonstration that online personas can hold the full weight of offline, embodied subjects. However Hansen interpreted the feelings of violation 'Julie's' online friends and intimates felt as demonstrating that the online persona was not accepted as a real person. He argues that this interpretation comes directly from a reading of the story in terms of bodiliness, and the interaction of embodied subjects. Another example is Csordas's (2002) reanalysis of speaking in tongues among his charismatic Christian respondents. The traditional interpretation was that this 'talk' is representational language. But he saw it as a performance best interpreted in terms of the emotion and experience of the participants. This is an interestingly gendered example, as this experience of closeness to god was played out in characteristically gendered ways. The masculine example was a response of joy and laughter, while the feminine example was through a feeling of acceptance and being held. Both responses made use of a full register of embodiment, affect, feeling, while showing a difference in personal agency. The masculine was

an active, doing response, while the feminine was a passive being acted upon by god. These two examples from the literature go some way to illustrating the shock of this thinking differently, and the shift in thinking that is necessary. They also demonstrate that this approach has much to offer in terms of making sense of both internet use, and gendered relations. The task of this thesis is to apply this kind of different thinking, in terms of bodies, to this corpus of data about use of the internet. That it's necessary to face head on that speaking of embodiment requires a substantial shift of analytic attentions into a different register. Perhaps even a paradigmatically different register, in considering all texts and social facts as events that happen in an enormous web of embodied relations, all of these mediated through our existence as embodied beings, or to put it more strongly, simply as bodies.

Gendered bodies

Merleau-Ponty's (2002[1945]) body, although its location in space and time is very particular, is not a very specified, concrete kind of body. This 'body' has no space for particularity (gender, disability, etc), and resembles in its 'cleanness' the rational mind of individualism. He takes the male body to stand in for all bodies (Grosz, 1994). Thus Iris Marion Young's (2005) extension of his approach to consider women's bodies is very striking. She offers us several areas of expansion to Merleau-Ponty's work which are necessary to account for women's bodies.

The first of these is the issue of physiological character. Women's bodies are breasted, they experience pregnancy, menstruation and menopause (Young, 1980, 1984, 2005). Although the breasted character of embodiment is often made invisible, living with breasts creates particular situations, both in terms of the material capacity of the body, and the living of social understanding that marks the body. When we locate the centre of subjectivity and identity in the chest, the gendered nature of this part of the body suggests a different experience for women than it does for men. Women's bodies also have the possibility of pregnancy. This creates a problem for much theorising of the body, as it adds the complexity of having two beings sharing parts of a single body which complicates much of the notion that a single subject becomes a single body.

Beyond this she makes a distinction between the physiology and character of the body, and the body in action and experience. In *Throwing like a girl* (Young, 1980), she examines difference in men's and women's comportment and use of space through the body, arguing that women's use of their body is constrained, not by its physiological character, but by a social necessity to use a limited range of movement and not to extend the body to its limits. In throwing a ball, or climbing over a stile, women typically hold their bodies in a way that is circumscribed and limited. This forms an excellent example of the pre-objective as Merleau-Ponty describes it. The pre-objective being a moment before an experience has been codified into representation and thought. Merleau-Ponty argues that this is prior to thought, but not prior to the impact of the social. The moment of a woman running in the constrained way that Young describes is both completely social, but at the same time pre-objective.

We then turn to wider social constructions of the body. In this way, women's bodies become a marked category in particular ways, women's bodies fail to live up to Merleau-Ponty's clean, unspecified body. In this way women's bodies come to stand in for the more natural and messy. But Donna Haraway (2008) rehabilitates such particular bodies in her notion of worldliness, encouraging us to use research and theorising that celebrates and 'lives among the slime' of embodied living. By considering the specific and concrete of experience, we research a muddy, complex setting. This view becomes more important to make sense of how women's bodies are positioned in the world. This is especially true in relation to technology; here when we consider particularness we gain access to a set of problematic relationships around technology. This view allows us to see the significance of breakdown, maintenance, and patchy function of machines (Thrift, 2008 p201-206).

But finally, significantly, women's bodies become the object of the gaze. Unlike men and children women's bodies are profoundly implicated in a system of looking. And this is not a simple exchange, women have a value in terms of being looked at, but it also introduces pleasures and reciprocities, and adds extra significance to position and movement of bodies (McRobbie, 2009). In this way women's bodies are always also an object, an additional characteristic which sits alongside the character of the body as a site of experience. And this is reflected in how women care for, use, and conceptualise their bodies.

Several of these elements contribute to the condition of feminine embodied experience described by Susan Bordo, (1989, quoted in Rose, 1996) *"Sit down in a straight chair. Cross your legs at the ankles and keep your knees pressed together. Try to do this while you're having a conversation with someone, but pay attention at all times to keeping your knees pressed tightly together... Run a short distance, keeping your knees together. You'll find you have to take short, high steps... Walk down a city street... look straight ahead. Every time a man walks past you, avert your eyes and make your face expressionless."* These provide a performance of femininity that is communicated entirely through the body. It includes no talk, it's all about the use of the body, but this produces communication as clear as language.

Introducing one computer

I will now turn my attention to the first item from the data. It is a computer belonging to Hazel. I want to start with this computer, as these are the immediate object necessary for internet use. Whenever anyone sits down to access the internet, they are engaging with a machine such as this. In much of the internet research discussed in chapter 2, the role of the computer is not considered. So in this project to come to understand the bodiliness of internet use, the first step is to make sense of an object such as this. This machine is a very complicated object, consisting of many parts that are brought together here to achieve the status of a computer capable of connecting to the internet. It has a substantial history containing many twists and turns, requiring much maintenance and many moments of decision. Extract 1, below, is a description of this computer taken from field notes.

Hazel has a single computer in the house. It's a laptop, a Macbook, which is a small, neat machine, with a boxy shape. The border of the screen and keyboard is a silver colour, with visible scuffing at the corners and around the mouse pad. The keyboard itself is a translucent white colour. Because the keyboard is starting to have problems, it is used with an additional external keyboard. This is attached using a USB cable to the side of the laptop. The keyboard is much larger than the laptop itself. It's bright white and an ergonomic design with the keys arranged in two curves and a raised wrist rest. Hazel's desk is not deep enough for the keyboard to fit in front of the laptop, so they sit at an angle with the keyboard partly overhanging the table. This means the keyboard and screen are at an angle from Hazel's seated position, with the screen somewhat far away. There is also a mouse attached to the laptop with a cable, and sitting on the table with no mouse mat. A couple of other cables emerge from the side of the laptop.

This laptop is five years old, which she considers old for a computer, and has developed several problems. It crashes quite often. The 'i', and 'w' don't type properly, as they have been removed for cleaning in the past and damaged. This old model makes them very easy to remove and break. Hazel believes a problem with the keyboard is the cause of the crashing, which is the reason for using the external keyboard, although this makes it uncomfortable to type for long periods.

The computer has been overhauled several times by a friend, with new hardware bought and installed. This has prolonged its life. Hazel feels that if she was more technically minded she would be able to continue patching it up and maintain it for longer, but she would now like a new one, although doesn't feel it's completely essential due to the upgrades. The crashing makes her anxious of lost work. The new models are also a lot better, and relatively cheap. At other times she says 'quite expensive'. They are cheaper in the USA, so she plans to buy one next time she visits. This will be a similar model, definitely a laptop

This one is not moved or taken along regularly. Currently it is based on this desk and does not move. However, during her time in this house it has been situated in the dining room, and for a while in the bedroom which had been used as the study. Hazel would probably have had difficulties with the moving she's done recently if it was a desktop, and she can't imagine having a static, large machine like that.

Excerpt 1: Description of Hazel's computer, taken from photographs, audio diary, interview and field notes.

We can see at once that Hazel's machine is not a simple object. This computer is made from several different machines and pieces of technology. Through Hazel's history with the machine it has become a hybrid of different machines, part laptop, but now much more limited in its capacity for movement as it has collected many more ungainly parts. It rests in this particular desk space, creating brute facts such as not sitting straight under the lid of the desk. Its qualities as a laptop have allowed it to move easily between rooms, and between homes. We could compare this to a desktop which would not have made these moves easily and also consider possibilities that are not taken up, such as being used as a carry along to access the internet outside the home.



Photograph 1: Hazel's computer

The nature of this machine has been shaped by its history. As a material object it clearly exists in time, and it is scuffed and marked by time, both in terms of its surface appearance, but also its functionality. This many layered machine has been built up around the body of Hazel sitting at the desk, and her requirement of it to get writing work done each day, and to be located in her home. The object itself has been shaped by this need, in terms of bodies and practices. It points towards its usage (Ahmed, 2006).

This laptop has lived in many rooms, and had different identities. There is a requiring of maintenance, and the computer has grown into something different from what it was when

Hazel bought it five years ago. This is a clear example of how an object like this does not come out of the box and remain a clean, unaltered technology. As Thrift (2008) points out, there is work required to keep it going; breakdown and necessary repairs have altered the shape of this machine.

These failures do not exist inside the machine itself, they are a function of its relations to Hazel, and her expectations and needs for it as a machine. As with many moments of significance in making use of a computer and the internet, the expertise and access to expertise of the user come to the fore. Hazel's work to prolong the computer's life has been possible through her own expertise, and perhaps mistake of removing the keys to clean them, and her social networks as a friend with greater expertise has worked with it. This process of working with, maintaining, and the ever present danger of breakdown has emotional consequences – a source of fear and anxiety with the danger of losing work.

Because the computer is reaching the end of its life Hazel is involved in a decision of how to replace the computer. This involves an assessment of finances, the need to do tasks, but also an affection and liking for this particular model. Purchase of a computer can be a significant household decision, associated with a period of negotiation and planning (Lally, 2002). Despite women's characterisation as head consumers (Walkerdine, 1997), women typically have less say in such a purchase than men, and are likely to be using cast offs from office or friends and family (Leung, 2005). This is also the case with cars and mobile phones, where women's are more likely to be a gift, often from others who are upgrading (Sørensen, 2006).

The computer as an object

Research about the internet has often focused on what happens on the screen, or technical developments, treating the online as a disembodied space, quite removed from everyday social forces (Terranova, 2002; Nakamura, 2002). I draw your attention to Hazel's computer here, because I want to make the argument that the internet has material components, requires an engagement with objects, and has consequences for embodiment. This means putting this engagement into the spotlight, examining the nature of such machines, and considering the consequences of their particularness on how internet use happens.

The internet most commonly enters our lives through the object of the computer. Its status as a household object inherits a set of properties, it must be chosen and the money must be found for this significant purchase, in the context of a family its ownership and who has expertise must be negotiated (Selwyn et al, 2006; Consalvo et al, 2002), and it must take up a role within existing household structures (Lally, 2002). It has sets of requirements as an object; a suitable space, with facilities for sitting comfortably and typing, sufficient privacy, possibly space for associated objects such as stationary or peripherals like printers, scanners, cameras etc. But computers and the internet also transform the spaces and objects around them, such as marking a space for work (Ward, 2006), or as one that the family gathers to do communal activities (Frohlich and Kraut, 2003). It is not the first technology to do this, for example Morley (2006) argues the television changed notions of domestic architecture, with the invention of the

'through lounge' to facilitate viewing. New technology alters how older technology is used, the internet competes with TV, and also transforms what computers are, so they are now largely terminals for the internet (Haddon, 2006), with the terms 'internet' and 'computer' used as analogies by many participants.

New developments with laptops becoming increasingly popular and handheld devices capable of surfing the internet will produce new ways of integrating these machines into the home. These machines no longer require a dedicated space as a desktop computer does, and can be shared among family members and tasks more fluidly. This is particularly meaningful in households that had difficulty finding a suitable space, and for women who had difficulty claiming such a space to set up a computer that could be considered theirs.

Having established its importance as the object central to use of the internet, I now turn to how this computer is constituted. To consider this object as the seat of internet use immediately critiques the idea that the internet is a space of ideas and minds only. This is an extension of Hayle's (1999) similar argument that writing requires paper and graphite, and that all information must have a substrate to carry it. No one can access the internet without engaging with a device that is capable of being a portal, and for these participants that is primarily the computer. So it becomes important to ask what kind of object the computer itself is. What its constitutive parts, in terms of smaller objects and practices, and what kind of movements it makes possible and closes down. Hazel's machine demonstrates that this is not a simple question; the object of the computer is a complex assemblage, which attracts rich histories and complex maintenance.

The computer is a particularly complex and multilayered object, what Thrift (2008) calls a 'massively encumbered object'. It has been at the cutting edge of technology for several decades (Turtle, 1984, 1995), and a machine that can offer an enormous array of functions, creating the possibilities for many different shifts in ways of living. Particular users will negotiate their own particular path through these different set of meanings. It can be both an object of work and of the domestic space, where it also operates as a channel of media into the home. In recent years the material shape of computers and internet-enabled devices has been morphing rapidly, so that the standard computer might be a laptop instead of a desktop machine, and a range of other devices can fulfill much of its function, such as netbooks, mobile phones. Lately even more diverse items such as iPads, Kindles, and console games machine have added some internet access with a more narrow range of functionality. The different shapes, sizes, robustness and expense of these machines means they all have very different possibilities as physical objects.

This computer, because it is a material object, and also a household object has certain properties, and therefore can enter relationships with bodies in particular ways such as those described by Merleau-Ponty (2002 [1945]). It exists in a certain space, has weight can be moved around in certain ways, it also has a history and ownership. The body orients to in a particular way (e.g. looking at it – it can't be seen through). The computer can be appropriated by their users and made their own; Hazel's machine has been constituted by her actions, her social networks, and her preference. Lupton & Nobel (2002) found that this was done by decorating the outside of the machine, but also by configuring its software, personalising settings and organisation of files.

Making sense of objects

In examining the computer, I will now consider for a moment the larger category of objects and material things. It is important to this account that once we consider this full richness of bodiliness, we are left with a view of the person, the subject, as made of a material body which is located in a world. And that world is made up of material things. So there must always be a floor or ground of some kind beneath our feet, there will always be an environment of objects of different kinds around us. In an urban environment there will be all sorts of buildings close at hand, so we are seriously constrained by roads, walls, staircases and doorways, and dependent on large and significant machines such as cars, kitchens, central heating units. The objects around us take on all kinds of forms, and impact our lives and possibilities in all kinds of ways, from the small and intimate, such as makeup, glasses, underclothes, to mundane and almost invisible like cups and doormats. Miller (1987), makes an argument for a sociology of these material objects, as necessary to understand the nature of our lives, what he calls 'material culture'. This surrounding of objects means our homes, as an ensemble of domestic objects, become a finely tuned 'machine for living' (Lally, 2002). This is a complex array of objects arranged particularly to meet our needs, but also constraining our actions. Riggins (1994b), an ethnographer of use of space argues that our everyday practices and social world are made up of both people and objects. We are never without these objects. Others, such as Latour (2005) and Thrift (2008) go so far as to talk about how these objects can be actants in the fabric of reality, and examines their capacity to act and reproduce social life. They examine the social world as assemblages and networks, with objects given equal weight with human actors (Thrift, 2008). They are relevant to this account because I want to tell a story about quite an intimate technology, or certainly a technology that has intimate threads into the detail of our lives, the internet. And also because I want to confront a view of the internet that ignores how it implicates the body and embodied living and therefore gets folded up into the rest of life. So this project requires a close examination of these special objects and how they flow over and through the necessity of embodiment.

Not only do objects surround us, they are vital in making up our world and our experience of it. For Merleau-Ponty (2002[1945]) all consciousness is consciousness of something, an event or object going on in the world. We live through the space and objects that surround us (Thrift, 2008). Hansen (2000) explores this in his critique of technesis, where he argues that technical objects affect us primarily through this special bodily concern we have with them, on their infrastructural role in making our world. Doorways, paths and windows constrain where we can move, as well as offering us routes to do so. While technological innovations, such as the printing press (O'Donnell, 1998), or the car (Brandon, 2002) change the conditions of possibility for how we live our lives. Technologies can offer us new spaces to move into, ways to perceive and experience the world, and new ways to orient ourselves and inhabit space. Hansen is critical of the idea that this role of technology is purely social, or cultural— while these objects can't exist outside the social, that is not all they are. They also profoundly shape our experience of the world, and the capacities of our bodies.

Merleau-Ponty (2002) and those who have updated his work give us a programme for unpicking our understanding of objects, through perception and experience. A notable corollary of this is

that all knowledge of the world is gained from my own point of view. This means only parts of an object are available at any one time, and that this experience of the object is constantly ambiguous and in flux, shifting due to different spatial configurations, lighting conditions, and particularly the activity or use that the object is put to. Merleau-Ponty uses this account to critique the 'constancy hypothesis' of a scientific view, the idea of an objective world, full of objects which never shift, the view seen from nowhere.

Due to the shape and function of bodies, and the possible interactions they can have with things, objects have many characteristic ways of being experienced. As we move around an object, we always see just one face, and if we continue moving, a new face is revealed. When we shift our attention to one thing, it is as if we plunge into it – concealing other things and background from us. We attribute to objects, as we become aware of them, more than we perceive. Just as Merleau-Ponty looks out of his window, the people he sees are obscured by hats and overcoats, and he judges their bodies to exist beneath (pg 38), and imagines the side of his lamp that the opposite wall can 'see' (p79). Rather than the view from nowhere, we live with a view from everywhere, each object shot through with all our previous, indefinite scrutinies of it. Similarly in each moment what we see is different, and objects decay or mature over time. Although as I look back and recall those experiences in the future, those too mature and become influenced by my current perspective. This produces a rich variation in experience and richness, based on the precise location of bodies and relationship to that which is observed.

So objects, like our own bodies, must always exist in a particular space and time, and submit to actions on their material qualities and our movements and activities around them. Theorising this shifting relationship between objects, bodies, and activity gives us a way of disrupting realism and the objective world. We can see that as well as being engaged in social relations, subjects are also engaged in embodied and material relations that operate to produce a particular kind of world, and a sense of reality. But this complex and rich process of coming to an understanding of objects through experience, is something we instantly repress, forgetting our perspective (Merleau-Ponty, 2002 [1945]). In this way phenomenology also gives us a means of understanding how objects can become invisible to common sense understanding. Methodologically, this creates a challenge. The method of interrogating and using description to disrupt this normalization is suggested by Riggins (1994b) and Latour (2005), and this tool will be adopted here. But this is a difficult task, something that will be attempted here but perhaps fallen short of, as Hansen (2000) talks of constant failure for theorists to deal with the materiality of technology.

The workstation

Once we have considered the computer to be an object, which has its own set of characteristics, and allowed it to inherit the full richness of being an object, we can't fail to notice it's engagement with other objects. Existing in a particular place, in the presence of other related objects is, after all, one of the key characteristics of a material, solid, object. The computer itself does not take on its full meaning until it is considered in the context of its surrounding, with some of the other objects that make it usable. In Hazel's case, above, her computer is located in

a handsome antique roll top desk, with an office chair in front of it. Both of these objects are significant for Hazel, and once we consider the desk and the computer together, the scene in this photograph becomes more coherent. These objects are used together, and come to have a particular meaning together. Just as the computer has a history and needs to be integrated into her home and her life so do the other significant objects that surround it. Much like the parts of the computer itself, the desk is rather mismatched. Hazel bought it before she realised that her laptop would not fit comfortably onto the surface, and when the computer acquired its extra keyboard it became even more ungainly to sit and type in here. But the computer, desk, chair and body all need to come together to make typing and use of the internet possible.

We will now consider a second computer from the corpus of data. This machine belongs to Bailey. However this time I would like to draw your attention not just to the set of objects that makes up the computer itself. In this example I want to widen the view, and consider instead the entity of the workstation. Much like Hazel's computer considered above, the workstation is a complicated assemblage. It consists of a computer, but also of the furniture arranged around that computer to make possible sitting at the controls and operating it with the body. This arrangement of machines, furniture and body gives us the smallest possible embodied unit of internet use. This is the figure seated at the computer, hands on keyboard and mouse, eyes gazing at monitor screen, perhaps ears to headphones or speakers, or face recorded with webcam. Traditionally a workstation for a desktop computer required a desk and straight backed chair to sit at. However this has begun to blur in recent years, as laptops have become more popular, and the computers are less necessarily machines for work. Bailey has a computer located in the kitchen, with a table that is rather unconventional for computer use. This gives her a 'workstation' space made up of a tall barstool type chair. The computer set-up is sparse, with no additional accessories around it.

To the left of the doorway, on the long wall, is a breakfast bar. This fills most of the length of the room, with a space between it and the edge of the work surface at one end, and a space large enough for the door to fully open at the other end. The breakfast bar has a shiny black top matching the work surface, and is anchored to the wall with a light coloured wood bracket beneath. It is approximately a foot deep, and four or five feet wide, and at hip height. Beneath the breakfast bar is a radiator painted white.

The computer is located at the extreme left hand edge of the breakfast bar. It was purchased 4 years ago in 2004. The monitor is a 15 inch flat screen framed in black/dark gray plastic. It is pushed up against the wall behind it. On top of the monitor is a black, spherical webcam. The keyboard is small and also black. It lies in front of the monitor, parallel to the wall. Just behind and to the left of the monitor is a small speaker. It is small, narrow and tall, and black, with a dark grey section covering most of the front. To the right of the keyboard is a black mouse on top of a mouse mat. The mat is black, with a large grey solid coloured circle in the centre (perhaps a picture of the moon?). It is also pushed up against the wall.

On the floor beneath the bar is the tower unit. It's long side is pushed against the wall, so that the front containing CD drives etc faces into the room. The main body is dark grey; the front is mostly covered by a lighter grey panel. On top of the tower is a second speaker,

which appears to be identical to the first. A bundle of cables stretches from behind the tower up to the rest of the computer on the breakfast bar above. A few inches above the tower is a plug socket, with two plugs in it, both with cables disappearing behind the tower. There are some objects on the floor behind the tower unit. Perhaps bottles for recycling

In front of the breakfast bar are two tall stools. These have seats and a low back in light coloured wood. The rest of the frame is grey metal, and they look like they could fold up and stack away.

Bailey notes that the breakfast bar is not the best location for the PC. It is not a good height and the stool becomes very uncomfortable after a short period of time. Consequently, she often types standing up. It has definitely contributed to a lot of the neck and back pain she experiences on the left side of her body. She "Didn't realise at first that it was problematic there. It was really the long hours talking to Maurice that were a problem."

Excerpt 2: Description of Bailey's workstation. Taken from photographs, emails and interview

As can be seen, in excerpt 2 and photograph 2, Bailey's workstation is quite different from the classic image of a desktop computer located on a purpose built desk with an office chair. But we can learn something about Bailey's use of it and her experience of using the computer by this comparison. We can compare that idealised workstation to some of the tables mentioned in Ahmed (2006), Heidegger's privileged writing space, maintained by invisible female labour, or Woolf's (1929) *A Room of One's Own* valuing of the set-up of the writing space, a dedicated desk, quiet and privacy. In contrast this set-up does not privilege the style of the writer, or the traditional working computer analogous to a pad to write on. It produces a different interpretation of the

computer, as this form of workstation supports the style of Bailey's usage. Her primary activities are listening to the radio, writing emails, and watching YouTube videos. This location also allows the machine to be more sociable, for the use of guests to check their email in a shared space.

We can place this in a history of Bailey's computer locations, and the context of her home and how she likes to arrange her objects. Bailey's house is extremely tidy. She has an interest in keeping her computer and workstation to a minimum in her home. In the past she had a printer to go with it, which she no longer wants and keeps in a cupboard, seen in photograph 3. Using the computer to listen to music and the radio means that Bailey was also able to throw away her stereo, creating less clutter in the living room.

When we look deeper into the history of Bailey's workstation, we find more shifts based on her shifting patterns of interests. Previous to the purchase of this computer, she had a different one which was used in the bedroom of this flat, with a purpose built desk area. This was provided by family, when her mother cast off an old computer, and her uncle built her a desk to use with it in the bedroom, as described in excerpt 3.



Photograph 2: Bailey's computer, located on the kitchen breakfast bar

Bailey: *She got another one. And she just gave me this one. It used to be in the bedroom. So my uncle. He made a desk for it. It was made out of MDF and I designed a work bench and I designed my table. Had all my books on one side. I had a tower and printer and stuff. I had a rickety wicker chair to sit on. Far from ideal. As is this.*

Excerpt 3: Bailey, Interview

However, Bailey didn't want her bedroom to be subject to the transforming effect of the computer, as seen in excerpt 4. This sentiment that will be examined further in the following chapter.

Bailey: *And I wanted the bedroom to be a bedroom. I kept it tidy but having all the books and shelves. I didn't want it. That's the first thing when you opened your eyes that you saw. I didn't want that I wanted the bedroom. Originally I thought I could have had like an office in the cupboard. Is still something that I think about. Now I'm leaning more towards getting a laptop. The breakfast bar came by accident. It seemed a logical place to put it. Has been here since 2005. Didn't realise at first that it was problematic there. It was really the long hours talking to Maurice that were a problem. Have caused myself some lower back problems. Sometimes I put the keyboard and monitor on the floor and put cushions on the floor.*

Excerpt 4: Bailey, Interview

This earlier arrangement in the bedroom dates back to a time when Bailey was using her computer to study, and required a study area, featuring books, shelves, and space to work. Since the computer moved into this new location in the kitchen, Bailey's use has shifted again. She has taken to using the computer to type for long periods, using internet chat late into the night when she has insomnia, which means the breakfast bar set-up is hurting her back. So again, just as Hazel's computer has had a history that has marked it, gaining and losing pieces at different times, with different circumstances and actions by users with different interests and levels of expertise, Bailey's work station has a history, that has moved it from one arrangement to another. Different possibilities create different meanings for her. Notice that as Bailey has had different needs for the computer and the internet, and has performed different sets of tasks, the embodied requirements of the machines have been changed by those tasks. Her studies required the traditional writing table style workstation. While her YouTube videos and radio listening made her original kitchen arrangement perfectly adequate. Her new set of practices, using chat for intense periods, has transformed the relations in her current arrangement, it has become unsuitable.

We can again compare the twists and turns made by Bailey's workstation to Ahmed's (2006) work on the writing table. She uses this as a jumping off point to consider our embodied relationships with objects. The table is both versatile, to be negotiated individually each time, but also a furniture item with a specific set of functions. A table can be used for dining, leisure or craft use, and homes are filled with many examples of them. This furniture item has a unique relationship to the computer and in turn the internet, traditional desktops required this upright posture and table surface to support the machine. This lengthy passage from Ahmed gives us a flavour of the complexity of a table as we acquire and live with it:

I buy the table (for this or that amount of money) as a table "for" writing. I have to bring it to the space where it will reside (the study, or the space marked out in a corner of another room). Others bring it for me: they transport the table. They bring it up the stairs. I wince as the edge of the table hits the wall, leaving a mark on both the wall and the table – which shows, too, what the table came into contact with during the time of its arrival. The table, having arrived, is nestled in the corner of the room. I use it as a writing desk. Having arrived, I turn to the table and sit on the chair which is placed alongside it. The chair allows me to reach the table, to reach the table, to cover it with my arms, and to write upon it. And yet, I am not sure what will happen to, to cover it with my arms, and to write upon it.

And yet, I am not sure what will happen to the table in the future. I could put the table to a different use, or I could even forget about the table if I ceased to write, whereupon it might be “put aside” out of reach. The object is not reducible to a commodity, even when it is bought and sold: indeed, the object is not reducible to itself. (Ahmed, 2006, p43)



Photograph 3: Bailey's cupboard showing the printer

Objects and bodies in relation

In looking at Bailey's workstation we have seen that not only is the object of the computer achieved through a combination of smaller objects as parts, but that the assemblage of the

computer also requires furniture in order to be used. Tables and chairs have a special relationship with the computer, and operate together as a workstation. But the workstation only becomes fully meaningful when we consider the body that sits in the chair and operates the computer. I will now begin to consider how the body enters this arrangement. Objects not only enter relations with other objects, but also importantly enter relations with bodies. Thrift (2008) suggests our bodies have uniquely evolved to interact with and make use of things. Consider the human hand and its tremendous sophistication to operate tools, far in excess of its closest cousins in our ape relatives. Thrift suggests that this adaptation to tools extends to the gut and other, less obvious muscle groups in the body, and notably extensions of the brain to meet the demands of tool use. And just as we necessarily engage with objects to live, we have access to these objects and material world only through our body, and in terms made possible by the nature of our bodies (Grosz, 1994).

Riggins (1994a) argues we are always and inescapably in such a relationship with objects, and conversely we never see objects outside of these relationships. Haraway (2008) talks of the body as it enters these kinds of relations, and is extended by objects. With such extension, the body and an object become one unit or system, with literally no gap between them, a cyborg. Hansen (2004) talks about such seamless connection between bodies and objects describing the experiential of using a console controller to play a videogame. He argues the controller comes to feel like part of the body, and that in turn the moving avatar on the screen also becomes part of the body.

Our cognitive processes can also make use of objects (Hansen, 2000; Hayles, 1999), to extend what is possible, as simply as recording items in writing to save memory. Hayles revisits John Searle's (1980) famous Chinese Room example to demonstrate how an act of thinking can be accomplished by a larger assemblage. In this thought experiment, we imagine Searle inside a room with many enormous books containing every Chinese sentence imaginable, each linked with a reasonable reply also in Chinese. As native Chinese speakers pass notes into the room, Searle is able to consult his books and pass out a reply. In Searle's original account, this was used to make an argument that a computer that could use language would not have understanding and intentionality, in the debate over whether computers can think. In Hayles's reanalysis, the entire room, including Searle, his books, and their arrangement allowing notes to be passed back and forth, form one assemblage that as a whole exhibits understanding. It is the nature of their relationships that makes this possible, rather than their internal properties. This requires a great shift from how the original account understood the entity of the computer, the boundaries of this object, and the notions of intentionality and thought that were being explored (Sharples et al, 1994).

In this way relationships between bodies and objects are not as simple as a coherent bounded body acting on a similarly bounded object. The body and object both become integrated, bodies, objects and movement come together to produce an event (Ahmed, 2006). Merleau-Ponty (2002 [1945]) described how we do not need to understand or represent to ourselves an object in order to engage in an action on it. Our experience is determined through the linkage of all three. So that when we meet a large rock on the path, it becomes meaningful in a particular way only as we begin to grapple and climb over it. It is experienced and becomes real to us only in

those terms. When sitting at the computer the body is disciplined in very particular ways. It's necessary to sit or be settled. The hands must be available for keyboard and mouse, which are traditionally on a flat surface like a table. These tools require considerable manual dexterity and expertise that can be gained only through practice in the use of these unusual controls. One of these skills, touch typing, is traditionally feminine, which is productive in interesting ways.

The eyes must be brought into a line with the screen, and the gaze fixed on the images there. This is usually done much more closely than for television watching. Using the internet is very physical (Leung, 2005), far more so than similar activities such as watching television or playing a console game. We can also compare body positions to the similar technology of a console game. This is typically played while sitting on a sofa, using a television that is a usual viewing distance away, with the hands loosely in front of the body holding a controller. We can see in this contrast that the computer demands a particularly stereotyped posture. The body is often damaged or injured through this demanding physical practice (Leung, 2005; Ahmed, 2006). Neck, spine and shoulders can be hurt by the quality of the seated posture and necessity to hold the head and gaze static. Wrists and hands can be hurt by holding the hands on the keyboard and mouse, and the difficulty of supporting these limbs while also reaching for keys and carrying out stiff movements. For new forms of machines, netbooks, smart phones, and so on these configurations shift, with some reducing the demands on body positioning. However the eyes and the gaze are always utilised. These smaller devices make complex demands on the use of the hand and typing, and often are greatly reduced in how much function they provide for keyboard and pointer.

Another element of this disciplining is the work of performing disembodiment, and rendering the body invisible. In spite of the work that must be done to hold the body in line with the demands of the computer, accessing the internet in this way has traditionally been seen as disembodied. The use of the body must be brought into the invisible. This is done by taking all the attention into the eyes and vision, while the body as a whole is considered to be at rest, and is made quiet. This phenomenon is familiar from the phenomenological tradition, where the body is often seen to become invisible, as are its urges, needs, and limitations through the prioritisation of the 'objective' view of the world, which erases the role of perception and bodily experience in producing the world (Merleau-Ponty, 2002 [1945]). This is analogous to a form of practice Slater (2002) encountered in online chat rooms, where the only evidence of disembodiment was seen through specific practices done by users to maintain the idea of disembodied actors. So this work is done both through words and typing, representations, but also how experience of sitting at the computer is understood and regulated.

This brings us to another computer from the data. This belongs to Amy, and is sited in her sitting room. Much like Hazel and Bailey's computers, Amy's workstation falls far short of the idealised type on a dedicated desk and table.



Photograph 4: Amy's workstation

Although there were a handful of computers in her home, this was the machine that Amy most often used to access the internet. It was located on a low side table, next to a sofa in the living room. This arrangement demonstrates how objects become what they are in use. In this case, while the computer was not in use this sofa and side table did not form a workstation. But when the computer was in use this sofa/side table combination became a computer workspace (in the sense that it becomes that – a space marked as computer/internet, and then has a specific kind of character. Otherwise it's marked as 'sofa/side table' and the character is different). But as a result of the configuration of bodies, and Amy's body particularly this set-up was quite inadequate. It was not possible to sit at this workstation in a way that allowed all the physical actions required to operate the computer at once. The hands could not comfortably access the keyboard and mouse at the same time as the eyes gaze at the screen. Amy sat here either sitting up straight on the sofa with the keyboard on her lap, lined up correctly for the hands, which meant her eyes were out of alignment with the screen. Or she leant forward with the keyboard on the small table to gaze at the screen, in which case her back, shoulders and arms were compressed into this too small space. For me this created a puzzle of why Amy used this particular computer. Not only was it uncomfortable to use and inadequate for long periods of work, but it was also a less well specified computer than the other computer in the house, which was located in the spare bedroom her husband uses as an office for his small business. Several responses to the question of why Amy preferred this computer will be developed in this chapter and the next.

A set of events in the history of this location had sedimented to produce this as a workstation area in Amy's home; these stories were told during the interview. Originally a cable was installed in the living room because of an idea for using the television for networking and displaying photographs, which they never got round to doing. She found she was sitting on the sofa for long periods of time while breastfeeding, so made use of that cable to set up a laptop and use the internet while she was sitting. That laptop broke, and this practice and space had become routine, so a cast off work computer was brought down to take its place.

Both this and Bailey's story highlight that the body has to be disciplined into such a position in relation to monitors, keyboards, and mice. There are several significant moments in taking up a position in front of a computer, the necessity to find a comfortable seat, and also of the line of sight and gaze, and the access of the hands and fingers to the controls; keyboard and mouse. Helen's set of machines provide some contrast to this, and give us a hint of changes that are taking place in the use of the internet as new kinds of machines become available. In photograph 5 we can see a small laptop and a smart phone in Helen's sitting room. These are both smaller devices that she used to check her email and do other tasks, which made very different requirements of the body. Helen also owned a netbook which is not shown in the photograph. This is another small device that can be held in one hand. Helen often balanced it on the arm of a chair while she saw clients, to allow her to look up their details without intruding into the meeting. These machines allowed her freedom from the workstation set-up, and indeed freedom from use of the house, as several of these devices accompany her on trips or on holiday. So these differently shaped technologies have a substantial impact on how the internet can be used, and on the kinds of tasks it might be used for. Except 5 is an extract from Helen's interview where she describes the usage of these small machines.

Helen: *But the-e. The netbook has lots of other things. I have a lot of data entry and um other things that I've got to do with my work. I could have that coz it's so unobtrusive out and look something up quickly if a client asks me a question. It goes from off to ready to use in a minute and a half. It boots up real fast. I can be logged in. It has a. If it has the cover closed. Going to sleep hibernating or whatever. It um. You can have it on for a couple of days like that without recharging it.*

Louise: *If you were with a client?*

Helen: *Only if they you know needed it. If they asked me a question. Or they needed their ID number for any reason. I could just get that really quick. I'd like to get to the point where I'm using it a little more as well for that kind of thing. Definitely they give me forms. Med forms. They have to have blood pressure tests every 28 days. If they give me theirs. It would be a lot more useful.*

Louise: *Yea*

Helen: *So then I could get rid of the paper and be done with it. I'm going to be trying to be using that more.*

Louise: *And would that be in the house. Here. That you're mainly using it?*

Helen: *Yea. Yea*

Louise: *So even though you're in the same building you'd prefer*

Helen: *Yep. For convenience sake I'd have it right there*

Louise: *Yea What kind of things do you do out?*

Helen: It doesn't. You know. It sits on the chair beside me. Out and about not so much.

Excerpt 5: Helen, Interview



Photograph 5: Helen's smaller machines

The netbook was suitable for this purpose for several reasons. Its object properties as a tiny machine allowed her to use it without intruding on the informal consultation setting, or suggesting a distraction. Its technical properties of quick boot up time similarly allowed it to be spontaneously switched on and used. And the nature of Helen's tasks is that she wants to look up facts stored in spreadsheets, or do form filling with her clients and collect information, which in the past she would have done using paper and pen and then typed up later. The particular possibilities of this machine allow her to skip this step and make her daily tasks simpler, eliminating the need for a paper phase.

Larger area and relation with other objects

So far we have given some consideration to tables and chairs, objects that, alongside computers have a particular constitutive effect on internet use. But as we have seen a characteristic of objects is their relationship to other objects around them.

Technology and media objects can be seen as having a collaborative relationship with some objects, and a competing relationship with others (Lally, 2002). In the assemblage of the home some objects collaborate with computers or the internet, extending its capability, such as printers and cameras. At the same time others compete, trying to fulfill a similar role and perhaps will

lead to each other's obsolescence, such as TVs or paper notes. Tables clearly operate collaboratively. But another object that was strongly associated with internet use in the corpus, and had a more complex relationship, is the television. This appeared in various forms in several of the accounts. The television contributes substantially to the larger 'workstation' context that can be built up around the woman's body at the computer.

Research often finds that using the internet replaces television time in people's lives (Kraut and Frohlich, 2003; Leung, 2005). But this is not a simple story, as television and the internet can easily be used together. The television is often seen as less effortful than the internet. Watching TV is marked as a leisure activity, while computers and the internet can also be associated with work (Ward, 2006). This may in part be about their physicality, as the internet requires a supportive seat and upright posture, in contrast to TV (Leung, 2005). Families relax together with the television at the end of the day, a situation often overseen and particularly valued by women (Bakardjieva, 2005).

Photograph 6 shows Sally's laptop in its usual place in her living room. In front is the sofa, where she sits. We can see several relevant objects around it. On the table are objects that relate to chores on the computer. The pile of papers is a B&Q catalogue, a sheet of specifications, and a tape measure that Sally is using to shop for a new oven online. In front of the table is Sally's television.

This location of the television allows yet another different assemblage for internet use than those previously discussed. Sally's laptop is rarely used for office work style tasks, such as writing or form filling. It is used primarily for leisure. Thus her evening free time use of the internet resembles more than anything traditional use of the television. She might for example browse facebook and shop while idly watching a film or television program. Excerpt 5 gives some of Sally's own description of the layout of the room, and how she might use the television and the internet together.

Sally: *Um. The TV and stuff. I move things round. I hate those storage heaters. I'm waiting to have central heating. You can't have anything in front of it. I've had to have the sofa here to stop it getting burned. Which is why the telly's halfway. The boiler isn't fitted. The TV kind of should be here. A lot of the time I might not even have the TV on. I might just lie back on the settee. Just to relax. I wouldn't want to have it in my bedroom. My friends message me on MSN and say I'm in bed. I wouldn't sleep. I think I'd get into the bad habit of like. I like to have it here. So it's not interfering with. Yea. I think it just stays here. I just put it on the table. Then I go to work and there you go. Normally by the time it's down on the floor.*

Louise: *And do you do you often have the TV on at the same time. So is that one of the standard set-ups ?*

Sally: *I might have it on when I'm flicking about. I might be doing two things at once. Looking at the TV and the internet. Tends to be both. Both on.*

Louise: *Do you manage to follow things?*

Sally: *Yea. Yea. Yea. It there's something I was really interested in and wanted to watch. If it was a documentary or something. Or if it's some friends and I who were watching a film and they had something called um (.) think it was about. religion. And they said they had this festival. Quite hedonistic. All these people settled down into this religious practice. They they*

can have this wild time. Oh they're just making this up. Let's look on the internet and see if it's true. About this rum something or other. Learn something new. I never knew that. And it was. Amish I think it might be. So we looked it up. Ah that's really interesting.

Excerpt 6: Sally, Interview.



Photograph 6: Sally's computer and the television.

The particularness of this arrangement and some of the meanings it produces will be discussed in more detail in the following chapters. So it's enough to take note here of some of the activities that make use of both the internet and the television that Sally mentions. She could watch a television program at the same time that she used the internet, or begin to ignore the internet to concentrate on a program of interest. Or, as she describes with friends, she can use the internet to look up something she has seen on television, to enhance the experience. We can see that this arrangement uses the body in a very different way than the others discussed. This is no longer a 'workstation', as now Sally can sit back on the sofa, rather than disciplining her body into the classic keyboard using position. She might leave the laptop well out of her hands if she's concentrating on a program. Or send one or two messages to reply to a friend on Facebook before returning her attention to the television. This has some similarity to Bailey's use, above, where she describes quickly typing standing up, without having to assume the full typist's posture in front of the machine.

Finally, photograph 7 shows a different view of Amy's room. This is the view from her sofa, showing the view from her computer gives a sense of a hybrid between Sally's arrangement and a more desk based workstation. Amy's computer allows her to sit in the living room in the



Photograph 7: Amy's room – wider look (TV and baby)

evenings and watch television, in the previous chapter we saw an example of this taken from the audio diary, when discussing analysis. But it also indicates another very important element of Amy's workstation, it gives a clear view of the centre of the room which her baby uses as a play area. From this vantage point she can also see out into the garden which is very important to Amy's identity. The central location of her workstation area will be discussed further in the next chapter, when I widen the view again to consider the rest of the rooms these workstations inhabit.

Conclusions

The previous chapter gave us an overview of the data as a whole, and this chapter has been the first of a series of three that engage with theorising of this material. Here I've introduced the concept of bodiliness, and the shift in focus this requires in research and theorising. Bodiliness requires us to view the world and the data from the perspective of an embodied subject, who experiences that world entirely through the body. The character of this body therefore constrains how we engage with the world, and gives us a special relationship with objects and their arrangements. This chapter therefore has explored those objects that are required for internet use. We have looked at the computer, and what kind of an object that is. It is not simple, but is a massively encumbered object that is achieved through substantial work of maintenance. These significant objects attract a rich history, and bear the marks of such

histories, such as broken keyboards, lost printers, and unconventional locations. Then we have gone on to see the arrangements of furniture and space the computers can be implicated in. These different arrangements of computers, tables, chairs, sofas, televisions, and other small devices, offer particular conditions of possibility for the use of the body in relation to the internet. And different postures and uses of bodies support and prefer different styles of internet engagement. The internet can be used in conjunction with the television, or briefly while standing, or traditionally for more prolonged periods sitting at a desk in an office chair. All arrangements discipline the body to allow the use of keyboards and mice with the hands, and the gaze to be focused on the screen for reading. But these different arrangements of computers objects and bodies constitute the internet in different ways. Each particular arrangement seen in this chapter supported and allowed a different kind of internet use. In the case of Bailey her history contained three phases of different relationship with the internet and computers, these each had different requirements for use of the body. However her current phase at the time of the interview, using chat programs for long period at night, was not supported by the workstation in her kitchen. This lead to pain and damage to her back, as she sat for long periods in an inadequate breakfast bar chair. Each of the following chapter will extend the reach of this argument, by considering the larger space that surrounds these workstations and machines. There we will look at some of the ways different meanings can enter this use of space and bodies, by considering the movement of bodies around the machines, and the rooms where computers are placed.

6) How to keep a bedroom a bedroom

The previous chapter engaged with the concept of bodiliness, and suggested an approach to internet use that considers fully the embodiment of users. To that end the objects required for to support and produce internet were discussed. Computers, tables, chairs, and televisions are drawn up in an assemblage around the body. This arrangement of objects and bodies together operates as one entity to make it possible to use the internet. Different arrangements support different forms of internet use, with the body perhaps standing, or seated at a dedicated table and chairs for prolonged keyboard use. This chapter will advance and continue this analysis of the relationships of bodies to internet use. Here we will consider in more depth the arrangements and systems bodies and computers can enter into, by considering the larger space of the home. We will also look at some of the implications of these arrangements for meaning making. Relationships and movements between objects and bodies in the use of the internet are meaningful, and particularly gender is produced and reproduced through these relationships. This chapter will address several ways and mechanisms through which meaning can enter such systems, while also adding several elements to the discussion that we haven't seen in the analysis of the previous chapter. The discussion here will progress in two stages. The first of these is to address the identities of rooms, and how these identities emerge from particular sets of objects arranged there, particular sets of acts that are performed there, and what kinds of subjects are free to perform these acts in this location. I will then go on to consider the importance of these restrictions and ordering in who and where acts can be done, and look in more detail at the relationships between sets of acts, and how these operate to structure space and bodies in meaningful ways.

Objects hold and produce meanings

In the previous chapter I argued for the importance of objects, because of their special relationships with bodies. I argued that in order to consider internet use in terms of bodiliness and the experience of embodied subjects, we needed to take seriously the objects that are implicated in this internet use. For that reason we looked in detail at the objects that supported the participants' internet use, and how bodies were disciplined by their requirements. This included the computer, as the object that allows the software of the internet to run, but I unpicked a little the constitution of such a machine. So we saw that the computer is not a simple object, it can have many disparate parts, and be configured in many different ways. These call to and have requirements of bodies in different ways.

In this chapter I would like to consider objects in a slightly different light. I'd like to think about how objects, and the particular relationships we have to them, can become meaningful. So here we begin to ask what role objects and their capacities have in social meaning. Latour (2005) refers to their role in reproducing the social as a sedimentation of culture into objects, and evocatively illustrates this with a story about a collective of apes who do not form permanent dwellings, or create and manipulate objects. They must constantly work to maintain social bonds in the group, so that if two animals form a relationship of cooperation they need to effortfully demonstrate this through practices and behaviour over and over again. In contrast, for us objects and use of space are able to stand in and act out some of this emotional work. We need only look to the variety of social category terms Riggins (1994b) uses to describe objects to see this. He lists active, passive, status, esteem, stigma, disidentifying and occupational objects, as well as a large vocabulary to describe co-location and spatial relationships that also contain meaning. In Lally's (2002) work on how objects in the home are constitutive and expressive of identities, she argues the collection of objects around us can therefore be read as texts. For her, the computer's acquisition is part of this work of home building, a constant process of maintenance and production, which is analogous to other forms of self work, as these arrangements of objects become an extension of the self and personality.

I want to argue here that in this way objects can hold meaning without the need for language and representation. Merleau-Ponty's phenomenology and much work that makes use of it is interested in its disruption of dualisms around body and mind, and the privilege that representation has on meaning making. It offers a way to break with a privileging of mind over the body (Grosz, 1994). For this reason many theorists of embodiment grapple with language based theories, critiquing them for associating language with the mind or thought, and prioritising both over the body and embodiment. Such grappling is necessary for another reason, too. Fully understanding bodiliness requires a shift from much of social theory that is predominantly about language, and this thinking differently is difficult to write about and communicate. More familiar language based work can form a starting point to make sense of this very different theorising. So I will cover some of these issues here in the spirit of coming closer to understanding the specificity of the arguments I wish to make.

Both Sheets-Johnstone (1994) and Hansen (2000) make criticisms of an obsession with language in social theory. For Sheets-Johnstone working with language becomes a fixation, which

prevents theorists from seeing past the power of language. Language has gained a monopoly on meaning, and on the styles and forms of meanings that can be theorised, ignoring the “formal and comportmental aspects of bodily life that in the most fundamental sense shape our concept of... relations”(pg 3), and allows subjectivity to be reduced and degraded. Hansen, has a term ‘technesis’, for the ‘putting into discourse’ of technological and machines, to ignore their relations to embodiment. He argues that lots of work degrades into describing technology’s effects on ‘representations’, which substitutes for an analysis of technology itself. Technologies have an effect on experience, primarily through their infrastructural role, which then in turn forms the basis of representations. Hansen reads embodiment as implicit in the whole of stories, rather than explicit in the language used. Writers and speakers are embodied individuals, and knowing this is necessary to understand the discursive acts they make, and see how their language implies this embodied life and the assumption of an embodied world.

Tim Ingold (2007) in his exploration of the history of song marvels at how language has come to be considered silent. While of course the largest part of language in our lives is spoken talk, which surrounds us, and is completely embodied both in its creation as speech and the sensuality of hearing. Dreyfus locates this move in the fantasy, valorised throughout the whole of philosophy, to lose the body (2001). Not only is the production of talk a physical action, of manipulating air, vibration and sound, using movement of the full length of the vocal tract from the lungs to the lips (Denes & Pinson, 1993), the face and body are also included, with facial and bodily gesture producing meaning (Csordas, 2008), that can be read and identified by ‘listeners’ (Beattie and Shovelton, 1999). Nikolas Rose (1998) discusses how language is augmented through memory, numeracy, writing, as well as power and regimes of language use. So by treating language as a disembodied intellectual exercise we are fetishising the specificities of syntax and semantics, at the expense of many non-representational and embodied elements of language. Csordas (2002) discusses experiential elements of speaking in tongues, and the same is true for our experiences of speaking and listening in the world, as well as of reading. This is taken up as an analytic issue in this work, where the research material, mainly words and recordings of words, is treated experientially as well as textually, rendered into recordings of events and movements as well as into printed words. Sunden (2003) does a similar treatment of online, typed text in a MUD. She argues these texts are not there to be read in the traditional sense, but to be experienced/performed. This is reflected in the quality of the typing, which features breaks, pauses, disjunctions, use of speed and timing, and is generally ungrammatical.

The intersection of language, discourse, and material is a complex one. There is a long tradition of examining how talk and discourse can affect the nature of our world, and be used to do acts. Austin’s (1962) classic speech act examples such as the ‘I do’ of a wedding, or declaring war are well known. And Potter and Wetherall (1987) make much use of this to consider the multi-consequential nature of talk in their development of discourse analysis. But conversely the arrangement of objects, bodies and places can affect the world of signs (as we traditionally consider words to do). But we must turn many notions, such as indexicality or felicity conditions (Austin, 1962) on their head, as they become central to the message, rather than the marginalised non-representational element of language use. The particular material conditions come to hold the meaning or action. Objects can hold a variety of forms of message. Latour (1991) tells a story of a hotel manager trying to keep his guests’ keys at the front desk when they

go out for the day. Finding both verbal and written messages have little effect, he attaches each key to a heavy and ungainly keyring. With the new rings in place, customers are quick to comply with his request and leave their keys at the desk, because the physical properties of this heavy object acts on their meaning making. Similarly objects can contribute to presentation of the self. Riggins (1994b) demonstrates how the work of arranging a sitting room becomes part of self work, with particular objects, particularly located operating as status markers to shore up identity.

This project also emphasises and aims to tap the non-representational. Much of the social world is not representational. Either because it cannot be represented, has not yet been transformed into a representation, or operates in the world in a way that does not require representation. Much of affective and emotional life is like this, where things are unsayable (Layton, 2002). Feminist approaches illustrate how much of women's experience is not put into talk, and is rendered invisible by its lack of rhetorical power, and therefore lack of representation.

Hansen (2000) argues that too much theorising gets bogged down in the notion of technology as 'cultural' artifacts, shaped by discourse and representation. This means ignoring the unmarked effects they have on our perceptual, experiential faculties. They are not 'just social', but also have a profound effect on bodiliness, and the possibilities for bodily action. He calls this the 'representation reduction' He coined the term 'technesis', to refer to this putting into discourse of technology, allowing a reduction of technology to language and thought. In effect, they are looking only at the effect of technology on representations. By saying that thought functions as text we make them equal. This goes hand in hand with a representational notion of the subject. He argues for incompatibilities between a focus on the linguistic and the phenomenal. However Latour's (2005 pp74-5) has a slightly different take, that critiques a dependence on 'the social', where he argues not only can this terms used as an explanation for everything, but argues that the symbolic (or social) is completely intertwined with the actions of objects. He gives the example of striking a match to light a colleague's cigarette, an act that is saturated both with social relations and with the physical properties and demands of objects, articulated perfectly together.

The incompatibility of bedrooms and the internet

We have already seen that internet use can occur in a variety of different assemblages of computers, furniture and bodies. This chapter broadens the collection of entities we are going to look at, and also seeks out how these arrangements inherit the meanings they have. First we will turn to the problem of rooms, and how they are identified. The first clue in this data that the labels and identities of rooms were important came from the insistence of several participants that a bedroom was not a suitable place for the internet.

Bailey: *And I wanted the bedroom to be a bedroom. I kept it tidy but having all the books and shelves. I didn't want it. That's the first thing when you opened your eyes that you saw. I didn't want that I wanted the bedroom*

Excerpt 1: Bailey, Interview

Years ago, while she was studying, Bailey had had her computer in a dedicated workstation area in the bedroom. We have already met her current computer, which sits on the breakfast bar in the kitchen to form a much more makeshift workstation. In the previous chapter we discussed this workstation in terms of how suitable it was for use through the body, and how the shape of this workstation was marked by her history with the internet. But in this chapter we become more interested in how meaning is inscribed and performed through these different arrangements. In excerpt 1 Bailey is describing something wrong with a computer in a bedroom. It created problems that were far more important to her than those I highlighted in the previous chapter about the suitability of her kitchen chairs to support comfortable internet use. The computer created trouble for how the bedroom was defined and produced.

For Bailey issues of keeping the place very tidy and clear were important, in the last chapter we saw that she removed her stereo system and printer to create a more minimalist environment. In a similar way, this computer, and the kind of work and activity it was marked for, was removed from the bedroom. Amy had similar concerns, and after she told me the bedroom was out of the question as a location for the computer, I asked her why. This exchange is shown in excerpt 2.

Louise: *What would the reason be for the bedroom?*

Amy: *Coz that's not what a bedroom's for. That's why. The sitting room is okay because it's sort of dedicated entertainments space.*

Louise: *Yea*

Amy: *The last thing I want is him quickly logging onto wow [World of Warcraft, an online roleplaying game] before he goes to bed. He might never get out of the bedroom.*

Excerpt 2: Amy, Interview

Amy is struggling over roles in the house with her husband, particularly that he spends too much time during the day playing online games and too little working on his small business. A computer in the bedroom would allow him to play his games there, as well as in the small office room.

It's clear to her, as to Bailey, that "that's not what a bedroom is for". Both accounts have a sense that a computer in that space will transform and produce it in a way they would prefer not to happen. The bedroom is seen as a space for sleeping. To offer some contrasting ways to produce and protect the category of 'bedroom', when Lucille moved into her partner's house, she changed the identity of the room he had used as the bedroom into the study. This was a larger, more central room, and she felt the study was the most important room in the house. For her the bedroom was a less significant room. "*Put the bed somewhere back in the house. Just sleep there basically. And you're out of it and don't come back in*". Despite this shift in how she values the two rooms, Lucille again was keeping sleep and internet use separate.

Identities of rooms

The home and its division into rooms became an important issue for the study. The significance of the bedroom for Amy and Bailey became a clue that the room where internet use happened would turn out to be an issue. For all of my participants, the home was the place they used the

internet the most during their audio diary period. So it was where I visited them to view their machines and to conduct an interview. For all the participants I asked them about why their computer was located in a particular part of the home, and their reasons for placing it there. While I was there I participated in use of the space and the objects there. This material had a richness I had not expected. The structuring and practices of the home were complex, but also deeply felt. Several anthropologists, such as Daniel Miller (2001) have argued for the significance of the home as a site of production of social life. He points out that this is where much of what matters in people's lives happens. But also it is a place filled with meaning and structure, a dynamic space of negotiation, and active construction. Lally (2002) describes it as a machine for living, a complex ordering of space, bodies and practice. It is not a place of meaninglessness or chaotic movements and acts, Frohlich and Kraut (2003) catalogue an enormous array of significant factors in how a computer moves into the rhythms and practices of the home, and particular rooms.

A home is made up of a collection of rooms, connected by doorways and filled with furniture and smaller objects that completely fill our physical horizon. The body is always in engagement with a world of material objects. In these, physical terms, they function like the objects we discussed in the previous chapter. They form a large array of material that has physical properties, and therefore shapes our embodied experience of moving through them. We can add to this some of Merleau-Ponty's (2002 [1945]) concerns on the characteristics of our relationship with objects. The layout of rooms, with walls, archways, rooms, windows, furnishings constrain how we can position and place the body. For example a house allows exit to the front and a road, but perhaps not to the side or onto an interesting slope. We are constrained in terms of movement, but also in terms of lines of sight and what we can see (Sheets-Johnstone, 1994). Parts of a house will be hidden from view (basements, upstairs, a yard), while more open plan layouts allow unobstructed gaze to many areas of the space. The experience of this carpentered space is a curious one, as it is laid out to facilitate a particular kind of walk, movement and sensory experience, with a smooth clear ground, but also isolation from the outside elements, providing privacy (Ingold, 2011). Traditional psychological experiments are beginning to find that passing through a doorway is a significant cognitive act, that impacts encoding of information and tasks (Radvansky et al, 2011). It is also an affective place, a collection of objects and relations we gather around ourselves for comfort and to evoke a particular feeling of home (Lally, 2002, Wise, 2003). These structures are also very much gendered ones, with the home archetypically a place of work for women, not just for leisure and rest (Drucker et al 1997; Bakardjieva, 2005; Gray, 1992).

Key to the questions raised above about the nature of the bedroom, is that these rooms carry labels and identities, such as 'living room' or 'kitchen'. These rooms are differentiated in terms of the kinds of things that happen in them (Taylor & Radley, 2003), and their identity. The labels reflect an intersection of particular actions that happen in that room, the people for whom particular actions are possible there, and particular set of, and arrangement of objects that support these activities (Ahmed, 2006), they also have non-preferred activities and persons, that attract damage to identities or discordance. This means not only that particular rooms prefer particular activities and other elements that shore up their identity and specialised function, but that to act in a particular way in a particular room is productive of the identity of subjects; the

nature of the home is such that much of this productivity is to do with gender identity (Ang, 1995; Birdwell-Pleasant & Lawrence- Zúñiga, 1999). Arrangements that can confer gender can be as large as a whole room or large parts of rooms, but also as small as individual objects, or the individual controls on Gray's VCR (1992). The home itself can be marked as feminine with women and girls expected to spend their time indoors (Mitchell & Reid-Walsh, 2002).

The identity of rooms is supported by an arrangement of furniture and paths through the room, collections of necessary objects, but also the meanings and practices that allow it to be used in a particular way. So a kitchen or dining room prefers tasks of preparing and eating food. Although these activities are in principle possible in any kind of room, these rooms are filled with the appropriate tools easily to hand, such as knives, bowls, ovens, tables, and there are strong customs associated with how to deal with eating. Several other rooms have particular non-associations with eating, such as a bathroom, or perhaps a bedroom or office space. Differentiation into different rooms slices up the home into different sets of functions and meanings, not at all a uniform space. Homes are divided into work and leisure areas (Bakardjeva, 2005; Ward, 2006), with kitchens and childcare spaces designated for work, while dens, recreation rooms and lounges are designated for pleasure and freedom. The power to have control and ownership over particular areas of the home is significant here, with who can have privacy in a space (Riggins, 1994b, Lally, 2002), to shut doors or to turn on and off TVs radios and computers. Simply to own particular specialist rooms confers status, such as the provision of private child's bedrooms, which is the privileged activity of a 'good parent' (Mitchell & Allnutt, 2008).

The living room has attracted particular attentions as a key room in the house. It was one of the earliest to be labeled as rooms began to become differentiated in the 18th century (Frohlich & Kraut, 2003; Worsley, 2011), and this differentiation can itself be seen as a form of technology. As with any technology, it emerged at a moment when the time was right. Interests, activities, other necessary objects and technologies had come together to require it. This was in a context of such shaping effects as the availability of electricity and greater leisure time. This space again changed with the introduction of radio, as an entertainment space, and again with the TV, which oriented living rooms away from the fireplace and towards this new entertainment medium (Worsley, 2011). As television has matured as a technology, it is no longer limited to the formal space of the living room, but is increasingly normalised and moved into more informal spaces like the bedroom Morley (2006). Berker et al (1996) use the term 'domestication' to describe how new technologies are taken into everyday life and become normalised in this way.

The identity of these rooms has significance for where a computer is placed, and internet use can happen. The home is filled with a large number of domestic machines, such as fridges, telephones, televisions, so a computer must be seen as one among many. When the computer enters a particular room, it must negotiate with the cultural and family norms about how that room should be used, its function, appearance, personality. The internet use there will be shaped by the identity of that room but also a computer itself can reconstitute the space it sits in (Leung, 2005). The location can be significant for ownership and who has access to the machine, it can be in a private space (Bakardjeva, 2005), communal space – where it might become a centre for family activities (Frohlich & Kraut, 2003), or in a location that some can use freely, but

others can't, such as an adult or child's bedroom (Lally, 2002, Mitchell & Allnutt, 2008), with many of these categories gendered.

Comparing the study and the living room: Sally and Lucille

Having made an argument that the identities of rooms become significant in determining the kinds of activities, objects and subjects that occur in them, I will now present two examples from the data to explore these ideas further. These will be worked through in some detail, to draw out the theorising of the previous chapter, considering internet use in terms of experience, and place this alongside a concern with the identity of rooms. I would like to ask what is inherited and added to this story when we consider the differentiation and identity of the room they happen in. I will discuss how the identity of the room is supported, but also how the way of using the internet is shaped by the nature of this room. We have seen above that a bedroom is a very unsuitable place for a computer, and in this section I will consider two types of room that are considered appropriate for a computer within the corpus, and contrast the productivity of each of them. The first is Lucille's dedicated study, and the second is Sally's living room, which we have already met in the previous chapter. These two examples are selected for their sharp contrast, and each exemplifies a distinct style of internet use. I would also like to suggest that they are typical of different eras and styles of internet user. The dedicated study resembles Ahmed's (2006) writing table discussed in the previous chapter. It is a rarefied space of privacy and intellectual work, and the form of workstation that was required for early adopters of computers and the internet. Sally's use of her laptop in her living room, which we have seen before in chapter 5, represents a newer style of internet use. This has become possible with the greater popularity of laptop computers, which have a very different relationship to bodies and other furniture. No longer is a table and workstation format required to house the machine, as it can be carried throughout the house and used in more casual postures. This makes a computer a far more accessible item, to those who would previously have been excluded. Indeed, the increasing availability of cheaper laptops, which can be more easily accommodated in the home, has coincided with larger populations coming on to the internet, as discussed in chapter 2. But also these material conditions produce a very different style of usage. No longer does the arrangement of the room, furniture and upright body suggest a space for writing and work, it gives way to suggest a space for leisure uses. Let us now turn to descriptions of Lucille's study.

The study is the second largest room in the house, roughly square. It's sunny and has an open fireplace. The room contains two desktop computers on dedicated desks. These each have an office chair, and are scattered with objects related to work. The rest of the wall space is covered by bookcases, which contain books, but also files of papers and stationery. There is a small fridge used for snacks. On top of this is a laptop used regularly by Lucille. Over the fireplace there are several ornaments, decorative posters and personal items. Lucille's desk is surrounded by stationary items such as paperwork, and a shelving unit for folders and paper organisation, pens, and additional computer equipment and peripherals.

Excerpt 3: Field notes, description of Lucille's study (summary)



Photograph 1: Lucille's study, her computer

First we'll consider Lucille's study. This is a dedicated computer room shared by her and her partner. Her usual activity in the room, as described in the audio diary, is work related. Lucille divides her working week between use of the computer here, and an office where she works with a computer that is always online. Lucille's use of the internet is associated with academic writing (for checking facts as well as grammar and spellings), and sourcing of information such as articles. She accesses the internet for reference material throughout the day. She rarely accesses the internet during leisure time, preferring to spend that in other rooms of the house such as her living room. We will revisit the use of her living room in the next chapter.

We can see that this arrangement contributes to a constitution of the internet as work practice. Several elements of this arrangement contribute to that effect. Each computer is laid out in an archetypical workstation arrangement. The surfaces are dedicated desks, with her partner's bought new to furnish this new room. They are paired with upright office chairs, that bring the body into the posture for intensive typing and gazing into the screen. These are laid out as work computers, much as they might be in a work environment, including her partner's 'decoration' of his area with family photographs and mementos (Lupton & Noble, 2002). The room contains many other objects that marker for work, such as ready to hand stationary, pens and other items. There are two full bookcases of books, another two bookcases containing office items such as folders. These workstations are separated from the rest of the house, afforded privacy, quiet, and are not marked as communal or accessible to guests. Each of the two partners have their own dedicated and private area, containing their own private items. The history and planning of this room also supports a work environment, as Lucille chose this large room to be a

home office, and oversaw the purchase of specialist equipment, including a new desk for her partner, and the moving of his new computer into the room. This is quite different to the machines and workstations we have met so far in this thesis, which have had far more makeshift arrangements. They have not been as well resourced, in a dedicated room with specific furniture to support them, but have been placed in pre existing arrangements already in the home.



Photograph 2: Lucille's study, her partner's computer and laptop on the fridge.

This arrangement is very much traditional for computers, notably both of these are desktops, and thus require a dedicated space and table to support them as large and ungainly objects that cannot be easily moved. This style originated in a time when most computers were for work, and a computer entering the home was said to transform the location it was placed into a room for work (Ward, 2006), be that paid work, or homework and study (Bakardjieva, 2005). We will now turn to Sally's alternative arrangement, which represents a further different arrangement, and a more recent style of housing computers and the internet, made possible by machines that have very different affordances as objects.

Sally's living room

Sally's living room shows a very different arrangement and ordering of space, with very different identity markers for this room. Her laptop computer is on a large coffee table of dark stained wood. On one side of the table is a comfortable sofa, on the other side of the coffee table, directly opposite the sofa is a television. Other furniture in the room are an armchair to match

the sofa, a bookcase, and a chair she is learning to reupholster. The room is decorated in pale creams and pink, and decorated sparsely with candles, framed photographs, and floral cushions.



Photograph 3: Sally's living room

Sally works in an office using the internet much of the day. She brings a little work home during her diary, but her home computer is rarely used for work. Unlike any of the other participants, she talks extensively about leisure uses of the internet in her diary. This is organised by time, when Sally comes home from work her evening is a time for leisure. As we have seen in chapter 4, the evening is a common time to spend a block of time using the internet, and this chronological arrangement supports a particular kind of internet use, longer sessions doing intense leisure, such as Amy's long shopping sessions, or Baileys lengthy chat sessions. When Sally has no other plans, she often spends her evening sitting on this sofa, watching television and surfing or otherwise using the internet for leisure activities. This arrangement of furniture and objects supports and produces this form of usage. The body can be comfortably seated on the sofa, with the television and laptop used together. The laptop has a usual space on the coffee table, there it can be logged on but not have Sally's full attention, or she can turn to it briefly to send a message to a friend or look up an item to accompany watching television. It can also be tucked behind the sofa when not in use. Sally's relaxing activities include Facebook, internet dating sites, and shopping. Sally is a canny online shopper, using a range of websites to browse and research, and combining her internet shopping with visiting the high street to try clothes on, before returning to the internet to get the cheapest prices



Photograph 4: Sally's spare room

Although this arrangement with Sally's laptop keeps her internet use in the same room as most of her other living, such as relaxing and eating, Sally has a spare room which is also capable of holding a computer. Photograph 4 shows a corner of her spare room, which contains a specialist computer desk. It's piled with clutter and she moved some laundry to enable me to photograph it. This computer desk is a legacy from when this room was used as a study by an ex partner. This is a space that Sally never considered as a potential location for her laptop. She simply wasn't interested in sitting tucked away in a dedicated computer room like this.

Louise: *So there is a history in the house of a desktop being set up. Is that where you'd put it if you got a desktop?*

Sally: *I don't know. Yea. I think probably because I. I'd feel more like. I think if I put it in a different room it would feel more like work. Rather than pleasure. I don't think I would. Although I say I'd like a desktop the laptop just nice because it's just easy to store. Something quickly. Put it out of the way. Friends kids kind of and I'd put it out of the way so they can't break it.*

Excerpt 4: Sally, Interview

So although Sally has other options for where to use her laptop, this spare room is not an attractive choice. Several reasons for this are present in her account. The history of this room as a place her ex partner used the computer makes it unattractive. Although in Sally's personal history with computers, it is his use of internet and introducing her to email that left Sally wanting her own computer after he had left. But also, as Sally describes in extract 4, she resists the arrangement of a computer on a desk, as it would 'feel more like work'. In the interview Sally

at first said she might choose to buy a desktop, but when I ask her where it would go, she gives this response and repairs that suggestion. There is no clear arrangement in her house that would suit her better than the one she currently has. Sally's history with the internet is also sharply contrasted with Lucille's, in that she has only in recent years bought her own computer. For her the word 'laptop' is synonymous with 'internet', and as we've seen it is far less intrusive in the shape of her home and her life than the 'workstation' model would be. Lucille has had computers since their early days, before the internet existed as it does today, and is a knowledgeable and committed user. These different histories contribute to different arrangements of space, home and bodies in their use, and a different range of tasks and concerns, producing the internet in very different ways. The nature of these interests, that that expertise and early adoption (Cockburn, 1985; Bittman & Wajcman, 2000), and finding the time and concern to use the internet in different ways, are all a relationships that can be productive of gender.

The question of Amy's computer

We now move to the second part of this chapter, and a fresh question that emerged from how participants used their homes. Amy's computer was introduced in the previous chapter, and for me this computer use represented a puzzle. This was a two computer household, the other in a dedicated home office upstairs. This room was used by her partner as an office space for his small business during the daytime. But I wondered why Amy never used that other computer. It was brand new, a better machine, with a comfortable computer chair and desk, in contrast to her very uncomfortable arrangement crouching over a coffee table. In the previous chapter we had our first clue about what was preferable about this position, Amy's son could play on the living room carpet in full view of her sitting at the computer. So I began to ask myself about the other tasks Amy wanted to accomplish during her day, and the rooms and resources at her disposal. Following Latour's (2005) call to innovate ways of recording the connections actors make, I sketched out a series of maps of how Amy used her home. The first of these is shown in diagram 1. This shows a plan view of Amy's home, with the room identities labeled, and a mark for each of the important locations she mentioned in her diary and interviews.

The living room is where Amy uses the internet, sitting on the sofa. But around her we can see the television in a direct line in front of that sofa, the open area of floor where her baby plays, and the garden, which is very important to her identity as a gardener, ecologically minded, but also as a peaceful space she can spend time with her son. Behind her, and visible over an open archway from her seat, is the stove area of the kitchen where she prepares most of the meals for the family. Each of these key activities that Amy mentions in her diary and interviews takes place in a particular part of the home, which has characteristics that make that task possible and preferred in that space. It was at this moment that I began to fully understand that particular actions can be done in particular rooms by particular people.

In diagram 2, I roughly joined up these tasks with the lines Amy walked to perform them and also to move into the outside world of the street, and upstairs into other parts of the house. Chains of movement, action, and the performance of tasks, which happen together in time,

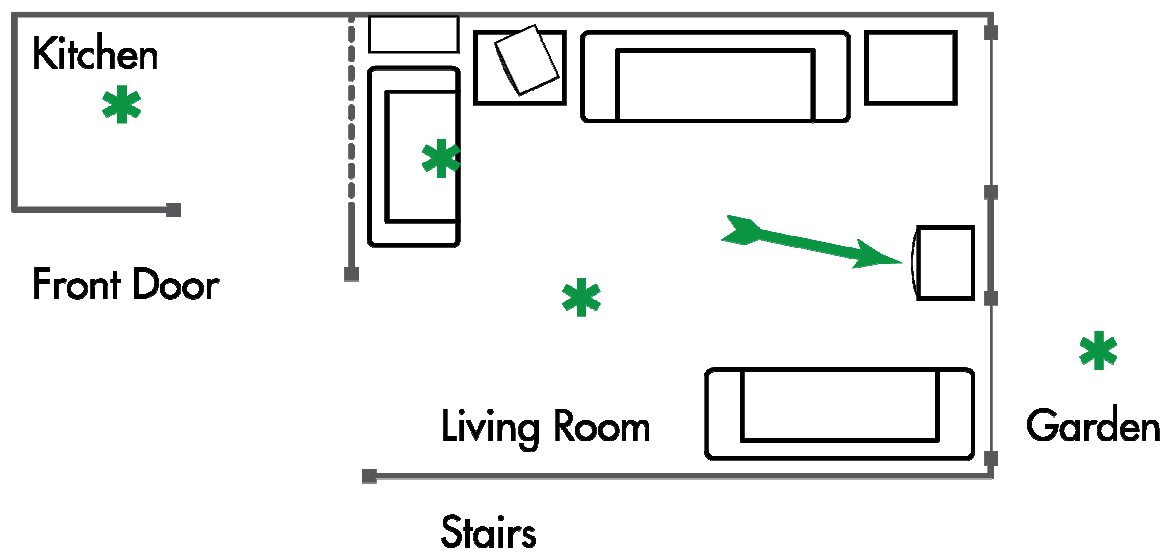


Diagram 1: Amy's home, locations for tasks

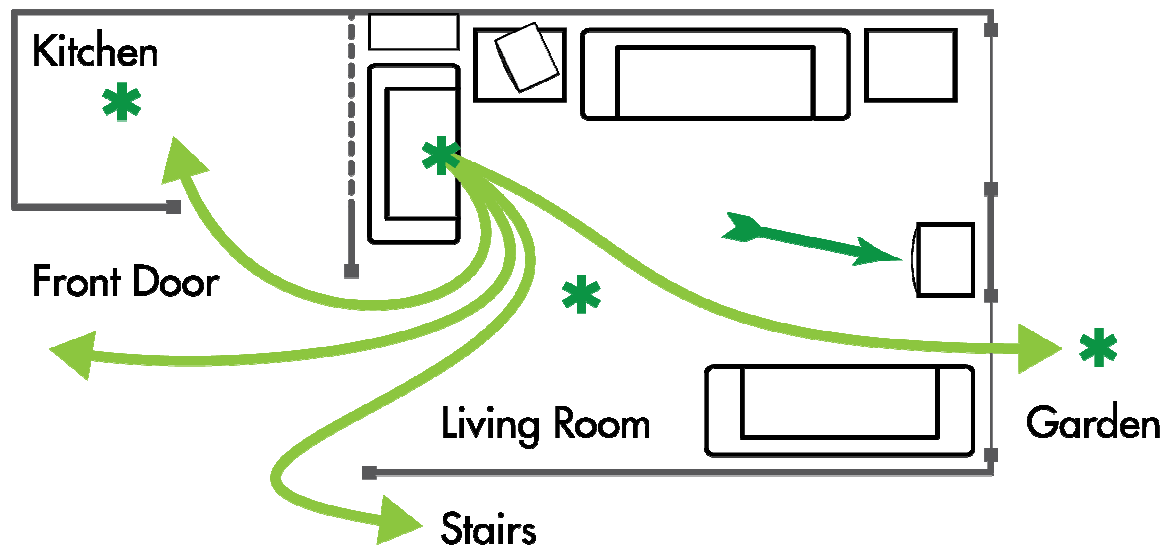


Diagram 2: Amy's home, paths through the home

carve out these paths. All of a sudden we can see the strengths for Amy, and the possibilities opened by sitting in this part of her home. This seat in front of that unsuitable computer is well placed to keep her at the centre of a number of different activities, and offers ease of movement to all these important locations. The gaze and sight is important here, too. From her usual seat on the sofa Amy can view a range of important things. Photographs 5 and 6 show the views from in front of and behind Amy's location on the sofa, which encompass a great range of significant locations. This issue of line of sight gives new insight into her anxieties that her husband is not settling to work on the family business upstairs. His office is in a spare room in another part of the house, cut off from much of her daily activity, and importantly from Amy's gaze.

So in the previous chapter we examined how in order for embodied subjects to use the internet, we must engage with the objects of their use. Throughout the chapter we explored how a number of objects and parts come together to produce complex workstations. Several forms of objects and bodies operate together to create different possibilities for internet use. In this



Photograph 5: The view from Amy's chair

chapter so far we have discussed how the identity of a room adds a particular meaning to this assemblage, with different kinds of action available in different rooms. In exploring why Amy used her old computer in this sitting room, we have seen how different tasks and interests, which take place in many locations in a home, can be supported and facilitated by the arrangement of objects in space. Bodies gaze around, and move around, the home, to bring themselves into line with the demands of different tasks and activities in their preferred locations.

Carving paths

We have already considered how the architecture, such as doorways constrain and make possible our paths through the home, while solid walls prevent both our gaze and our movement. We link these movements together into paths, routes and lines that we make in the same unconscious way that Merleau-Ponty (2002 [1945]) describes the catching of a ball. We do not have to think through or represent these sets of movements in order to achieve them. Our interest is in the performance of a task, not in considering our bodies or calculating our move through space, just as a baby when it learns to grip doesn't look at its own hand as it moves it forward, but at the object it wants to act on (Merleau-Ponty, 2002 [1945] pg 172). The physical



Photograph 6: The view behind Amy's chair into the kitchen

shapes of these paths are a function of the demands of tasks and actions, which are also part of the properties of objects. All these elements are brought together by the need to accomplish a task, or more likely a string of micro tasks that fit together, such as preparing and serving a meal. Or, more importantly, a whole string of tasks and considerations which happen together, which form a snapshot in the wider projects of life. Such as when Amy waits for some food to cook while quickly checking email, and hoping her baby remains entertained by a toy on the floor which has provided her with a moment of time to use for these chores; and all of this is enabled by the location of her workstation in such a central location in the home. These paths are made up at the intersection of bodies, objects and their arrangement, and activity and movement

Proximity, distance, and an object or tool being near to hand are significant issues for objects, and determined whether we are able to put them to use for a particular task. The objects and tools we need to complete a task are kept close at hand (Ahmed, 2006), and as we repeat them we increase the efficiency of the set of tools. Latour (2005, p72) lists many ways objects can mediate in actions, things can authorise, allow, afford, encourage, permit, suggest, influence,

block, render possible, forbid. We don't simply exist in the space, like an object in a bag, we inhabit it, we are not passive but purposely move through it, being of the space and belonging to it. We order and make sense of space and time by acting through them. The same is true of the home itself; we enact and are made up of this concept of home (Wise, 2003), through the acts and practices of dwelling (Ingold, 2011). This chain or path of objects, their arrangement, and movement for activity creates a fragile trace of relations around us. In this way, we generate what Merleau-Ponty and his followers have called lived space. For Ahmed (2006 p 9) these spaces become a second skin, that "unfolds in the folds of the body" the body is extended by the home around us, but at the same time the body spreads out to fill and inhabit the space that's available.

In the lives of my participants some particular paths, made up of movement and tasks, were well trodden. For example the path from a workspace to a food preparation area are regularly walked and rewalked, which makes them well known, but also the spaces are adapted and negotiated to produce these paths as convenient and efficient. Through constant walking, making and remaking of these lines they come to criss cross the home. Some areas or objects are used constantly and become well worn with meaningful lines. While other parts of the home, cupboards or dark corners are rarely seen or moved through and they become spaces that lack the rich meaning and incorporation into life.

These lines and paths have different kinds of persistence. At heart they are very fleeting, produced as they are out of movement and intention. Once something else shifts in Amy's life, she may stop walking a particular line, as it is no longer motivated for her. In fact when Amy and I conducted the online interview, after she had returned from maternity leave, her internet use had massively shifted and the patterns of usage I had recorded for her were a thing of the past. These lines are part of the dynamic nature of our space and homes. As Ahmed (2006) notes, as well as being places of familiarity and comfort, the home can also be a giddy place that moves. There is a tension between order, territorialising forces, and the free form that interrupts this (Rose, 1998). However there is also a persistent quality. Actions that are repeated many times have a way of sedimenting and creating a rhythm that it is easy to fall back to in a different time or under different conditions. People are attached to their favourite chairs and spaces, we are territorial (Frohlich and Kraut, 2003). A subject reproduces the line that it follows; we make it through constant repetition. Lines are performative, but they also have a quality of shaping the bodies that follow them, and drawing us to them (Ahmed, 2006). This sedimentation process is about a learning and a patterning in the body. For Ahmed, to give up a line might mean giving up a certain life, they demand a commitment. And in this way gender is produced through such path, particular people can do particular things in particular spaces.

Paths online

We've discussed how the relationships between bodies, objects and tasks can be made meaningful in terms of paths through space. These paths are produced at the intersection of activity and bodies, as many actions are linked together one after another, and repeated through time. I would now like to turn to the online material collected with participants, and

discuss how to extend this theorising to make sense of web pages. The use of the internet similarly contains lines and paths of intentions, activities and meaningful movements running through it. Internet 'objects' do not stand alone anymore than physical objects do, but are made meaningful in their relationship with other entities, online and offline, particularly when those entities are in motion together. Emerging work on games and other online spaces considers them as sites of affectivity (Carr, 2003; Kinney, 2003). Wise (2003), when she logs onto her email account is producing for herself a comforting and familiar environment, drawing around her the objects and practices of home just as she does with material objects.

The World Wide Web makes enormous use of metaphors of space. These are a convention Sherry Turkle (1995) described emerging in the 80s in computing, with the notion of a desktop as a workspace, using a mouse to click and drag objects on that desktop or move these objects into folders to be stored. Websites make increasingly sophisticated use of these metaphors, as the more and more graphically intensive pages offer increased navigation options. So we make use of extensive menus, skip from page to page, click buttons, and chat to friends. At the same time, performing these acts requires embodied action, too, such as clicking mice, and typing on keyboards (Hansen, 2000). We must consider this metaphorical space alongside the material space, and the substrate that carries this digital information (Hine, 2001). Thus the acts of reading, looking and communicating online are a blurring and reimagining of two of their offline antecedents of reading a book or having a conversation. This can be a form of writing that is not conventional text, and linguists have long debated how to interpret it (Crystal, 2011). Sunden (2003) gives us such a clue when she describes the typed texts of her MUD participants as something that is primarily about action. She marvels at how different this kind of writing is from edited text, and it strikes me how comparable it is to a transcription of natural talk. It is full of false starts, repairs, ambiguous or misspoken/typed words. Similarly King & Krzywinska (2006) find virtual worlds to be no less about action, and a product of actively turning towards than the offline realm. So I'd like to take up this notion of internet spaces being about action, and apply much of what I have said about activity and usage of home space, to activity and usage of online space, to see where it takes us.

Just as arrangements of objects and rooms in the material world support some actions and close down others, so do the structures and ordering of online space. For example a computer folder can contain a number of documents, and be 'opened' to view them. And this creates a set of conditions of possibility for what can be done. Google mail has recently introduced a different way of structuring folders, such that a single document can be present in many folders at once, through a system of keywords. This stretches and escapes the metaphor of the folder, but also changes the possibilities for acting in these spaces. Such spaces can be navigated through with many forms of actions. A particular webpage can be moved to by directly typing the URL, clicking on a shortcut prepared in advance, navigated through by clicking and following links made available by another webpage (perhaps to discover a new path), to search within another site, or as Lucille often does by launching a brand new application or machine to perform the next step in a given chain of tasks.

Hine's (2000) early ethnography on the internet gives us a clear example of the effects of such opening and closing of possibilities. She examined newsgroups, a group which allowed many

emails to be exchanged between a group of people on a given topic. When one person wanted to make a contribution to a discussion they sent a message, which was copied to everyone in the newsgroup. In order to reply, another message was posted with everyone sent a copy. In this way a 'thread' was built up, with many consecutive emailed messages. However, the users had limited bandwidth, space in their inbox and time to read messages. So a strong preference and culture built up not to send redundant messages which did not contain fresh content. In this way, Hine found disagreement was preferred, as this generated longer and more meaningful messages, a brief 'I agree' was frowned upon and seen as a wasted message. So the configuration of this space, in terms of clicks, movement of documents, and content of emails produced particular conditions of possibility for action. This can be contrasted with other structures for discussion, which allow messages to be exchanged in different configurations, such as the MUDs which are structured as banter among groups of friends.

Most importantly these paths demonstrate that none of the websites are fully self-contained, or deterministic of how they are taken up and used. As the user moves through the space, they carve out a path of lived space, just as in the rooms of the home. Only some links are clicked on, while others are avoided. The websites are not discrete objects; they are sets of potential paths for action, using language, often in its embodied, active sense. This is a performative of reading, writing, choosing (or being persuaded/moved), and then clicking. It is also an emotional space, where participants deal with comfort, anxiety, pleasure as well as tiredness and breakdown of machines.

Let's consider a data example of how a participant selects a particular path through a website. Extract 5 is taken from an online interview with Katherine (in this extract using her MSN username of Ladybird). This extract has not been transcribed, but is text that she and I typed as we communicated in real time messages. So spelling errors and the format of messages has been retained. She was taking me on a tour of her morning routine through news websites. During this extract we were looking at a page of celebrity news. The page consisted of several pictures and news headlines. Katherine described to me which of the headlines listed she would click on in order to read the full article.

1. Ladybird says: anyhoo shall i tell you about this sky news thing?
2. Ladybird says: or do you want to ask anything?
3. Louise says: Lets go on to sky news
4. Ladybird says: so there's one main story and 12 other stories which are featured
5. Ladybird says: i usually click on anything with fashion in it
6. Ladybird says: or anything to do with celebrities being too skinny
7. Louise says: Each one for a little square picture ?
8. Ladybird says: also i like some celebrities more than others
9. Ladybird says: yeah
10. Ladybird says: so anything with clive owen
11. Louise says: hehe
12. Ladybird says: or angelina jolie or lindsay lohan
13. Ladybird says: so i'd definitely click the link for lindsay hits the clubs
14. Ladybird says: <http://showbiz.sky.com/showbiz/article/0,,50001-1252278,00.html>
15. Ladybird says: i'd read the story and i'd probably look at the gallery
16. Ladybird says: lindsay lohan's body
17. Louise says: Is there always a gallery ?

18. Ladybird says: because i'm obsessed with galleries that chart a star's body shape
19. Ladybird says: not always
20. Ladybird says: but i can tell which ones will and won't have a gallery
21. Ladybird says: anything with
22. Ladybird says: worst/best fasion at X event
23. Ladybird says: like golden globes
24. Ladybird says: or oscars
25. Ladybird says: will have a gallaery
26. Louise says: I can't see where the gallery is on the lindsay page ?
27. Ladybird says: anything which claims an actress is too skinny will have a gallery charting her body shape over the last 3 years
28. Louise says: aah, it's in ther ed box
29. Ladybird says: it's on the left
30. Ladybird says: yeah

Except 5: Katherine, Online interview (MSN messenger)

My responses and questions as I try to follow Katherine's clicks and navigations through the website give a clue as to how these links appear as graphical items on the page, I mention 'a little square picture', or 'in the red box', as I find the icons to click through. We can see that Katy has clear ideas about what sort of headlines she will click, and those she won't. At line 20, she asserts that she can tell which links contain the galleries she is interested in before she clicks them. For Katy a page that contains a list of links and headlines is ordered into those that interest her and those that don't. Those which she will click through, to produce her own kind of lived space, which she will, in Ahmed's (2006, pp60-62) terms 'spread out to fill and inhabit', and those that she won't explore. The many unexplored, unknown links remain dark space. They are not part of Katy's experience of the website, which is generated from her own active engagement with the set of possibilities that appear in front of her.

Websites and identity

Online spaces can have identity in much the same way as the rooms in homes discussed earlier in the chapter. Different kinds of behaviour, including language behaviour, are allowable and possible in different places, just as different acts are possible in different rooms. This explains some of the early research findings on identity play, as much of the early internet consisted of places such as MUDs (multiple user domains/dungeons). These are places that inherit from roleplaying games such as Dungeons and Dragons. Here the preferred activity is to engage in identity play. Interestingly Fine's(1983) research on traditional offline roleplaying game found that even here, where identity play is the aim of the game, in fact there is constraint on the kinds of identities that can be played, by whom, and most importantly how played identities relate to and constitute lived, embodied subjects. Hine's (2001) early ethnography on the internet follows one news story through a variety of forms of internet space, particularly newsgroups and web pages. She notes how conventions in different places are different. These include the identity play of MUDs, which is not acceptable in newsgroups, where contributors are expected to speak from their own, embodied identity. Newsgroups are a space where the preferred activity is the production of facts.

[13:40] StrangeGlitter: So if you were here looking for Nappies and your usual supplies...

[13:40] StrangeGlitter: How do you get through the site to those pages ?

[13:40] StrangeGlitter: What's the routine ?

[13:41] goblinhead: Search for "moltex" in the search box top right

[13:42] goblinhead: try it?

[13:42] StrangeGlitter: I'm having a go... just spelt it wrong ;)

[13:42] goblinhead: click on size 4

[13:43] StrangeGlitter: hehe finally got it and can see all the pictures

[13:44] StrangeGlitter: Oh, and then we get quite a bewildering list of different nappies...

[13:44] goblinhead: yes - but only becuae you don't know much about nappies ! /(i guesS)

[13:44] StrangeGlitter: You're right, I know nothing about nappies

[13:45] goblinhead: So click on size 4

[13:45] StrangeGlitter: HAVe clicked on size 4

[13:45] StrangeGlitter: And found a list of different packs and things

[13:46] goblinhead: It isn't very useful as it has actually displayed the full range again.

[13:46] StrangeGlitter: Yea, does look like a range of different things..

[13:46] goblinhead: Scroll down to the yeloow packed with a nuymber with KIT in the string

[13:46] StrangeGlitter: But I guess you know all these products quite well and can see straight away which the right one is ?

[13:47] StrangeGlitter: 16268 KIT - Oko Midi Nappies BOX 4-9kg = 176 nappies

[13:47] goblinhead: not really - i shop by colour of package and then by quantitiy - i.e. the bulk buy box

[13:48] StrangeGlitter: ooh, you can mouse over to see a larger pic of the package

[13:48] StrangeGlitter: hehe

[13:49] goblinhead: Then add to cart - once finished shopping for what I NEED I add to the order to make up to £100. including asking Mary and my colleague if they want anything

[13:49] goblinhead: yes

[13:50] StrangeGlitter: What other things are on the need list ?

[13:50] goblinhead: nappy liners

[13:50] goblinhead: paper ones for real nappies

[13:50] StrangeGlitter: Are they all regular purchases that you find similarly to the Moltex?

[13:50] goblinhead: yes

[13:51] goblinhead: I am thinking that a regular items list would be good and am looking to see if they do one- like for tescos online!

[13:51] goblinhead: Natracare sanitary towels

[13:51] goblinhead: Bio-D surface cleaner (harder to find using a search)

[13:51] goblinhead: Ecover fabric softner

[13:51] goblinhead: faith in nature rosemary shampoo and conditioner

[13:52] goblinhead: Clear spring dischwasher liquid

[13:52] goblinhead: Bio-D laundry liquid

[13:52] StrangeGlitter: <nod>

[13:52] goblinhead: but not all each time

[13:52] goblinhead: I but in 5L containers

[13:53] StrangeGlitter: Oh yes, I'm looking at the shampoo and conditioner, now

Excerpt 6: Amy, Online interview (AOL messenger Amy is goblinhead, researcher is StrangeGlitter)


Just as in material rooms, the identities of web pages, and the forms of activity they prefer, and sets of possibilities that they offer, constrain which subjects can act there. So that just like rooms, a subject inherits identity from the pages they engage with. Nakamura's (2002) research describes interface design and how it positions contributors in this way. Menu items produce a stereotyped view of race, which leaves actors no choice but to navigate through the set of paths they are offered. Wise (2003) describes more comforting practices to assemble identity through online space, through repetition and collecting around us materials that operate to carve out our home territory. The security and comfort provided by logging into a familiar email account can be analogous to a small child singing in the dark to comfort herself.

This is demonstrated in excerpt 6, an example from Amy's data; she is listed as goblinhead and me as Strangegliter. This long extract is taken from one of her online interviews, as she described to me her routine of searching for and buying nappies. Again, in this extract we can see how the webpage is operated and used for navigation. Because this describes one of Amy's very regular chores, she is familiar with the website. She doesn't need to browse or rummage for her shopping, she types terms that are well known to her into the search box. Amy's navigation through the task includes both clicking and using the website's search facility to find her nappies quickly, but also telephoning a friend to offer to add her items to the basket, too. This would allow Amy to get the cheapest deal by avoiding paying postage and packing fees. At the end of the extract, Amy lists the other items she will need to shop for next, from different websites. At first glance, Amy's activities on this website appear entirely utilitarian, and not about social life, as for example Turkle's (1995) participants are. But when we look first at picture 1, which shows a screen capture taken as a followed Amy through her search for nappies, and then at the following two pictures, picture 2 and 3, which show the other websites we shopped at that afternoon, something else starts to emerge. Just as rooms have particular identities which constrain what actions can be done there, and by whom, so do websites and these identities constitute the identities of those who do acts there. These websites all sell ecologically friendly nappies, and hail their customers as 'planet-friendly parents'(top of picture 3). By shopping at this selection of websites, and making this kind of navigation through the array of nappy buying possibilities that are made possible for her, both on and offline, Amy is performing a particular identity. She is inheriting many representational and semiotic elements through her activity and movement in relation to these websites. But also by showing me that she is a regular user of the Natural Collection website, a skilled and familiar user, she is again performing that identity. She is a parent who is both 'planet-friendly', and thrifty and diligent as a shopper. Just as Hayles (1999, pp xi-xiv) argues that the Turing test creates a point of linkage between symbol manipulation and embodied acts, so does acting and moving through a space literally made out of text.

[11:42:24] Lucille Jensen says: Louise, I don't think I could be described with reference to routines. My "routines" don't last... I can tell you what I often do in this office in relation to this specific project ???

[11:43:32] Louise Madden says: That sounds good!

[11:43:51] Louise Madden says: I don't think we've talked too much about work things before

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Moltex disposable nappies are not short of eco-friendly credentials:

- Made with 50% renewable resources from controlled cultivation
- 100% chlorine-free absorbent core
- 20% absorbent gel biodegradable
- Fully biodegradable packaging
- 100% biodegradable breathable protective film
- Free from perfumes and lotions
- Free from bleaching agents and toxic residues
- Recommended for babies with eczema and sensitive skin

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Natural Collection Reviews

Customer Rating **4.7/5**




I was completely satisfied with Natural Collection and would definitely recommend them to others - thank you.



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Picture 1: Screen capture of Natural Collection website, searching for Moltex nappies with Amy



Picture 2: Screen capture of Little Lamb nappy website



Picture 3: Screen capture of Naturebotts nappy website

[11:44:55] Louise Madden says: So what kind of things are you doing with the internet in the office ?

[11:45:05] Lucille Jensen says: Well the project I am working on is so boring that I go online to listen to BBC radio 4 or I am listening to the State radio 1 from home

[11:45:19] Lucille Jensen says: Both are intelligent speech radio

[11:46:18] Louise Madden says: And are they both radio stations you already knew about and fairly straightforwardly found online ?

[11:46:29] Louise Madden says: Or was there more to it than that ?

[11:47:53] Lucille Jensen says: They have both been online for years (since 96) Yes, and easy to find. Then I take breaks from the work (data entry) at least every 35-40 mins and come up with all sorts of excuses to look up this and that online for 5- 10 mins.

Extract 7: Lucille, Online interview (Skype)

[12:01:32] Lucille Jensen says: Surfing is contingent - would have to be I assume. I do check news, remember that i wanted to talk to mother or someone else on Voipbuster. Remember that I need to look up something, reserve a ticket to a concert, print out a map of how to get there, buy a plane ticket, look up train schedules, the weather forecast for the next few days in some city, etc...

[12:01:50] Louise Madden says: Hehe

[12:02:21] Louise Madden says: I was wondering about the URLs of some of those kinds of sites that you use regularly so I can look around them a bit more

[12:02:29] Louise Madden says: Things like weather

[12:02:39] Louise Madden says: Dictionary

[12:02:49] Louise Madden says: TV Guide

[12:02:59] Louise Madden says: Library

Extract 8: Lucille, Online interview (Skype)

Let us consider one final example of paths through the online by way of a contrast. These are extracts 7 and 8, taken from my online interview with Lucille. During this interview Lucille was at work, doing a short term job that she hoped to finish soon. These describe some of her internet usage on the day of the interview. Unlike the other participants, Lucille did very little navigating in sustained paths through websites. Her patterns of usage were characterised by going straight to a particular tool of interest, using it briefly, and then closing it down again. In extract 7 she described listening to two radio stations that she was familiar with. At the end of extract 8, I listed four items taken from Lucille's audio diary, which were all used in this way, as reference tools. This forms a curious contrast to an internet use like that of Amy's discussed above, which involves moving from website to website. Lucille's relationships and pathways through online technology are sited much more in the offline world, with a key issue being her own expertise and competence with technology. She is proud of, and takes pleasure in, how instrumental her internet use is. In Lucille's example her chains of activity include many linkages between web pages to offline activities, rather than links from web page to web page. At the end of extract 7 she describes moving from a spreadsheet she is editing offline, to spend 5-10 minutes taking a break to look something up online. These forms of linkage, from an object of one modality to another of a different modality this will be explored in more detail in the following chapter, when we chart internet usage in its full complexity, by making use of concepts of network, assemblage, and flows.

Conclusion

This chapter is the second in a series of three chapters that develop the analysis and theorising of this data. In the previous chapter, I discussed bodiliness and how to consider the social world in terms of embodiment and experience. To this end, the sets of objects required to use the internet were explored, and how arrangements of computers, tables, chairs and bodies operate together to make internet use possible. This chapter has considered how meaning can be contained and produced through configuration and movement. Two key mechanisms for such meaning making have been discussed. The first of these is the identities of rooms within the home. The technology of differentiating rooms creates conditions where particular objects are collected, to prefer particular actions, done by particular subjects. This organisation of actions and where they can be done positions subjects, and means their relationships with rooms and the correct behavior there is productive of gender as well as other elements of identity. The second mechanism was through creating paths of repetitive actions. As tasks and routines are repeated over and over again, they sediment paths through the home which again create intensities in ever shifting relationships. The paths become lived space, constituted and

inhabited through their relations to bodies and action. Similarly, such paths are generated through online space, as tasks and activities give motivation to navigate through some possible paths, and to leave others untouched. In this way a 'lived space' is produced. This lived space is an intersection of activity, organised and striated spaces such as web pages or rooms, and embodied practice. It exists only as a result of these relations, and is not a property of the space itself. Spaces can be marked and constituted through the repetitive actions which become increasingly efficient, and draw in arrangements of objects close at hand around them. Bodies and subjects can also be marked, committing to and expanding to fill and inhabit these paths. Gender is one such marking, which is generated out of these meaningful intersections, so that entering particular relations identifies the subject as gendered. The following chapter will be the final one in this series of three, and build on the analysis produced in the last two chapters, to consider the full affectivity of internet use. There I will consider how the online and offline operate seamlessly together, and linkages can form between items in all the modalities this project has addressed. There we will consider internet use happening in an ecology of relations of different forms and types. I will work through a lengthy example considering Bailey's use of the internet. We will see how her internet use and expertise developed during an intense love affair. Here Bailey's sexual and emotional life became intertwined with how she used the internet, each driving the other in a complex web of relations, which operated to produce Bailey as an internet using subject gendered in particular ways.

7) Relationship and relationships

This is the final chapter in a series of three that develop the theorising of this data. The first of these chapters addressed bodiliness, and argued for a view of internet use in terms of embodied experience. In that chapter machines that are used for internet use were considered, and how these sets of machines are configured and discipline the body in particular ways. This group of participants had several different styles of computer and workstation, which supported particular forms of internet use. The second chapter discussed some of the ways meaning can enter these configurations of machines and bodies, while considering the whole space of the home, and the wider life projects as a meaningful context to internet use. There we looked at how rooms have their own identities, which constrain the kinds of actions that can happen there, but most importantly also position and constitute the person who does these acts. We also considered how sets of activities develop into paths and repetitions through lived space, which map out the home in particular ways. Again, subjects are positioned in relationship to these paths, and through the routines that they perform in relation to them. This chapter will pull together some of these systems, bodiliness issues, the shape of entities required to use the internet, particular systems of meaning, to consider the whole space of internet use in terms of relationality. Each of the concepts dealt with in detail in previous chapters can be considered as a modality of relationship. So in this chapter I will be considering in more detail the form of these relationships, and how they operate together. I will shift the position of the figure and ground, so instead of considering entities and objects we will consider the ecology of relationships, and the 'spaces' between such objects.

This returns us to some of the overall aims of this research project. The research questions and methods were motivated by an interest in the larger picture of internet use. Much work on the internet didn't examine the relationships between on and offline life (Leander & McKim, 2003), or ignored the role of bodies and material in internet use (Hansen, 2000). It was also motivated by the Selwyn project's (Selwyn et al, 2006) finding that the gendering of internet use was picked

up only in their most depth interviews, and was glossed over in larger scale surveys and structured interviews. So this research has attempted to return internet use to its full context, to examine how it fits in to the wider pictures of women's ordinary life and personal history. To see the internet not at all as an isolated set of technologies such as a single website or application, but to recognise what becomes through practices of use, and the interests of its users, which can't be separated from the threads of life that it is incorporated into. In contrast to accounts from technologists and the media, that emphasise exotic and cutting edge uses of the internet, social research finds that as the internet is incorporated into everyday life, it is used for quite mundane activities (Berker et al, 2006), typically to complete tasks or functions that are quite traditional and not unique to the internet (Gorard et al, 2004).

The project has also aimed to address and capture experience. Experience begins to address some of these methodological goals, as it is deeply embedded in its context, which means that necessarily it is complex and rather fragile. Experience doesn't come to us as a simple, elemental experience, in the form of a dot (Merleau-Ponty, 1962 [1945]). An embodied experience, such as a moment of perception, is completely particular to the exact situation and location where it's found. This richness is something that can be lost through the use of language. Language gives the illusion that by transcribing or recording a language event, we have reproduced what happened in that moment, when in fact most of that event, and the meaning that went with it, has been lost. Merleau-Ponty (2002 [1945]) refers to the reductive kind of picture we get by slicing out bits of a wider moment, typical in psychological research as the 'objective world'.

So as we have seen, this piece of research has been designed to capture internet use in a range of dimensions and modes, including detailed descriptions, experience and action, alongside more traditional data consisting of talk. This chapter will make use of all of these different forms of data collection, to make sense of all these modalities. We will examine in this chapter the use of multiple technologies together. Examples of this are combining websites to achieve a particular effect or practice, combining different technological items (e.g. email with telephone, film download with television), combine online or technical items with movement and use of the body. Here we will be examining how the articulation of different technologies together happens through practices. So the final story will be told in terms of connection and wider contexts, adding these to the detail that has been established in the previous two chapters.

Relations and networks

I now want to introduce two concepts, which I'll be applying to the theorising of previous chapters, to add some depth to the story. These are concepts which will begin to blur some of the harder boundary lines that have been set up between different kinds of objects, and allow me to give a more holistic view of the internet. The first of these is the concept of relations, and relationality. This is a tool to shift our attention from objects and people, and to focus instead on the relationships between these terms. Here we're turning the spotlight of attention to the operation of how things work together, rather than examining the nature of the objects themselves. So the kinds of questions we want to ask and to answer get a shift, instead of questioning what objects are in a scene, we question the relationships between objects, and

what is productive in those relations. The spaces between things are not treated as absences, but as busy sites of interest. This approach has a destabilising effect on much that is already known, it decentres bodies, subjects, and the scene of traditional sociological work. This opens up a very different picture. There are many more relationships and linkages in any moment than there are coherent objects. Every time a new node is added, the landscape of connections is multiplied (Shirky, 2008), which marks a shift both from common sense ways of understanding, and those of traditional social research.

To think this through, it's necessary to play around with what is the figure and what is the ground, with which element of the story are foregrounded, and which melts into the background, and to flip around some of these items. In Valerie Walkerdine's (2007) research on children and videogames, she opens her discussion with a story of two boys playing a console game together, manipulating their controls, and discussing powerful characters in the game, and how to win. Later she argues that there are many ways to view this scene, to foreground different elements. Traditionally the boys are central, seen as coherent selves with agency who act on the objects around them. But alternatively the objects they are using could come to the fore, as could the backdrop of an after school games club, their movements in the space, the avatars and menus on the screen, their hands and the controllers, and how these parts operate together. The whole scene is filled with different modalities and forms of relation, only some of which are the subject of traditional social research. In common with her project, here I attempt to shift focus to some of the relational elements, and find a different way of looking at what happens when the internet is used.

The character and meanings of object and bodies are always dependent on the perspective we take on them, the angle we view them from. Spatial relations are always just this, relations. They exist not in objective space but relative to each other and to our bodies (Ahmed, 2006). When objects and bodies are placed together, they produce between them a new kind of space for actions to take place, different from what existed before this particular relation was set up. For Haraway (2008) similarly, there is no clear gap between the body and the tools it manipulates or environment it lives in. When looking at an object we need to ask what kinds of relations bring it into being, some that are material in character, but also invisible, about meaning, histories, ownerships. She problematises the notion that the body ends at the skin (Haraway, 1991), by arguing that the biological activity of our body goes on both outside this envelope, and allows items from the outside to penetrate. In this way we can argue that many of the boundary lines placed around people, objects, and activities are arbitrary, that we extend out into or relationships and engagement with entities around us. Psychoanalysts with a radical take on objects relations, agree (Layton, 2009), and argue that the nature of the relations, when two people interact, exceed both of those individuals. Each has their own unique reading of that scene. In social situations, this means you don't know who's doing what to whom. By taking this approach, we can see that nothing exists for itself, its identity and character is always inherited from the relations that it takes part in.

When we see such relations in the wild, they are never isolated as I've just discussed them, just as bodies, objects, practices, and rooms are never seen in isolation. These always occur in what Henriques (2009, 2011) calls an 'ecology of relations'. In such a system many modalities of

different relations, of different registers and types are all implicated at once. It's the texture and patterns of the complexity between them that produces our story; so in this account I attempt to preserve as much of the richness of embodied experience as possible, prioritising the complex over the simple. In this final chapter looking at the data we will bring together all that has been discussed so far to consider this complexity, where the moment of interest is the arrangement and movement together of all these elements. We will examine how use of the internet can be considered an ecology of such relations, with a complex of movements, interests, flows, which constitute the objects and practices inside it.

In Latour's (2005) take on the connectionist mode is an approach that aims to sweep away tradition, and investigate new social configurations. He urges us to do research by following trails of associations, prioritising those that leave traces, or that are productive in some way by leaving something that can be detected behind them. His approach is rigorously empirical, the researcher enters the field with nothing, and allows the play of flows through the system to create unexpected conclusions. No particular entities are assumed at the start, and any form of node can claim to be an actant only if it is productive in the system. Important in such systems are movements, and the nature of associations, which may be momentary. But sedimentation can occur through repetition of the same arrangements. These links and associations can occur between any kind of entity, and any can be the source of actions on others. As he explains, rarely will a course of action have only human-to-human links, the action will zigzag through a multitude of possible actants, object-to-object as well as object-to-human and back again, without making a distinction between them. It's the outcomes and products that are important and that shape the networks.

DeLanda (2006) takes on the notion of an assemblage to describe any object. In this case each of the objects we have studied can be seen as a whole that emerges from the relationships of many parts. This allows for an array of quite independent entities to operate together to produce a new entity with a fresh set of properties that spring from the nature of the relationships, rather than the identity of the parts (DeLanda, 2006). These parts and relationship can also vary substantially in their properties; material and semiotic objects sit side by side in constituting a new, larger, entity. In previous chapters we have asked questions mainly about particular entities, and how those become coherent, such as the entity of the workstations we considered in chapter 5. Now we begin to think, in addition to that, about the nature of the relationships that hold these assemblages in place, and how those operate together with other entities. We can also look at how these entities become unstable and shifting, as well as having coherency (Rose, 1998). So many of the elements that we've considered in previous chapters, we can now turn to and view in this relational manner. No longer as solid objects with clear boundaries, that perform acts on other objects, but as bundles of relationships or assemblages. Objects are complex, folded and multiple (Latour, 2005). For the bodies and discussed in the previous chapters, we must now begin to consider them in terms of these relations, allowing these bodies to seamlessly blend with other solid objects, and sets of needs and histories. Similarly, the computer as an object or machine that we have seen as involved in many linkages, overdetermined, we must see as constituted entirely through all those relationships. It sits on a desk or table and becomes a nexus for a great many meanings and relations, an intense space that offers itself as a corridor out of the home, while also focusing much of what is most

important in our women's lives into one small box. Again, the home is a still larger machine for living. It envelopes and encloses the body, computer, and all the smaller machines that make up our living space, with pockets of meaning and significance mapped out in physical space. Finally we must consider the self, and in this case gender as a rushing together of all kinds of linkages.

Lucille's movies

I will start this chapter by looking in detail at one example from the data. This is presented as an example of how one simple story can mobilise a great many relations between and through entities of different forms. As in Latour's (2005) discussion, the linkages are machine-to-machine, but also between rich varieties of other kinds of entity. Within my own research, this moment from Lucille's internet story demonstrated the power of the method. It draws on data collected from a range of different methods, tapping and picking up elements that occur in the full range of modalities of the internet, and featuring a story that has been told and retold across data collection methods, but also fleshed out with further detail from different parts of the data.



Photograph 1: Lucille's computer

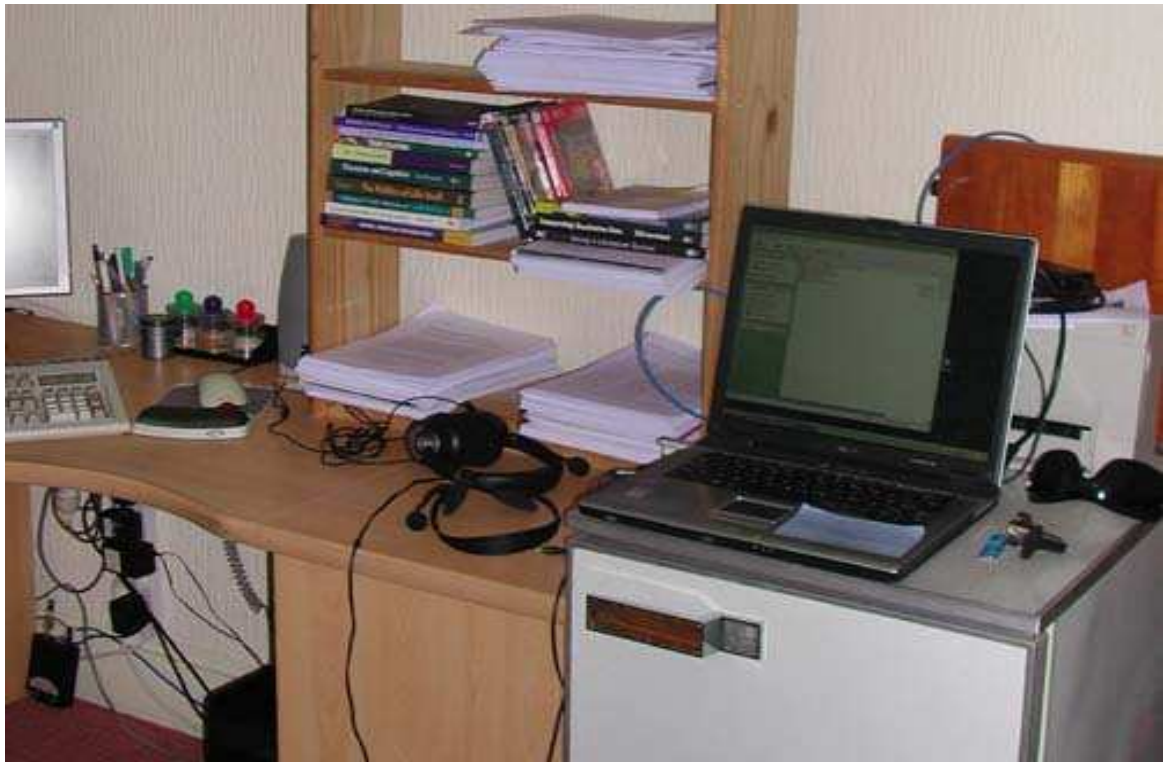
We can see that a very ordinary and taken for granted practice uses a proliferation of different forms of technology, space, objects, and movements. It brings all these together in a way that for Lucille is completely seamless. That although this set of items and movements can often be fragmented as they are researched or talked about, when they are used to solve a particular problem in a particular person's life in a particular moment, they come together with no boundaries, made coherent by this action. So the final moment of this research is to examine this 'coming together', the kinds of connections that are necessary between different items, and the pattern this set of relations form.

In photograph 1 we see Lucille's computer, as seen in the previous chapter. There we considered how this dedicated office space and the computer with an upright chair and desk supported a particular style and content of internet use. In this chapter I'd like to consider a very different element of Lucille's internet use. In fact I'd like to talk about just one activity that she does regularly with the internet. This activity is downloading and watching films from the internet. I'd like to highlight how many different elements are mobilised, and how they operate together to make this simple act possible.

So the first item we have is the computer itself, a highly complex object that we have discussed throughout this thesis. This was central to the research, so she shared a lot of information about it with me. We haven't heard much about Lucille's computer so far, but she is very proud of it. It is a better specified machine than she would usually buy, set up for media editing. She originally bought it for her grown up son in a deal that fell through, and so it came to be here. This desk has followed her around for years, in the past having been a kitchen table. Both are located in the office she shares with her male partner. This is a dedicated study space, as we've seen in previous chapters. She moved in several months ago, and set this room up, changing the room from a bedroom as it had originally been, and relegating sleeping to the 'second bedroom' of the flat. We've considered this space in terms of how it operates as a workstation, and allows the body to engage with internet activities, and also how the identity of the room around the machine impacts on what it means to use the internet there. On this occasion I would like to consider those relations as part of a larger ecology. So in this photograph we see this computer, itself a complex assemblage produced out of Lucille's history and expertise with machines, a system of negotiation with her son, as well as its technical and physical properties. This object forms part of wider assemblages of the workstation Lucille's body forms part of when she sits in the chair, and the study itself, a room that facilitates and produces practices of work. These relations all operated to create the conditions for Lucille to perform this single activity.

This computer is by far the fastest in the house, so it is the one she used to download her films, using BitTorrent. BitTorrent is a peer to peer file sharing technology, used to transfer large files between users. It can be used to share software, films and music, with a mixture of legal and illegal items available. Lucille takes pleasure in mastery of and participation in this technology. BitTorrent is fun because it's a geek accomplishment, in a legal gray area, and links her to this special community with a bit of naughtiness. The use of this particular technology gives us another complex of relations, shifting some of the meanings of these assemblages from work to pleasure and playfulness. So when the films enter the house, they are downloaded first onto this computer.

Photograph 2 shows another view of the same room, as we've shifted around the walls to the right, and to the perpendicular wall. Lucille's partner's computer can be seen in the edge of the picture, with his desk and some shelves. The laptop is on top of a fridge that is used by Lucille to



Photograph 2: Lucille's laptop

Photograph 2 shows another view of the same room, as we've shifted around the walls to the right, and to the perpendicular wall. Lucille's partner's computer can be seen in the edge of the picture, with his desk and some shelves. The laptop is on top of a fridge that is used by Lucille to bring food into close proximity to her workspace. It contains snacks such as fruit and drinks. The laptop has no particular home of its own, but is often parked on top of the fridge. This laptop is a very different entity from Lucille's own desktop computer, moving in many different relations. It's an old laptop that Lucille's partner has had for years. Although it is old, and before she moved in he had considered it no longer useful, she has revamped it using her superior technical skill, and uses it for some applications that require a Windows system to operate. During the diary she uses it regularly to make voice calls. The laptop, as with all computers in the house, is on the network. Lucille set up this network when she moved to the house, and manages it using her own innovative settings. So once the film has downloaded onto her own computer, she passes it across the network onto this laptop in the same room. Once the film has been transported to this second machine, Lucille closes up the laptop, picks it up in her hands, and walks through the door, which is just to the right of the picture here. A few steps across the landing take us to the next photograph, below. One of the key moments in this whole network of relations is the physical properties of the laptop that allow it to be lifted up and moved through the house. It is this that makes the movement of the film from the desktop computer to the laptop important for Lucille. This machine offers her extra capability over that desktop, because of its moveability. It offers very different possibilities for linkages with the body, movement through the home, and linkages with other furniture, machines, and the ordering of space. This movement can be contrasted fruitfully with the movement talked about extensively in the literature chapter of an avatar in a MUD from one 'room' to another. In both cases this is a movement folded into technology and virtual items, in both cases it is made in terms of a

striated ordering of locations. But this one includes an ecology of embodied relations and technological objects that are transformed in their moments of usage.



Photograph 3: The television

When we turn to photograph 3, we see several other machines of different types. The photograph shows us the corner of Lucille's living room. The television is on a table with a large space next to it to hold the laptop. On a shelf above the television we can see the stereo and a speaker. After carrying this machine out of the study, across the hallway, and into the living room, the laptop then takes on its new place next to the television. Cables are plugged connecting it to the TV, and then to the stereo system. The movie can now be played through this existing set-up, watched on the television, with sound playing through the stereo. Lucille then moves across the room to settle down on the sofa (a machine for sitting on) which is in front of the TV, and sits in comfort to watch the film. The physical properties of the sofa, and the kind of relations a body can enter into with such a piece of furniture are another vital moment of this story. This network has allowed the accomplishment of watching the film in this particular arrangement of television and sofa, but central to that is the accomplishment of taking a seat in this comfortable posture. If it wasn't for the comfort of sofas, as well as the sedimented practice of sitting on sofas to watch movies and to relax in the evening, Lucille would have had no interest in constructing this network and completing this task.

I've taken you through the path of this film through Lucille's home to demonstrate this ecology of relations, produced out of a number of linkages between entities of different forms. It brings together software, a range of machines – of different orders, complexities and age, objects and their properties – things that can be lifted up, and set in place. These are brought together with bodies, movement and the ordering through space of the home, to intersect and make possible

a particular performance, this simple act of watching a film. It clearly has an online component, and a set of practices and affective issues that go with that, and an offline/material component, carrying computers through doorways and rooms and sitting on sofas. But more than this, it has several partial crossovers and areas where a relationship becomes more significant than an object. For examples it uses a range of machines: High powered desktop, old laptop, television, stereo, the cables that connect them, the software including the network, and Lucille's expertise, as well as the more traditional sideboard (where laptop is usually stored) desk/table, TV stand and sofa, and exploiting some of the technical specifications, and object-properties. It is central to these conditions that the laptop can be carried from place to place, and that sofas are comfortable for sitting on.

Just as objects and rooms have histories of their own, so do practices, and full networks themselves, histories which contribute to the present and how things are done, they are not static. These histories leave marks and meanings, some visible and others invisible. Thrift (2008) describes some of these as 'hollowed out practices' that are left behind by an older network, but can find new uses as a new network emerges. Lucille describes this history and change over time of this network, and some of what has become sedimented from older configurations. Lucille used to be a regular at the video shop to pick up her films. So a completely different network configuration and set of actions involving putting on a coat and shoes, walking up to the high street, browsing shelves, remembering to bring the membership card, returning home and putting a video into the purpose-built VCR, a machine that only did one kind of thing, and then bringing us back down to the sofa. This network had very different elements and moving parts to her current practice, but just like Latour's (2005) example of both fences and shepherds with dogs being used to control sheep, this different arrangement of parts and relations, which do not resemble each other, can give an outcome which is closely similar. Watching films from the sofa has become sedimented for Lucille, so that although she now acquires her films by a very different route, sitting on the sofa has remained a constant. There is also another alternative, small network in Lucille's data, pornographic films that Lucille downloads and watches right there in the study on the office chair, bypassing the greater complexity of the network for feature films. These films are thus produced very differently and become very different entities in this different assemblage. Although technically they may be similar digital files, downloaded by similar means, they attract a very different network of practices and mobilisation of other linkages. We must acknowledge this change over time, this dynamism, to see some of the nature of such networks. These systems emerge out of repetition, despite forces of sedimentation. Each repetition could possibly be the last, and that path would never be seen again.

Bailey's Story

We can see from Lucille's story some of the complexity and richness of the structure of such ecologies – how many kind of linkages can operate together, combining objects, movements, projects, bodily potentials. This moment from Bailey's data is an example driven by emotion, showing how feelings and psychically significant events can be linked to objects, software, practice, and so on and form parts of such networks, which are productive of a pattern of

internet use, and of selfhood. Bailey's internet use was inextricably linked to her sexuality, and emotional life. As she explored and developed her sexuality, and went through a narrative of change and shifting understandings and mastery, much of this was played out through internet use, and her expertise in using the internet, and the importance it gained in the space of her home and her movements around it, shifted alongside her wider emotional changes.

This is such a. This kind of instant contact with the outside world. You know wheareas. You know. My actual life here is quite isolated very unsocial. I know very few people. I have very little fulfilling social interaction. You know I have few friends. I don't regularly go out with a group I don't regularly go out and come home thinking feeling that was a gratifying social evening. It's so rare because I just don't know many people. And I don't get invited to stuff like parties? Hardly ever. And um. You know . I just feel sad about that. I mean I just feel like it's a very very socially isolated existence I have. And um. And so this is like a kind of a substitute. More often than not it kind of reinforces the sense of loneliness rather than alleviate it. Because I'm emailing with friends who are overseas but I'm not there.

Excerpt 1: Hazel, Interview

Computers and the internet, as an important fixture in women's homes, and an important tool in intellectual and social life attract a lot of emotional significance. This is in contrast to how these technologies are treated in much literature as a cold, bounded entity. The relationship with the internet can feel like a relationship with another person, or when communicating with distant friends can come to stand in for or represent a relationship with another person, feeling like a friend, a companion or something that is cosy (Whitty & Carr, 2006; Leung, 2005; Lally, 2002), as in the excerpt from Hazel, above. Our feelings about the tasks completed on the internet can also run deep, as there is much caring and emotional work here. Feeling the power and potential in the internet can bring feelings of freedom and pleasure, while struggling with technical tasks can create frustration with a very technical machine that can go wrong in many ways. Internet use can be compulsive or even addictive, pushing aside other tasks, including traditional caring roles (Leung, 2005), and creating a fear of dependence, or of crashes and fails. For women there are particular dangers, guilt at taking time for themselves (Selwyn et al, 2006) and the fear of entering masculine activities (Walkerdine, 2007).

As we have seen many times in this analysis, the computer as an object is complex, and the computer/internet as a nexus in the full fabric of practice, time, and emotional life can be as nuanced as something like 'home' itself (Wise, 2003). For one of Miller's (2008) participants his laptop holds and represents home, in the form of his emails, photographs, music files, his links to archiving his aboriginal roots, his pleasure in practices of tidying and ordering these digital items while throwing away material objects, and the absence of a stable place to live or employment trajectory. For him, the quality of this relationship is comparable not just to his relationship with others, but also to his relationship with himself. Things and objects become a site where the rational and the emotional can come together (Turkle, 2007), fulfilling substantial roles in our making of the self (Bollas, 1992).



Photograph 4: The floor of Bailey's kitchen

In photograph 4 we see another view of Bailey's computer, showing her kitchen and the stretch of floor next to the machine. We've seen Bailey's workstation before in chapter 5. At that point we were discussing how the computer operated in conjunction with the chair and table to form a workstation, which conditioned and disciplined the body that entered relations with it. Bailey's workstation can be seen to be quite unsuitable for this kind of use, and she planned and set up her computer in this way at a time when she used the computer mainly for music and radio. She rarely sat down in this seat, and she did little sustained typing. In this chapter we're going to consider how this shift in usage took place, and what happened in Bailey's life, and in her use of this machine, when she began dating Maurice.

Bailey data contains lot of detail of her dating activities, which featured heavily in the story of her history with the internet. Particularly significant was a particular relationship with a man called Maurice. They dated each other for several months over the summer; but he wanted to conduct their relationship mainly through internet communication. So she began to use her computer and the internet more than she ever had before, and to use it in different ways. She learned how to use a variety of social media and leisure applications. This marked a substantial shift in how she used the internet, having previously been quite a low user. She had originally started to use computers and the internet at college, and later through work as a peripatetic language teacher, and used mainly word, and a few other office applications.

During the summer she suffered from mania that lead to insomnia, so she was often up all night typing and 'chatting' with him, for as much as seven hours at a stretch. They used instant messenger programs, something she had never used before, for real time synchronous chat.

These long periods of internet use meant her set-up in the kitchen, which we met in detail in chapter 5, became quite unsuitable, and caused her problems with her lower back. She tried out different postures such as putting cushions on the floor and bringing the keyboard and monitor down to sit there. Photograph 4 shows the strip of floor she used, next to the computer's usual position. Bailey and Maurice used several different websites and internet applications together while they chatted, so she had to set up several accounts and email addresses to use the technology he introduced her to, as well as buying and setting up a webcam on top of her monitor

They also used to watch porn together, again using several new websites Bailey hadn't used before, that were shown to her by Maurice. Bailey began to masturbate more regularly both with Maurice and when alone. She had never done anything like this before, and her religious upbringing forbade an interest in porn and sexuality. During this time Bailey said she really came out of herself and found a new way of being, including reduction in involvement with the church that had previously been a large part of her life. *"it was starting to just open me up. And free me of sexual inhibitions"*, she said during the interview.

A key moment for Bailey, both in her relationship with Maurice, and in the narrative of 'opening up' was sharing a long term sexual fantasy with him. She described this as an experience of *"Getting rid of inhibitions – if you'd said a year ago, I wouldn't have done it"*. Bailey told him that she was interested in sleeping with a woman. This interested Maurice, and he encouraged her to take it further. During a period when he was unavailable at night, she followed an online advert to sign up to an adult personals site to fulfill this fantasy. Part of her motivation to do this was to be able to tell Maurice about it, impress him and earn his approval. She found the site, and filled out a profile. As her user picture she posted a picture of her bottom, taken herself with a small camera, an achievement as this was a part of her body she'd always disliked and felt ashamed of.

But although they didn't live far apart, he insisted their relationship be mediated through this set of technologies (instant messenger, pornography websites, the adult personals site, sitting at the computer late at night), and not through face to face meetings, and often had long periods of being unavailable. She felt he was manipulative, and as her feelings for him deepened, she felt he had a hold over her, so decided to end the relationship. She then dated a handful of other men, with more conventional relationships, but was able to tell a story of them adjusting and installing new software on her computer. These included several radio and music stations, Google earth, extra toolbars, Firefox, and anti-virus software. One partner, who was much younger and very interested in the internet cleaned up the whole machine, sorted out and tidied the cables, and put several sets of social networking software on the computer.

Finally, during the period of the research she was beginning a new relationship that seemed more serious, a man whom she met through the personals website. He had also installed new software on the machine. Since she met him, she hadn't looked at porn once, and had deleted much of the software she used to communicate with Maurice. However she had continued to benefit from the skills of typing and using instant messenger *chat "I'm grateful for the Maurice thing, because I was very comfortable with expressing myself textually"*. For Bailey this had been a substantial emotional shift, that for her was mainly told through sexuality, where she felt she

had 'opened up', and prepared herself for new kinds of relationships. But this had been completely inseparable from her increased interest and knowledge about the internet, they both happened through each other. Expressing herself 'textually', i.e. in online contexts, had developed concurrently with learning to express herself sexually.

Bailey's story raises many different issues in terms of how to understand internet use. Overall, we can see that use of the internet, and development of internet use does not go on independently of the rest of life. Bailey's knowledge of, and use of the internet underwent a large shift during this period, in tandem with large shifts in her emotional life. Once her relationship with Maurice had ended, Bailey was equipped with a new set of skills and modes of expression, in terms of both technological expertise and sexual and emotional expertise. Bailey's new interest in sexuality led to different practices, some with little to do with internet (more masturbation), which seamlessly blended with internet practices, such as looking at porn. The fascination and dynamism of the relationship with Maurice, motivated sexual exploration, but also motivated internet exploration and development. These changes tied into large life decisions and projects, in this case Bailey's relationship with the church. These things were so intertwined with internet use, that Bailey told me a narrative of her church activities through internet use, where they impacted her strategies for managing email. The church group sent many forwarded emails requiring a particular address and particular vigilance over email checking. We can read each of these two sets of stories through each other. Bailey required this new online expertise in order to continue the relationship with Maurice. But at the same time she is active in pursuing technical knowledge from each of these partners. We can see here that like Lucille's story, many different levels and types of objects, movements, practices work together, but in this case we can more clearly see emotional, attachment, relationships, desire, feelings, in the picture, also.

We can see across the story that out of this set of events and moves a version of the internet is produced, which shifts over the time described, and also is productive of personhood and gender for Bailey. It is a narrative of self work that brings her out the other side rather transformed. Before these events the internet, for her, was little used and mainly for a set of office packages and businesslike purposes. By the end she was using a wider range of technology and social media, and had become the kind of internet user who requires a more ergonomic workstation to support their intense use. We can therefore compare two differently organised systems that produce completely different personal internets for Bailey. Before she met Maurice, her use of the computer was rooted in her student days and similar office usages as a peripatetic language teacher. Her set of habits from that time had not much changed, and the computer was lightly used. In this mode, the computer did not require a robust and ergonomic workstation, as Bailey's body was used, often standing up, to briefly use the controls. After Maurice, her internet use diversified to include a range of social networking, including MSN instant messenger and the personals website. Using the internet intensively became a sustained leisure activity, and the set of activities and web technologies used became more wide-ranging. The amount of time she sat at the keyboard was much longer, and her body therefore needed to spend long periods in the 'workstation' posture – with access to the full capacity of the screen and keyboard for typing. Having moved on into a different set of needs and flows Bailey now require the workstation like set-up we have seen in Lucille's office in the previous chapter. And

the lack of that in her own set-up brought a lot of physical discomfort and longer term aches and pains.

Latour (2005) argues that in such networks causes can be broken down into many different forms of mediation, so that rather than a single cause creating a single effect, many events and partial causes jostle together, giving little nudges and counter nudges which add up to creating conditions with particular possibilities. Miller (2008), calls this 'overdetermination', a proliferation of causes and threads that together generate some situation. We can, for example, pick up and follow just one single thread in this constellation of issues. Bailey's enchantment with Maurice created motivation for much of these events, this made his insistence that they did not meet face to face something Bailey had an interest in complying with. This combined with her sleep disturbance that meant she was up and looking for activities during the night. This created conditions where Bailey might stay up all night and chat with him. The availability of the technology of instant messenger chat, combined with Bailey having the computer to run it and privacy in the flat to sit up all night meant also contributed. Conversely the arrangement of her computer, which contributed to the kind of entity this machine had been in her life before Maurice and this set of events which changed it, and the facilities for the body to sit there meant she could not find a comfortable position for her body and suffered with a sore back as a result. In this line we can see that many different relations create the conditions for other relations, with some softly, and others sharply pushing in different directions.

Expertise and gender

Bailey's relationship with Maurice was by no means unique in the amount she learned, and how much her internet usage changed while they were seeing each other. We can see this in the following two excerpts from Bailey's interview. Here she described how different partners had placed software on her computer, and introduced her to new technologies. In the longer of the two excerpts, excerpt 3, there appear to be two key moments for Bailey's internet use. The first (chronologically) is at line 274 where she describes Lionel neatening the computer and the stray wires. When I visited Bailey's home the layout of the computer was immaculate, which was consistent with other areas of her flat, where she had made sacrifices to keep her flat clutter free, such as going without a printer and stereo. The other starts a line 251 where she describes John introducing her to music downloading. At the time of the interview, this was the main use for her computer, which had made a stereo system obsolete.

26. **Bailey:** *What's been interesting is um Edward has put on for me. um channel 4 on demand.*

27. **Louise:** *Yea*

28. **Bailey:** *Um Because I don't watch television*

29. **Louise:** *Mmm*

30. **Bailey:** *But it's been quite nice. I've watched. Only a couple of programs. But to have that option. Whereas before that's something I wouldn't have considered.*

Excerpt 2: Bailey, Interview

251. **Louise:** *So you've been doing the downloading. iTunes and so on. On a regular basis. How did. How did you first start doing that?*

252. **Bailey:** *Soulseek. That was through John. I didn't know anything about that.*
253. **Louise:** *Yea*
254. **Bailey:** *Um Napster or anything like that.*
255. **Louise:** *Yea*
256. **Bailey:** *That was completely. It was just was just a foreign language to me. Um John had been a Soulseek user for a long time. So he put. He set up an account for me. Showed me how to use it so I've used it ever since. He also put Google earth on there. But I don't use it. I think that. It's a man thing [laugh]*
257. **Louise:** *[laugh]*
258. **Bailey:** *Um so it was quite interesting quite fascinating to see how it worked.*
259. **Louise:** *He's put a few good things on there.*
260. **Bailey:** *Yea that was John's. Yea that was the previous one.*
261. **Louise:** *Yea*
262. **Bailey:** *Edward has now. Has got rid of lots of toolbars and put Firefox on there. Because I used to use. Inter.*
263. **Louise:** *Internet explorer?*
264. **Bailey:** *Internet explorer. It was just a waste. It was getting really slow and stuff. And um. I've just updated my AVG um soft. The virus. Anti-virus stuff*
265. **Louise:** *Virus.*
266. **Bailey:** *Um and John had put that on initially. So I kind of learned. I just. just updated it myself so I kind of learn things by trial and error.*
267. **Louise:** *Yea*
268. **Bailey:** *Someone puts something on there. Then if it's a good thing I'll kind of keep it going.*
269. **Louise:** *So you've learned bits and pieces from the.*
270. **Bailey:** *Oh yea. I just kind of pick things up*
271. **Louise:** *Are there any other people who have been important in showing you bits and pieces like that?*
272. **Bailey:** *Lionel. This guy that I briefly saw for a while. After the relationship ended with Pete. He was. He's younger than me and very much into computers.*
273. **Louise:** *[laugh]*
274. **Bailey:** *He's that time of life. He sorted out all the wiring. Before that it was cables everywhere. So that was nice. He introduced me to the whole hi-five thing, MSN and all of that. I just didn't use any of that before. So I suppose he dragged me into the 21st Century. Um. Yea.*

Excerpt 3: Bailey, Interview

So we can read Bailey's story of dating, and working to find a partner and companionship, as also told through learning to use the internet. Each of the men she had met and dated had also contributed to her levels of expertise and learning. We can see Bailey as bootstrapping her own learning at each point, by making sure to learn what she could from each partner, and maintaining and continuing the things that she'd seen which were useful to her. Notably there are also elements she drops and isn't interested in, such as Google Earth mentioned in line 256, or Hi-Five, which is mentioned here at line 274, for which she made an account, but did not go on to use. So as Bailey had navigated through internet possibilities, and created her own personal internet, this project had also been a process of gaining new knowledge through dating and relating to partners. This activity of learning to use technology had come to be part of performing dating.

Internet expertise often relies on a network of warm experts, others who can be relied on informally to support computer use (Bakardjieva, 2005). These are usually family members; particularly for women, they are likely to be partners, children or grandchildren (Selwyn et al, 2005). Such sets of experts are particularly used by women, who are more likely to go to partners or children for help than to value 'muddling through' and working out a solution alone, a practice more favoured by men. For women there is a danger to becoming such experts, as this is a role that is can considers 'other' to femininity and while men resist women's expertise, women often also deny it (Henwood, 2000; Stepeulevage, 2001). This quickness to ask for help is shared with those who are older, in lower SEG groups and with lower qualifications (Gorard et al, 2004).

So gender can be produced in the relationship to expertise and fluent internet usage. In Jenson, Castell and Bryson's (2003) intervention in schools, they found that by making girls experts in the classroom, and defining this expertise as acceptable within femininity, girls became wider users of the technology. This commonly produces a situation where women are considered the least expert user in a household, so that despite having formal access to the internet, and basic skills, mothers/wives may feel little sense of ownership. This reluctance to allow women expertise is common in areas of technical knowledge (Walkerdine 1988). However, here gender intersects with class, as in working class homes where husbands do manual work and wives work in the service sector where computers are common women can be the dominant experts (Consalvo and Paasonen, 2002). In these cases computer use can become associated with more feminine roles and work such as childcare and helping with homework. Such extra responsibilities associated with computers can result in women strategically maintaining ignorance (Selwyn, 2005), as with Gray's (1992) participant who remarks that once she learned how to wire a plug, this chore became hers from then on.

A feminine expert

This period for Bailey is to some extent echoed in most of the accounts. That is, male partners who are more expert in using the internet setting up the technology, or drawing women to use it. This was so pronounced in my previous experience of internet research (Madden, 2003), that I sought out a counter example, a woman who was the most computer literate in the household. This led me to make initial contact with Lucille. As we have seen previously, Lucille lived with her partner, and was in charge of, and most expert over, the computers and network in the house. Lucille's history with computer and internet knowledge had always been about enjoying the technology and picking up the very latest technology. She had worked as an artist using emerging internet technology, and in other technical areas. Today she continued to keep up to date with new technology, her own computer was an expensive powerful machine, which she had customised considerably. In her data she regularly used technical names and terms to refer to the technology she used, such as naming her browser including its version number.

Lucille's story demonstrates that there is not just one way of doing femininity in relation to internet use. More specifically there is not just one way of performing femininity in terms of expertise and mastery of the technology. For Lucille there was a lot of pleasure and enjoyment

in her relationship to the technology. Lucille proudly showed off her high powered machine, she teased her partner for several elements of his naiveté in relation to the computer, and she customised her computer and network, using unusual configurations, and making full use of the functionality of the laptop. It is common for men and boys to take such pleasure in technology, but Kennedy (2005) argues that most women either do not, or more significantly are not willing to own up to it. But I felt that for Lucille this pleasure was produced in this moment of gender transcendence. Lucille's innovative gender performance in relation to the machines resembles Harris's (2009) tomboy identity. The tomboy seems not to map onto a gender category – that can be a ticket to freedom, or a bulwark against annihilation. It creates a space between categories as a way to express pleasure and pain. Lally (2002) also talks about pleasures of resisting stereotyped femininity through computer use, and Walkerdine's (2007) girls take part in similarly transcendent pleasure in playing videogames. But this is a fraught path because this pleasure is not a simple matter as it is for the boys; it's a pleasure that can be disavowed at the moment that it's enjoyed.

This mastery is also played out through an active relationship with the machines. For Lucille every way she talks about them is comfortable. As she described working with her films above she '*grabs the laptop*', suggesting complete control over this complex. She used web technologies and the set of machines in the house very instrumentally, moving swiftly from task to task. She enjoyed using a technological solution to every problem, such as checking the weather forecast to see when the sun went down to prepare for her planned bike ride that evening. This resembles Taylor's (2006) power gamer identity, players who game very seriously, and squeeze the most efficient performances from the game. This level of mastery and active control over the machines can also create difficulty, as in this excerpt from my field notes after visiting Lucille.

Then, as a throw away comment, that she wouldn't use the laptop on the sofa as felt anxious about allowing it to cool and having a clear space around the fan etc. In the interview this is mentioned about the tower of her main computer. It's on a lower shelf on the bookcase that's tucked behind the desk, open on at least three if not four sides. And she mentioned as she showed me that she likes it to be able to cool like that.

Excerpt 4: Field notes, Lucille visit

This excerpt from field notes describes a practice and a discursive moment about the machines for Lucille; she is careful to locate her machines in positions where their fans can get clear air flow. This performs two clear functions. One is, interestingly, a way that Lucille's greater knowledge of her machines means she is more vigilant in the use of her laptop – she doesn't like to use it on a soft surface such as the sofa for fear the fan will be blocked. In sharp contrast to others who enjoy this functionality of their laptops and smaller devices. But this also functions as a performance of mastery. Lucille's practice can be seen as more 'correct' than the others, and to display her knowledge of the inner workings of the machine, although it reduces her scope for action.

Lucille is not the only participant who displays such mastery at the intersection of talk, objects, practices and software. Most of the participants use a rather smart digital recorder borrowed

from the university for the audio diary. In the methods chapter I detailed the notes I prepared to help participants use the machines to make their recordings, but the machines were capable of much more and had a substantial instruction manual I didn't pass to participants. However, Helen sourced a full copy of the manual online, and reprogrammed her recorder to use the correct date and time (which I had not set), and to format her recordings in long play, as she feared her diary might fill up the available memory. In her audio diary she praised the nice little machines, and this can be seen in excerpt 5. Her adjustment of the settings caused me some trouble when I came to manipulate the digital files as I was not prepared to use this new format. This was a striking performance of mastery and operated as a challenge to me as she had far exceeded me in her knowledge of the machines, to the extent of nearly preventing me from being able to use her data. The recorder itself and knowledge of it had become a connection in our relationship. But also by expressing an opinion that the recorders are nice, she displays a connoisseurship and the expertise to make such a judgment.

So anyway. The first thing I've done is go online and look up the manual for this recorder. Which by the way I said before is very nice, you won't know that because I've now I deleted the. The old files.

Excerpt 5: Helen, Audio diary

For Harris (2009) the play of activity and passivity is an interesting site in the construction of femininity. In relations to the internet and machines, many different relations are added to this play of activity and passivity, level of mastery, but also the inherently gendered character of displaying this mastery and active relationship with the machines. We can see a contrast between Bailey's passivity, as she allowed partners access to her machine and to place new software items on it, in comparison to Lucille's complete control of her machine, or Helen's active engagement with the recorders. For Lynne Layton (2002) this creates a relational logic of doer and done-to that produces gender.

Conclusions

This has been the last of three chapters discussing and theorising the data from this project. The earlier two chapters discussed how to consider bodiliness in relation to internet use. In the first of these chapters I used this notion of bodiliness to consider the material of computers, and to see how these intersect with tables, chairs, and televisions to create the entity of the workstation. These arrangements support particular ways of using the body, and particular ways of using the internet. In the second chapter I examined some of the mechanisms by which meaning enters these systems, by looking at how the identities of rooms order the home, making possible arrangements of particular objects, allowing particular people to do particular acts there, which inherit their meaning and productive from the identity of that room. Then I looked at the paths of activity that pass through the home, making some paths intense with meaning, and repeated action. In this chapter I have tried to consider internet use in the full richness of experience, by not longer considering how the internet is used in terms of entities such as the computer or the workstation, but in terms of relationality, and networks and

assemblages of relationship. In this way internet use is seen as a pattern or ecology of relationships. In these terms what is important is the character and form of relationships, rather than the objects that stand as the nodes. I began by considering a simple example, how Lucille downloaded and watched movies in her home. This demonstrated Latour's (2005) concept that a network is formed from a great variety of different forms of linkage, that human and non-human items, material and semiotic, are brought together into many relationship, to produce particular outcomes. In the second example we considered a more complicated set of events. This was Bailey's experience of entering a relationship with Maurice, which resulted in several significant life changes and a narrative of personal growth. This shift in her life, and emotional move, happened in and through a concurrent growth in expertise and level of usage of the internet. We found that for Bailey her learning about the technology became part of her learning and changing in larger emotional terms. Her story of dating and finding partners was performed through her relationship to the internet. Male partners taught her and actively transformed the content of her machine, while she took up a more passive position. We then turned to some alternative relationships to expertise performed by the women in the study, such as Lucille, who took great pleasure in her own active mastery of the machines. The following chapter will conclude this thesis, drawing out some of the most important findings, and looking to the continued usefulness of the methods and findings in this project for ongoing research.

8) Conclusions

In the previous chapters this thesis has developed an argument for understanding women's internet use in embodied practice. It has discussed a piece of research that examined a small group of women's internet use in great detail, using a combination of methods to record the full range of modalities where internet use takes place. The previous three chapters have analysed this data, to take seriously bodiliness and use of space, and explore how this entity of the internet is constituted through use of the body and movement around it. I considered in turn how the ordering of the home is constitutive of these effects. Finally we considered how such relationships interact, to give us an ecology of relationality. This final chapter will conclude, by returning to summarise the arguments of the thesis as a whole. I will then return to some of the most significant insights and debates that have emerged from the research, and spend a little time on each of them, including an evaluation of how successfully this project has met its aims, and how the insights of this research can be useful for other projects.

In examining the background literature on the internet, it's notable that this is a very young field. Researching the internet really only began in the mid to late 90s. It's also a complex field of literature, as it's very interdisciplinary, and some of the loudest voices in internet research are those with commercial or 'expert' interests. For this reason, many of the early debates were not those that social researchers would have chosen. The internet itself has also changed rapidly over time. The internet Sherry Turkle (1995) introduced us to in the 90s, using ungainly machines and the preserve of experts, is very different from the one researchers into SNSs (Maitlis, 2011; boyd & Ellison, 2008) are finding today, which consists of larger and more diverse populations online using very different profiles of technologies. This pace of change makes it difficult to take up the themes from earlier research, so this is a field where considerations of epistemology and method are vitally important, in order to make sense of the relationship between the changing activity of the researched, the data we collect, and how to theorise it.

For women, this history has shown several common threads. The internet, which was promised as a utopian space, has offered much scope for women to be victimised (Thorpe & Rogers, 2011; Evard, 1996) and excluded (Herring 2003); it still hasn't shaken its association with masculinity

(Wajcman, 2007). However, as the population of users coming online has expanded, it has also diversified. Those who lack expertise and are less at the cutting edge of technology are increasingly gaining access to the internet (Ofcom, 2011), and this is causing a massive shift in the kind of entity it is (Terranova, 2004). The internet has become more normalised and domesticated as it has entered homes and everyday life alongside other domestic technology (Berker et al, 2006). However, some of the older themes, harking back to a day when science fiction was inspiring journalism about the internet (Wyatt, 2004), are still present in internet research. Most troubling for this piece of research, is that the social is often left out of the picture. This is related to old, utopian arguments that because gender, race, disabilities, and so on can be hidden in online spaces like MUDs, they are therefore irrelevant (Nakamura, 2002). So the internet is seen as a place where we can't see the marks on the body, and therefore internet use becomes something that is done in the absence of bodies. One of the goals of this project, therefore, has been to engage with some of these debates, and address these early assumptions about the nature of the internet through pairing empirical work with theorising around the body. Another goal was to address women's usage, by taking an approach that concerns how this technology is taken up and used, one that Wajcman (2000) argues is particularly useful to overcome silences about women's relationship to technology. This interest in the mundane and ordinary ways the internet is used, suggested the use of very detailed work with a small number of women, to catalogue in depth their practices with the internet, and then to describe that rigorously, using specialist methods of description (Riggins, 1994b).

The research

The research design was based around two overall principles. The one that particularly shaped the project was to take a small number of women as case studies, and then to allow their use of the internet to define the boundaries of what was researched. This resembles Latour's (2005) call to 'follow the actors', to watch what actions are going on and what traces they leave in order to understand the significance of a technology. The other shaping notion also owes much to Latour, but also Haraway (2008), that in order to make sense of a new technology, it's necessary to grapple with and experiment with new ways of understanding it. So this was also a project about research methods, struggling with how to make sense of the internet, and what kinds of methods can do justice to its unusual character.

The research design took seriously the notion that the body is implicated in internet use, and set out to examine how women use the internet in a range of modalities. It considered online and textual elements of internet use by asking participants to record and show what they did online, in terms of chronology in an audio diary they made alone, and in dialogue with the researcher. Then it returned to the online later by interviewing participants using instant messages, while exploring regularly used websites in terms of how they were navigated. All of these elements were seen in terms of action and how they're used, in the physical world of bodies. Then the offline and embodied elements of internet use were examined by asking participants about feelings, visiting them in the home and exploring the rooms and objects around the computer, and an interview that put these objects into their context and histories.

There were three key threads to the research questions, the first to catalogue, list and describe what women were using the internet for, and how this usage fit into the other important considerations in their lives. The second thread was more theoretical, to examine some of the intersections and relationships that shape both what the internet is, and what is productive in that internet of women's subjectivities and lives. Finally the project sought to explore a framework of methods to investigate this productive assemblage of the internet, and capture its qualities in use.

Theorising

Although description is often viewed negatively by social researchers, this project takes description as one of its most important elements. This is in the spirit of the phenomenological approach to description, but also to address a number of silences, the silence of the body in much internet research (Dreyfus, 2001) the silence of women's particular usage of the internet (Wajcman, 2000), and the silence of breakdown, maintenance and difficulties in using these technologies (Thrift, 2008). Description allows us to gain also a rich and detailed understanding of space (Riggins, 1994a), and gives the tools to trace movement around, and use of that space (Ahmed, 2006), to make sense of how it can be productive. Elucidating all of these is a large task, and it required an informed notion of description, drawn from phenomenologically inspired ethnographers and social theorists (Csordas, 2002; Riggins, 1994b; Ahmed, 2006).

Chapter 5 began the treatment of how to theorise this material, by discussing a shift of focus to acknowledge how the body and embodiment are implicated in internet use. This meant developing a phenomenological approach to bodiliness, so that rather than the body being seen as something to represent, or as a resource to be cared for and used, the body is taken as the grounding of the self and of culture (Hayles, 1999; Csordas, 2002). This view of the body sees it as our means of experiencing and engaging with the world. So our experience is always from the perspective of our own body, with the nature of our body profoundly shaping our world (Merleau-Ponty, 2002 [1945]). In this way both the world and our body and engagement with it become co-constituted.

This view of the body implies a particular view of objects, and the material world around us. We have a special relationship with the physical world, because through our body we are able to engage with it in particular ways. So by considering the objects, furniture and rooms that are necessary to achieve internet use, we gain an insight into how we operate these technologies through the body, and the kind of embodied experience use of the internet constitutes. Influences of home geography (Birdwell-Pleasant & Lawrence- Zúñiga, 1999) and ethnographies of home (Lally, 2002; Gray, 1995) feed into this analysis, by discussing the kind of space the home is, and how activities get done through space. Moving around the computer and workstation, as well as the flows and productivity of the other tasks that are done here offer more insight. Movement through websites and web spaces has a similar character, some paths are taken while others are ignored and do not become meaningful lived space. These elements can be considered alongside, and as building blocks in the affectivity of these patterns of usage. One moment of internet usage is massively over determined; it brings many elements into play.

Thus relationships and linkages between many different forms of nodes are required to make particular actions possible (Latour, 2005). When we foreground these relationships as the unit of enquiry, we see that the internet itself is produced through these relationships, and must be viewed as an assemblage (De Landa, 2006; Rose, 1998), it becomes meaningful only in terms of the complete ecology of linkages. Similarly, gender is produced in this ecology. These new technologies and possibilities for use of homes and bodies produce new forms of gendered relationship, and new ways of doing gender (Wajcman, 2007). We begin to see how much work goes into the usage and maintenance of this complicated technology, and how it folds in complicated ways into other areas of life.

Stories from the data

Several key stories have been taken as exemplars of these different stages in the argument. The first of these was Hazel's computer, a Macbook at the end of its useful life. It had been serviced many times, had a broken keyboard which was replaced by an external USB keyboard, and sat on a desk which was beautiful but quite unsuitable for the shape of the computer. Although it was in a dedicated office, it was only financial considerations that prevented this laptop being replaced with a newer model. Hazel planned to buy an upgrade of the same type of machine, as it had been well loved. This machine was not a simple one, its history had left deep marks, which had become constituted through Hazel's work of maintenance.

Hazel's machine problematises the idea of technology as pristine and always perfectly functioning that we see in technologist's accounts. By highlighting the significance of the work of maintenance in living with and using technology (Thift, 2008), we begin to see some of the hidden, messy story of technology in use, that does more justice particularly to the meaning of technology in women's lives (Wajcman, 2000).

Amy's sitting room and downstairs area demonstrated the importance of the identity of rooms and the flows of tasks within them. I had puzzled for a long time over why she preferred an old cast off computer on an unsuitable coffee table over a better computer in a dedicated office space upstairs. I saw the answer to that puzzle when I began to plot out the stories of Amy's daily activities from her diary and interview onto the physical space of her home, with a mark for each location that she used during the day. Once I joined the locations up into pathways, and considered also her gaze and the lines of sight in this space, it was clear that the site of her computer was rather a special one in this home (see diagram 2, chapter 6). It was located centrally within her home, and in relations to the sites of other tasks and projects that animated her life. So this computer and its location was an assemblage of different parts, and unlike Hazel's example where the machine was literally put together with mismatched pieces, this computer and use of the internet there was put together by different activities and practices, the productivity of home space and movements of the body in Amy's life.

We can now see an elaborate set of relations in terms of the layout of the home, objects and activities that are productive of the internet. But also we can see how these newly explored relations also contain and reproduce femininity and gendered roles. Amy's use of this open

downstairs space is important in how it affords her roles of mother and home maker. The array of activities that are important to her such as childcare and cooking are about motherhood and performing the activities that maintain and reproduce this identity and set of work. Other activities such as an interest in her garden and in being ecologically friendly mediate these to perform her own particular style of femininity and motherhood, thrifty, responsible and down to earth.

Bailey was a participant who was somewhat reluctant to take part in the study, and who didn't consider the internet very prominent in her life. It had become more significant recently, during an affair with a man called Maurice. She and Maurice stayed up late, using instant messenger to chat on the internet because of their mutual insomnia, and during these long conversations Maurice interested her in both sexual exploration, and learning the new internet skills required to support this exploration. Throughout this relationship Bailey experienced a large shift in her patterns of use of the internet, and therefore what the entity of the internet became for her. Previously her computer had been used mainly for quick emails, brief work tasks, and listening to music, and it was perched on a breakfast bar in her kitchen with no suitable chair to facilitate its use (see photograph 2, chapter 5). This set-up proved completely unsuitable to the more intense typing necessary to chat with Maurice and her back suffered, as she struggled to find comfortable ways to sit and type in her kitchen or on the floor. Subsequently, Bailey dated a string of other men, and she benefitted from her newfound confidence both in sexual matters and use of the internet to meet people and communicate. Each of these men contributed something by installing software on her computer and introducing her to new technologies, and Bailey was determined not to let an opportunity to learn or to gain new agency with the machine pass her by.

In Bailey's story, she is being an internet user at the same moment she is being a lover, a girlfriend, a partner, and overall a sexual and emotional subject. So the balance of how to show competence and confidence, when to act, and how to express her femininity and sexuality are completely intertwined with use of these technologies. Her decision to click on the link to an adult hook-up site and photograph her bottom, a performance of a particular sexuality and femininity is also entirely a performance of a subject with a particular internet expertise and boldness. The dangers she faces in such an act, of not understanding the software or making a technical mistake are indistinguishable in this act from dangers of threats to her body image or sexual rejection. Here we can see how integrated the internet is with what is important in Bailey's life. An important period of personal growth was also a period of increase in internet knowledge, confidence, and intensity. Bailey's emotional life was constitutive of the internet, and we can see this in several shifts over the course of these life events. As her experience of the internet changed, her use of the body, space, and machines to support and produce that internet also shifted. Bailey performed her femininity and her participation in relationships through this engagement with the internet, at times as passivity, and at others skilled in taking part in online sexual activity.

Use of the body and movement through space are constitutive of the internet.

One of the key insights of this project has been a framework for making sense of how the internet is constituted through use of space and the ordering of movement through it. This research began by noting that a problematic of much of the history of internet literature was that internet use was taken to be disembodied (Dreyfus, 2001), and the subsequent idea that this meant it was a space free of relations of power (Wajcman, 2000). This project has found that use of the body, and movement through the space of the home, is constitutive of internet use, and what the internet is. The home is powerfully ordered into meaningful space, and movements and acts within that space are productive of personhood, gender, and of entities within the home such as the internet.

Therefore when this thesis asks what kind of research object the internet is, that answer has not been derived from talk, or from analysis of talk. Instead the concepts of bodiliness and experience have been used to understand what the internet becomes as it is used. Meaning has been found in daily practices, movement, and the ordering and use of objects. As has been discussed throughout the thesis, this represents an enormous shift from traditional academic work based on texts. And indeed texts and language can be reinterpreted in an embodied account, which emphasises the material and practical aspect of language and text. This is in contrast to traditional work on text and language that doesn't acknowledge its embodied quality. We can see a page of printed writing in the above context, as a thin wafer of a delicate material called paper, in a sharp, rectangular shape. Mostly white but densely packed with tiny symbols. To use this as writing it must be held close to the face in good light, and be scrutinised with the eyes, and for the actor to have had extensive training and constant practice both in basic reading and in literacy with different kinds of texts. There exists an enormous proliferation of technologies, from high tech to mundane, which are necessary to produce, reproduce and facilitate reading, as well as the storing and ordering these delicate pages. We may risk damage to our eyes, as well as our backs and shoulders in the fetishisation of these materials, and secondarily we miss out on sunlight and exercise. This embodied quality to use of language is made invisible in much academic work.

Using this framework we can see that the laptops, which have become more prolific in the past 2 to 5 years, have changed what the internet is in many ways. Lucille's desktop in her office, and Sally's laptop in the sitting room which we met in chapter 6 , differ in many ways as a result of how the body moves and engages with the machine, and thus all the other relations and practices that are drawn up around the very differently shaped computers. This difference is also an issue of accessibility, class, and financial cost. The laptop model is available to people who do not work in a writing or desk based profession, and who do not have a background in keeping a dedicated office or study as a room in the home. The typical arrangement of objects in the sitting room is productive of the internet as a leisure item, rather than as a work one, and laptops support this kind of use. So that Sally might have the laptop switched on and connected to the internet while she watches a film, and can then look up an item that interests her, such as whether a particular fact mentioned in the film is true.

What kind of entity is the internet?

The internet is not purely the online, as had been suggested by early accounts. It is also not purely the 'workstation' a notion that was discussed in chapter 5 to describe the site of the intersection of computers, other furniture, and bodies that makes internet use possible. We have to place this workstation in a wider context of relationalities, of large meaningful spaces such as rooms, but also wider relations such as the emotional life of the user in order to make sense of internet use.

We can see that across all these descriptive accounts the internet is not a simple entity. Also the relationships it enters into are not simple, and it's impossible to unpick internet use from the rich network of relations that make it possible. This is the reason why research that isolates the internet from the rest of life is so problematic (Orgad, 2005; Leander & McKim, 2003). What the internet means in the lives of these women, and what it becomes as it is used, is not specifically isolated to online activity. The material of the internet is not limited to the specific machines that make it possible, such as computers and other devices. It is constituted in a complex ecology of relations, which include these items and the embodied practices, but also the structuring of the home into rooms and collections of furniture and objects that have particular meanings, and the movements through these spaces and with those objects. This complex of linkages and relationships extends to include wider life projects, emotions, and tasks to be performed using these technologies.

The internet is such a flexible entity, that each specific person's set of circumstances and needs will create a different constellation of relations, and therefore a different kind of internet. The task of picking through what is available, and gathering a set of technologies around you that will form 'personal internet' (Postill, 2008) is now a form of emotional work that has become part of contemporary living. It resembles home making, as it has been discussed throughout the thesis, (Wise, 2003), because to some extent the assemblage of the internet is always with these participants. In some cases this is literal, as it can now be carried on mobile devices, but also in the sense that its use structures the day and the organising of the rest of life, so that it must be actively managed and therefore forms part of the self work of everyday life.

Most of the internet use we see here is mundane everyday tasks. Many are activities that would have been done anyway, such as contacting friends, shopping for groceries or consulting maps. This is unsurprising, and follows other studies that have started with the user finding mundane activities are the most popular (Gorard et al 2004). While much of the history of internet research has focused on the more glamorous and cutting edge activities such as MUDs (Kendall, 2002), for these women the internet is seen mainly as a set of technologies that offer utility and simple applications. When they talk about these kinds of tasks, this talk is mainly about efficiency and time-saving, such as saving the need to perform a shopping trip outside the home, or avoiding long telephone calls with family members. However when I examined more closely how these activities are carried out, we can see that often they create extra kinds of work. Email, unlike the phone it is often compared to, needs to be checked, it doesn't alert the user when they are wanted. This checking becomes a time-consuming activity in itself, which carves out a substantial place in the daily routine. For many, the internet is an ever present part

of work life, as they are sitting at a computer all day for other reasons. For these women email can be checked, and reference material consulted many times each day, creating a sense that the internet is a constant companion.

The internet of 2012 is very different from that of 1998, and population statistics give us a hint as to why. Today the internet is a much more accessible technology, and the corresponding mass influx of new users has resulted in a great diversity of meanings for the people who use it. These differences emerged out of the development of technologies of many different kinds. The variety of machines themselves now capable of accessing the internet has altered people's usage greatly, on top of which the software of the internet has evolved since the world wide web was first introduced, producing more accessible, graphically intensive web pages. Concurrently the broadband revolution made possible bandwidth intensive applications such as streaming media and enormous databases, such as Wikipedia. These created the conditions for the possibility of a new culture of internet use borne first out of the popularity of email and its derivatives such as social networking messaging services, but also the movement of commerce into that space. These shifts into a more accessible internet constitute the kind of usage we see in this group of women, and has emerged from the domestication of those technologies into ordinary people's lives, and into their homes and life choices. In material terms it requires a complex of objects, not only the computer but also other objects to support the body such as chairs and table surfaces. Often there are items to support the tasks to be done, like a television to compliment internet use, or sets of small objects to represent tasks done online. Larger collections of objects and space in rooms, each with their own particular identity also shift what the internet is. This complex ecology of relations all contribute to the assemblage of internet use.

The method of description and use of traces

This research began with an intention of gaining a detailed picture of a small number of women's internet use. There were several reasons for this level of detail. One was the interesting finding from an earlier project that gender differences in computer and internet use did not appear in large scale quantitative research, but were apparent during in depth interviews (Selwyn et al, 2006). Computer and internet use, as with other technologies, is very gendered. But the gendered relations are not simple ones, and developing new technologies present new ways of doing gender (Wajcman, 2007). Thick description and deep understanding was also necessary to support ways of thinking differently about internet use. This project set out to deal with the body and embodiment in internet use, and to focus on capturing experience. The fragility of capturing this kind of data has already been discussed, and phenomenologically inspired methods that theorise experience have emphasised the importance of description, in contrast to analysis. These methods are also powerful for detecting silences, and bringing out stories that have been left untold (Thrift, 2008), by offering a critique to the existing conceptualisation of a system (Latour, 2005).

Description entered the project at several points. In the initial data collection, a range of methods were used to capture a range of modalities, but also to illicit concrete information about internet use. So that in methods adapted from traditional talk based methods, the audio

diaries, face to face interviews, and online interviews, the concrete and descriptive talk was prioritised over speculation and discussion. Participants were encouraged to describe their internet use, and to describe objects, actions, web pages and rooms across these methods; full interview schedules can be seen in the appendix. But it is in the analysis phase that description was utilised to greatest effect. All of the data materials were repeatedly transformed using different levels of descriptions. For example in chapter 4 I discussed in detail how the audio diary recordings had been restructured and broken down in terms of chronology, which highlighted patterns of daily routine that were not apparent in the immediate recordings. Interviews and field notes were used to generate the diagrams discussed in chapter 6, where I plotted how participants moved through their home and the significance of rooms. It was through this repeated transformation of the data into different forms, creating charts and diagrams of different elements, that I was able to grapple with the movements participants made, and how they structured their space and practices. The photographs were particularly fruitful for use of this method, the superabundance (Ellis, 2000) of information in the images allowed that information to be focused and retold in many different ways. This is in sharp contrast to a traditional analysis based on talk, which focuses instead on the particular ways talk is used. This method picks up on what Latour (2005) would consider to be 'traces'. Latour argues that the only actions that are important are those that are productive, and that these will necessarily create an impact or change in the world. These impacts can be detected later by their traces. I was interested in the productivity of practices, as discussed above, to understand how these are constitutive of the internet and of gender there. These methods of transformations and searching for clues showed up these traces, evidence of meaningful forms of practice.

Follow the actors! Researching the relationship between online and offline life.

This project has been profoundly shaped by a particular approach to the unit of analysis, and the method of creating a boundary to 'the internet' for the purposes of study. This is a notoriously tricky problem for internet research (Beaulieu, 2005; Schneider & Foot, 2005), as this is a sprawling and unbounded set of technologies, spaces, and practices, that do not lend themselves to finding a clear boundary to the research field. A typical solution is researching a single, particular online space (e.g. Kendall, 2002), whilst others do large scale population studies (Selwyn et al, 2006). Here I have addressed this problem by starting with a small number of participants, and then investigating the internet as it is experienced by each of these women. This has resulted in a package of objects, spaces, and practices for each woman, which describe her own 'personal internet' (Postill, 2008). The boundary of the research field is thus generated by the profile of activity these participants have. This innovative approach is inspired by such attempts as Miller and Slater's (2000) to find ways of researching the relationship between online and offline life.

This approach was selected to address a number of aims, as discussed extensively in the early chapters of this thesis. The particular aim I'd like to return to here is the problem of how to study the relationship between online and offline life. The need for this has been called for by

several internet researchers (Rutter & Smith, 2005), but it is also acknowledged to be a difficult task, that has not received enough research attention (Leander & McKim, 2003). Miller and Slater's (2000) research investigated how the internet was used within a particular community, researching with individuals and inside local sites of particular interest like an internet café. The approach taken here uses a similar notion to explore how the online is used together with offline concerns, by focusing on the usage of particular individuals. It was expected that the way they used the internet would include seamless relationships between the on and offline world, as both were brought together to accomplish particular tasks. This notion of the internet in use has been discussed throughout the thesis, so won't be returned to here, instead I will turn to what insights this project can offer into both the nature of such relationships, and some methodological observations and issues.

This approach turned up some surprises in terms of researching the on and offline together. Traditionally much internet ethnography has treated the online and offline as very different domains for research, which call for very different research approaches (e.g. Kozinets, 2010). I had begun this project skeptical of such an approach, hoping that the paradigm of studying technology in use (Gray, 1992; Radway, 1984), and following a single set of participants through both sets of spaces would be a solution to this problem. However several difficulties emerged. Orgad (2005) found that her participants struggled to move from an online setting to an offline one. And I, too, found that as I moved participants through the phases of this research design, many dropped out. This has been discussed in detailed with methods in chapter 3; I realised that with each new domain I asked them to take part in, I was asking them to reveal themselves in a new way. Orgad (2005) argues that the rules and expectations for social engagement are different on the internet than in face to face settings. Similarly Hine(2000) describes different online spaces as having different cultures and expectations for action. So it's necessary to acknowledge in the research design that participants may not be equally comfortable with different forms of communication or recording. Kivits (2005) suggests that any one on one relationship between researcher and participant is difficult to sustain online. Again this is reflected by the fact that the bulk of internet research address communities or groups rather than single participants. This is in sharp contrast to traditional offline qualitative research, where interviews are a ubiquitous method (Hammersley & Atkinson, 1983), and research designs often focus on individuals. It was with some of these offline assumptions that I began this project, and the problems this brought with contacting participants and sustaining their interest for the full length of the design has been discussed in the methods section. This highlights the methodological difficulties of combining these two domains, a division which exists perhaps in terms of the research relationship more than it exists in the lives of my participants

This innovative method meant that I found myself with online data very different from the data collected in projects that focus exclusively on online experience. I therefore struggled significantly with how to address this material, as I found little I could draw on from the literature. Much as in Selwyn et al's (2006) research which focused on ordinary users, where participants didn't report regular or cohesive use of particular online spaces, much of what I had was very fragmented. For example Lucille, although a confident technology user, did not have sustained use of any particular online spaces. Her list of weather checking, newspapers, and reference material for writing was typical within the group. None of my participants were

involved in using forums, blogs or other forms of self publishing, which were of substantial research interest during the period of the research (Gauntlett, 2000; boyd and Ellison, 2008), with only one participant using Facebook. These largely reflect the most popular uses found by large scale surveys, with large shopping websites the most popular (Ofcom, 2011). Despite my attempts to capture naturalistic impressions of the web in use, inspired by Walkerdine's (2007) method of filming children playing videogames, I did not achieve the level of knowledge of online spaces that I had of material space in the home. The information I gained on configurations of websites in the online interview was not rich enough to chart it in that level of detail. We can see from this that the entity of the internet I was researching in this context, with a starting point of embodiment and experience, is very different from that achieved in online contexts, or when a particular community of users with a particular hobby, such as T.L.Taylor's (2006) online gamers are followed from the online into the offline. The patchy quality of this material appears to reflect the role of the internet in my participants' life worlds. Unlike online only research with participants who show a sustained use of the internet day after day (Sunden, 2002), in the case of this project internet activities, for example Sally's online shopping which is combined with visits to the high street and coupon websites, is always just one part of a network of practices that include many offline acts. This lends further support to the suggestion made above that the internet as an assemblage can have a very different complexion given a different configuration of relations.

How are relations with the internet productive of gendered subjectivity?

The core aim of this project has been to find new ways of making sense of the internet. In this vein it has been addressed in use and in action, and as we've seen above this has troubled what kind of entity the internet can be. This inquiry into what the internet itself is has opened the question of what its potential is to be productive of gender. So we can ask how gender can enter these systems of relationship to the internet. Or to switch this around, what kind of relationships with the internet can be productive of gender. As the theorising has developed over the three previous chapters and the three phases I have explored a range of elements that can be productive of gender. An umbrella over all of these concepts is relationality and assemblage.

In this way, we can consider gender to be constituted in the full complex of relations. So there is no simple relationship, and no clear and simplistic causes. We can look at how a specific role or project, such as motherhood in Amy's case is played out through a set of activities, many done each day. These in turn lead to a particular use of space and arrangement of objects. For each participant this means they have charted a path through these relations in their own way. Gender is not deterministic, it is not necessary for each link to have the same meaning each time, but each person's femininity is formed from a drawing together of pieces. The question becomes how we accomplish gender, and how we gain a sense that this is a coherent, bounded and solid feature of the subject (Walkerdine, 2007; Rose, 1998). Meanwhile, none of these arrangements are static, it is not any one set of relationships, or even the full arrangement in stasis that produce the effect, it is a moving set of relations. Gender in this scheme is not a

stable thing, it does not emerge in just one way, with just one possible position for women to take up in relation to the internet, nor does any individual person remain stable with regards to gender (Harris, 2009). So the gender we see is always an accomplishment in that moment, always an effect, a “distributed outcome of particular technologies of the subject” (Rose, 1998), that produces us as a human being of a certain type. So we don’t find gender in a single moment so gross as ‘who does the housework’, but more delicately in how this ripples out into the use of rooms, short distances through space, lines of sight, and particular priorities in use of the space and positioning the body there. But at the same time, femininity or masculinity are categories that gain their meaning only in a set of relations, particularly with each other, they are not fixed or static (Layton, 2002). We have seen this throughout the analysis chapters, as each participant has behaved in some moments in classically feminine ways, but these have always been mediated through the full complexity of a rich performance.

This relational view of the production of gender has opened up for enquiry several different kinds of relations: relations the body can enter into, and those that are produced through movement and practices. By tracing out these links, we open up the possibility of asking questions about each of the elements, and investigating how they can be gendered, how particular positions can be taken that are gendered, or how some object, rooms, or activity are marked with gender before any activity even begins to occur. I will now go back and review some of the relations that have been discussed in earlier chapters, and look at some of the potential for productivity of gender we have seen there.

The analysis began by considering the body, and how it enters relations with objects. So when we begin to interrogate the material and space of internet use, what are some of the mechanisms by which gender can be produced? To begin with, we have considered the nature of the body and experience. In sharp contrast to much of theorising, which takes the masculine body as the default (Grosz, 1994), with the male subject the universal, disembodied, abstract body (Rose, 1998), this project has instead looked at the particular body. It has examined concretely the bodies of the participants, and of the range of machines, furniture, and objects they engage with in order to use the internet. This gives us a sense of what the internet as it is used by particular people. This emphasis on the particular brings the invisible, productive surface of the body into our sight. It also removes notions of technology as clean and abstract, by highlighting the messiness of the use of technology in action (Thrift, 2008; Haraway, 2008). This attempts to do justice to some of women’s particular experience in relation with technology (Wajcman, 2000).

And there is much of this messiness, and imperfect use of technology in the accounts. For example both Hazel and Amy used machines that were old and cast-off from other projects. In chapter 5 we looked in details at the structure of each of these computers, and how they were built up over time into their present form, generating a history that was filled with detail about how technology functions across each woman’s life. Such de-prioritised machines are typical in women’s personal use of technology (Sørensen, 2006). And Amy clearly states in the online interview that for her access to an ideal machine is low on her list of priorities.

Sheets-Johnstone argues that power and relations of power are expressed through the body here as a freedom to move, a freedom to use the body (Sheets-Johnstone, 1994). When Young

(1980) describes women's experience of comporting the body, to climb over a stile or throw a ball, she highlights the restrictions on women's movements, their use of space and expression through the body. Young speculates how this inhibition of expression might extend to other areas of embodied life, and I think this applies to use of the body in movements round the home and round these machines. Women's acceptance of poor quality machines is part of this freedom to move, this fluency with computers, their internal workings, and their location within the home. But this emerges in complex ways. Although Amy sees the quality of her computer as unimportant, its location in the centre of her home, close in movement terms to her other important projects in the house becomes more important. The better computer in her home is located in a spare bedroom well separated from the rest of her interests. Similarly, Bailey sites her computer on a breakfast bar in the kitchen. It is central to her living space, allowing her to listen to music and the radio, or to invite guests to check their email. For both women, they prefer the computer and internet's role in contributing to their home space, rather than boosting the machine's own technical capacities.

Objects are not merely material, they also exist in complex matrices of other qualities that are played out through embodiment, such as ownership, access, and mastery (Lally, 2002). The particular object of the computer is laden with meanings around gender, already an object and set of practices that are marked as male, and represent a danger to femininities (Van Zoonen, 2002). As Layton (2002) argues, a powerful force for production of gender is this forbidden quality, the split off, the yearned for, and the fear of an inadequate performance of gender. Use of computers and technology are a powerful focus for such anxieties and danger (Walkerdine, 2007). Women's performance of mastery and agency in relation to the internet becomes a site of performance of gender, a way of both accomplishing and performing femininity. All of the women in this project take up some explicit position in relation to expertise and mastery, with almost all setting themselves in contrast with men in their lives. Sally rejects the desktop style of computer use, even though she has space in her home and a computer desk, but that space is now used to store laundry. Part of her reasoning for this is that her ex-partner used this desk for regular computer use, and she has no interest in replicating this style. Instead she adopts the more leisure-focused style of a laptop in the sitting room. Sally thus takes on a less expert and more social usage of the internet. For the other participants male partners of some form are used as a contrasting example. For all except Lucille these men are seen as experts. It is these significant others who set up computers, which often includes selecting their location in the home, and are a source of new information and learning. Although, as we've seen above, many of the women do not have an interest in a technically optimal set-up or set of practices. Lucille is the exception to this, but still she takes up a position in relation to expertise. For her the management of the internet in her household is a substantial hobby and source of pride. So expertise, mastery, and control and ownership of these objects becomes an important dimension of performing and expressing femininity. Each of the women in the study is forced to address this, and navigate her own path through how to address this expertise, while maintaining her femininity.

Considering the production of gender in these wider networks of relationships around computer use allows us to bring the extensive literature on gendering in the home into the analysis. This adds considerably to what we might know about the gendering of internet use by considering it

in isolation, as a rich literature already exists. When we consider bodies and objects in the context of the home, we find that much like computers and the internet themselves the home is always already filled with organisation around gender (Leung, 2005, Birdwell-Pleasant & Lawrence- Zúñiga , 1999; Ang, 1995). As was discussed in chapter 6, rooms of the home are defined by their identities, which constrain what collections of objects can be assembled, to do what acts, done by which people (Ahmed, 2006). And this constraint as to who can act is powerfully gendered, as are the set of tasks which can be performed in the home (Gray, 1992). This means that whenever anyone is in a room, doing an activity, they are necessarily taking up a position in relation to these established systems. Although such 'rules' are relational, and can be broken and resisted productively, the home becomes a site where gender must be negotiated, and where transgressions also open up new meanings. For example Lucille's performance of mastery allows her a moment of escape, while simultaneously drawing her back into a traditional femininity by making her conduct exceptional and playful. But this use of space is also complicated; when Amy is revealed to do most of the cooking in her household, it is not merely a question of who does this traditionally feminine work, it is the wider embodied demands of the work, and the sets of relations this opens up. The arrangement of Amy's kitchen, which opens onto the sitting room half a floor below with a wide archway between, means a concern with cooking in this house changes the meanings and affordances of spending time in the sitting room, too. The home becomes mapped out through action as well as simply space, and this impacts on how the participants choose to arrange furniture and other objects, so that the performance of gender and gendered acts becomes distributed throughout the home.

The movement of the internet into the home has brought into this space that is also a place of work for women (Drucker et al 1997; Bakardjieva, 2005; Gray, 1992) a new form of 'women's work', as traditional tasks, such as keeping in touch with family (Miller & Slater, 2000), or 'internet parenting' (Bakardjieva, 2005) emerge at the intersection of home life and internet use. And these must be done through the arrangement of rooms and homes, as when Bakardjieva (2005) describes women arranging their movements to allow line of sight on a child who sits at the computer doing their homework. We can see this in the corpus with Amy and Bailey using the internet to contribute to home-making activities by locating their computer and internet use in the central open spaces of their home. They carve out a space that is traditionally a site of femininity, to also be a place where they can use the internet, for activities that both shore up their femininity (thrifty shopping, or sexual activity), and that may challenge it by being about technological expertise. By considering the body and objects we also highlight other areas of use of the body that are productive of gender, such as the use of time, explored extensively in chapter 4. Here use of the internet punctuates the day, marking distinctions between work and leisure, and the rhythms of the day and week. This allows usages of time that produce gender, roles such as motherhood, going out and staying in, working on relationships, to be carried out through internet activities.

Control and power are expressed through the arrangement of rooms by who can take control of, and inhabit, their own private space. So that tensions between communal space, privacy, and quiet time pattern the use of a home. The maintenance of secure spaces for work or leisure, are dependent on the work of women, which becomes invisible, and has done throughout history as this differentiation of rooms first became possible (Ahmed, 2006; Worsley, 2011). While men's

spaces have typically been in the front parts of the house, filled with light, but also to be places of quiet contemplation or leisure (Ahmed, 2006; Lally, 2002); lower status spaces must be shared with guests or children, and privacy or ownership of objects cannot be secured (Leung, 2005). Some of this traditional arrangement is questioned, as both Bailey and Amy prefer this warmer, busier part of the house to more rarefied settings hidden away, such as Amy's husband's office. Although at the same time this move keeps the bedrooms free of the busyness of the computers, which both women seek to protect. Again, these choices are about managing a home and prioritizing particular elements of that home, while sacrificing internet expertise in their priorities in order to accommodate these preferences.

We have seen that a key distinction in using space for internet use is that between the protected office space, with a desktop computer and office set-up with chair and table, and the sitting room space, using a laptop on a coffee table, with a sofa and a television. Both of these can be used to produce a performance of femininity of different kinds. For those women who maintain an office space, Lucille and to a lesser extent Helen, this is about a performance of efficiency, and commitment to work tasks. The internet machines and the layout of the home work together, such as when Helen uses her netbook on the arm of a sofa while entertaining clients, or Lucille does important work on her laptop in a different room to avoid internet distractions. For Helen this combines with working from home and being close to this space, while for Lucille the pleasure in her gender transgression characterise this efficiency. The sitting room arrangement allows for sharing with guests, and is a model that eschews the traditional privacy and work focus of computer use. For Sally this is a bringing back of the technology into the space of social life which she prefers, resisting the masculine style of her previous partner.

The final element considered in theorising this material was networks and assemblages, to consider how this complex of relationships interact into wider ecologies of relations, and to clarify that the entities of interest here, such as the internet itself, bodies, subjects, and gender are all mutually constituted in the patterns of operating together. In a space where we consider all kinds of connections, those between human, non-human objects, and meaning and semiotics, gender can be produced at many moments. We begin to consider a situation of managing and accomplishing gender, where it is a site of struggle and negotiation, with contradictory positions, relationships to fantasy as well as exterior objects (Walkerdine, 2007). In such a complex system we can find gender emerging in relation to areas like expertise and mastery (Walkerdine, 1988), the tension between active and passive, or between acting as the 'doer' or 'done to' (Layton, 2002), the doing of relationship work or attachments (Harris, 2009). So it is not sufficient to trace just one set of paths or linkages, or to simplistically consider particular tasks or rooms to be sites of women's work. The different women in the corpus have brought together their own set of circumstances to produce nuanced accounts. For example, when Bailey found herself in an unusual situation created by her insomnia keeping her awake, her relationship history, and having the technology available, she formed a relationship with Maurice. This created the conditions to make a new profile on the adult hook-up site where I located her. She charted that path in a way that produced herself as a woman and as a particular sexual actor, where her growing expertise with the internet supported and became intertwined with that performance.

Within this argument, gender therefore is a performance that emerges in a range of modalities. It is a constantly shifting effect of ecologies of relations, not static or deterministic, but produced out of the bringing together of many relations in each moment. Much of this is done through movement, use of the body, and geographies of the home and other meaningful space. This requires a constant work of maintenance, gender as an accomplishment. As researchers, this means the whole scope of this ecology can be a topic for study. The relationships between elements, their patterning, being more important than any one strand.

Conclusions

This project has attempted to think differently about the internet. To find ways to address the particularities of women's use, but also to acknowledge and think through the role of bodiliness in use of the internet. To this aim, a research design has been developed that addresses the internet as it exists in use, in a range of different modalities and relations. This method has made extensive use of description and deep exploration of a small number of women's practices in using the internet. These have been theorised in a way that prioritises use of the body and bodiliness, to highlight how experience and movement constitute the internet. It is constituted here within a shifting set of relations, not as a stable or essential entity, but as one that is produced moment to moment in a complex ecology of meanings and acts. This complex of relations offers many sites of production of gendered subjects. The key moments of high technology objects, expertise, and the striation of the home with gendered meanings therefore means there are a great many possibilities for the production of gender when participating in internet use. This project has presented a number of concrete examples from the data, to suggest how these possibilities can play out in women's lives, and how they can pick a path through this complex space.

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Appendices

Appendix A – Project website


The text here is identical to the Information Sheet.



Cardiff School of
Social Sciences

University of Wales Aberystwyth

Women and Relationships to the Internet: A PhD Research Project



Call for Participants

What is the project about?

The project is trying to find out how the internet fits into women's everyday lives, it's looking at what websites and technologies are used, in what places and using what machines. Particularly it's looking at:

- What women do with the internet day-to-day
- How different websites and other things like email are used together
- How places online and other things like home
- What's special about using the internet as a woman

Who is running it?

The project is being conducted by a research student called Louise Madden as part of her thesis. It's being run through Cardiff School of Social Sciences. You can look at her webpage here: www.cf.ac.uk/190286 to find out a bit about other projects she's worked on and some other ideas about the internet.

Could I volunteer?

The project is currently looking for women to take part. It should only take a few hours spread over a month or so. At the moment we're looking for women in their mid-thirties to mid-forties who regularly use the new generation of interactive technologies, such as blogs, wikis, photos and film swapping sites, webcams or online games. If you are interested in volunteering for the project, please send an email to MaddenL@cf.ac.uk including a brief message about how you use the internet.

What would I be asked to do?

The research is in two parts. The first is an audio-diary of your internet use. It involves carrying a small recorder around for a few days, and making a recording every time you use the internet. The second part is a home visit by the researcher, where she will interview you and ask for a tour around where you usually use the internet. The whole visit should take about two hours. Later, the researcher will look at some of the websites you've mentioned and will ask to archive pages that you've contributed to such as blogs, profile pages or forum posts. All these things will be looked at together to build up a picture of how you use the internet.

What will happen when I agree to take part?

First of all the researcher will telephone you to talk over the project. She'll explain that you can leave the project any time you like, decide to skip any part of it, or ask for any material that's already been recorded to be removed from the archive. We'll also talk about anonymity, and explain that your name and everything that might identify you will be removed from the data before it's used. Then we'll talk about times that are convenient for you to take part - you'll always get to choose dates and times that are handy for you, and you can ask any questions you want about what the study is trying to find out. We'll talk over how the project will start, with the audio-diary. Your recorder will be sent in the post, and will be collected by an interview in the next week or so.

Contact details:

Please feel free to contact Louise at any point during the project to ask questions or add anything you'd forgotten about your data!

Email: MaddenL@cardiff.ac.uk

Supervisors:

Valerie Valeridine: ValeridineV@cardiff.ac.uk
Matthew Williams: WilliamsM7@cardiff.ac.uk

Appendix B – Information sheet

Women in Relation to the Internet Project

Information Sheet

What is the project about?

The project is trying to find out how the internet fits into women's everyday lives. It's looking at what websites and technologies are used, in what places and using what machines. Particularly it's looking at:

- What women do with the internet day-to-day
- How different websites and other things like email are used together
- The place computers and the internet have in the home
- What's special about using the internet as a woman

Who is running it?

The project is being conducted by a research student called Louise Madden as part of her thesis. It's being run through Cardiff School of Social sciences. You can look at her webpage here: www.cf.ac.uk/18086 to find out a bit about other projects she's worked on and some of her ideas about the internet.

Could I volunteer?

The project is currently looking for women to take part. It should only take a few hours spread over a month or so. At the moment we're looking for women in their mid-twenties to mid-thirties who regularly use the new generation of interactive technologies, such as blogs, wikis, photos and film swapping sites, webcams or online games. If you are interested in volunteering for the project, please send an email to MaddenL@cf.ac.uk including a brief message about how you use the internet.

What would I be asked to do?

The research is in two parts. The first is an audio diary of your internet use. It involves carrying a small recorder around for a few days, and making a recording every time you use the internet. The second part is a home visit by the researcher, where she will interview you and ask for a tour around where you usually use the internet. The whole visit should take about two hours. Later, the researcher will look at some of the websites you've mentioned and will ask to archive pages that you've contributed to such as blogs, profile pages or forum posts. All these things will be looked at together to build up a picture of how you use the internet.

What will happen when I agree to take part?

First of all the researcher will telephone you to talk over the project. She'll explain that you can leave the project any time you like, decide to skip any part of it, or ask for any material that's

already been recorded to be removed from the archive. We'll also talk about anonymity, and explain that your name and everything that might identify you will be removed from the data before it's used. Then we'll talk about times that are convenient for you to take part - you'll always get to choose dates and times that are handy for you, and you can ask any questions you want about what the study is trying to find out. We'll talk over how the project will start, with the audio diary. Your recorder will be sent in the post, and will be followed by an interview in the next week or so.

Contact details:

Please feel free to contact Louise at any point during the project to ask questions or add anything you'd forgotten about your data!

Email: MaddenL@cardiff.ac.uk

Supervisors:

Valerie Walkerdine WalkerdineV@cardiff.ac.uk

Matthew Williams WilliamsM7@cardiff.ac.uk

Appendix C – Consent form

Women in Relation to the Internet Project

Consent Form

Before you look at this form, make sure you understand what the project is all about, and what you're being asked to do.

This consent form documents that I have had the following issues explained and had an

opportunity to ask questions, and I'm happy that I understand what is involved.

Signing

here doesn't mean that I can't change my mind later on.

- ✓
 - ✓ I understand that I can leave the study at any time, or not take part in any particular
 - ✓ section, or not answer particular questions. Also that I can ask for any data that has
 - ✓ been collected to be returned to me and destroyed from the archives.
- ✓ I understand that all the data I provide will be fully anonymised. This means that
 - ✓ not only personal names and usernames will be removed or altered (I can choose the
 - 1 replacement names if desired), but any other information that might identify me,
 - ✓ such as names of websites, neighbourhood, profession, etc.
- ✓ I understand and consent to the following material being recorded:
 - ✓
 - ✓ Interviews being voice recorded
 - ✓
 - ✓ Online interviews being saved
 - ✓
 - ✓ Photographs being taken around where I use the internet
 - ✓
 - ✓ Webpages that I detail being archived later
- ✓ I understand that all or part of the data I provide will be stored, analysed in detail,
 - ✓ and may form part of publications in the future - all anonymised as laid out above.
- ✓

- ☐ I would like to be kept informed of the findings of the project
- ☐ I would be willing to be contacted in the next 12 months about an additional interview

Signed _____ Dated _____

Appendix D – Audio diary instructions

Sent out with package, and available on website

Women on the Internet Project

Audio Diary Instructions

The aim of the diary is to get a good idea of how you use the internet day-to-day. The most important thing is to give an idea of how much time you spend, at what times of the day, and what kind of activities you are doing. So take some time to think about the best way to record what's special about how you use the internet.

It's a good idea to make recordings at the time, so that you don't forget what you've done. Ideally whenever you log onto the internet, make a recording as you begin or as you finish. If you use the internet for long periods each day, or jump in and out all day too many times to make a recording each time, try making one every few hours to recap how you've been using it, or whenever you change activity or finish a substantial task. Alternatively, if this is too inconvenient, you could make a longer recording at the end of the day summing up all that you've done in the day.

In each message:

In order to get a picture of what you're doing, there are a few things I'd like you to make sure you record in every message:

- Time of day
- How using it at this time fits into your day (e.g. checking email before work, jumping on the machine while a partner or child is out or you have a break, or relaxing in the evening)
- Where you are (e.g. home - living room, work, library), and if applicable what machine you're using (e.g. laptop, TV, a shared computer)
- What websites are being used
- What tasks you're doing (e.g. xmas shopping, checking email, playing)
- Some idea of duration
- Mood while you're using it, and any emotions that come out of what you're doing.

Please describe these things in enough detail so that someone who has no knowledge of your internet habits could understand them. For example, if you use an unusual computer one day, please explain a little bit about where it is, how you have access to it and why it's being used.

If you forget to make some recordings, don't worry, just make a quick recording telling as much as you can remember about the time that you've missed, and carry on from there. Equally, if there's a gap in your use of the internet include an explanation of that in your next recording.

Don't worry if you seem to be recording the same thing many times, or talking about quite simple things - I'm interested in the very ordinary day-to-day things you do.

Extra description:

The diary can be as long or short as you have time and interest in it. Any extra information is really useful to me, but please don't feel under any pressure to include extra detail if you're in a rush or don't feel like it that day! The minimum message only needs to be a few seconds long. But if you are interested, or have time, please add extra detail. It's your diary, and the main idea is to record the story of how you personally use the internet, explaining the things about it that are important to you. If you need some inspiration, these questions might help you get started...

Time:

Why have you sat down to use it right this minute?

How does using it at this time fits into your day or life in general - for example being in a rush that day, or procrastinating from other activities, or knowing you won't get a chance later in the day, or squeezing in between other activities?

Does using the internet waste time or save you time later?

Are you likely to have interruptions or have difficulty finding the time to use it?

How does your daily usage vary at different times of the week or year, or have any life events changed how you use it?

Location:

Particularly if you use the internet in lots of different places, explain why you are in this place now.

How did you come to have access here?

What is this location like for using the internet, what's good and bad about logging on here? ? e.g. privacy? how comfortable a place to sit? other resources like telephone, pen & paper, storage, books nearby?

Are there other people around, or who share this space?

Machine:

What's this machine like? e.g. what kind of software, how good the machine is, whether you can do all your usual tasks on it?

How is it good or bad in comparison to other machines you could be using?

How did you come to have access or to own it in the first place?

Websites:

List all the websites you've used during this session

Describe more about what the website is like

How did you first start using this site, and why do you still use it?

What features of the site are you using - are there any you know about but don't bother with ?

If you use several websites in a session, how do you move from one to the other? What kind of links do you follow? And what connections are important to you?

Tasks:

What kinds of tasks are you doing, and how do they fit into the rest of life e.g. shopping online to avoid having to go round the shops, emailing to follow up a phonecall?

What were you doing just before you logged on, and what will you do just after? Are they linked to what you do online?

Problems or extra difficulties with the technology?

Feelings:

How do you feel when you first turn on the computer? Load up your email? Launch other websites?

What kind of feelings are brought up through the activities you're doing?

How does internet use link up with other emotional activities? such as work, relationships, family, etc?

How does emotion impact on your use? e.g. avoiding, or spending more time than you intend to doing certain activities?

People:

What people impact how you use computers and the internet - people you help or who help you, or who influence you?

Are any relationships being moved on through the internet - e.g. keeping in touch through email, or searching for things to print out for a friend?

Appendix E – Instructions for using the recorder

Included inside the jacket of the recorder when sent out for audio diary

To record:

- Switch off the HOLD slider on the side of the machine
- Press REC button on the side
- To stop recording press STOP
- To switch off the machine, turn on the HOLD slider.
- You can record with the microphone plugged in, or just using the recorder.
- It doesn't matter which folder the machine makes the recordings into.
- If you make a mistake, don't bother to delete recordings, just leave them on the recorder and I can delete them easily on the computer.

Appendix F – Reminder sheet for audio diary

Included inside the jacket of the recorder when sent out for audio diary

In each message:

- Time of day
- How using it at this time fits into your day
- Where you are, and if applicable what machine you're using
- What websites are being used
- What tasks you're doing
- Some idea of duration
- Mood while you're using it, and any emotions that come out of what you're doing.

Appendix G – Interview Schedule: Template

Interview Schedule - Template

Intro:

This session really about getting you talking, and hearing all the fiddly/silly details - It's my job to keep it to topics I'm interested in, so don't be concerned
Confidentiality Photos... look around the space before

Audio-diary

How did it feel to do?

- Any things you were unsure about including that either did or didn't get in
- Emotion generally - mostly quite calm, but a few stressful moments

How does usage during the audio-diary compare with 'usual', what's the wider context?

Online

Online spaces used: Are there other common ones that haven't been mentioned

- tasks
- other people
- presentation of self (gender)
- privacy and anonymity

General online practices

The wider story of some of the sites/activities - How did you start using them, what's good about it

History with the internet - how did you get to current expertise and usage-style?

- education
- work
- projects

Material

What machines you use - main computer,

- buying it
- maintaining it and problems
- extra bits e.g. printer
- Location in the home
- Other people

What would be good stuff to photograph?

Appendix H – Interview Schedule tailored for Helen

Interview Schedule (personalised to Helen):

Intro:

This session really about getting you talking, and hearing all the fiddly/silly details - It's my job to keep it to topics I'm interested in, so don't be concerned

Confidentiality - mention Cecilia

Photos... look around the space before

Audio-diary

How did it feel to do?

- Any things you were unsure about including that either did or didn't get in

How does usage during the audio-diary compare with 'usual', what's the wider context?

- e.g. Xmas shopping, Festivals and tickets
- How does use tend to be patterned - Lunch breaks, morning checking, etc.

History with the internet - how did you get to current expertise and usage-style?

- education
- work - how does work use compare with home use
- projects

Online

Online spaces used: Are there other common ones that haven't been mentioned e.g. email

- The wider story of some of the sites - Facebook - Dating - Shopping sites - EBay
 - How did you start using them, what's good about it
 - Doing lots of chores and jobs (e.g. shopping for boots, looking up holidays, furniture shopping, travel) How do you organise
- Lots of 'only took ten minutes' are you really that organised?
- other people, friends/colleagues - presentation of self (Dating and FB) - privacy and anonymity

Material

What machines you use - main computer - buying it/ acquiring it

- maintaining it and problems

- extra bits e.g. printer, network, other computers in the

house

- Location in the home
- Work use, locations and so on there

What would be good stuff to photograph?

Dating websites

Facebook

Emails – more than one address

Work use

Associations with food, breakfast, times of day.

A few particular things used – Next site being frustrating.

Lots of bits of shopping, particularly for tickets.

Lots of chores and bits e.g. Diff kinds of shopping – how does she keep track (e/g/ buying boots, kitchen bits towel rail, boots, ordering flowers, Glastonbury, other tickets

Lots of 'about 10 minutes' is she really so organised / controlled?

Lots of things related to colleagues – their advice, activities with them. More about this

- also quite a bit w friends in terms of answering emails, keeping in touch.

Started using EBay – any developments?