INTRODUCING INFORMATION AND COMMUNICATION TECHNOLOGIES INTO MARGINALISED NEIGHBOURHOODS

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AN EXPLORATION OF THE DIGITAL DIVIDE

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Introducing Information and Communication Technologies into Marginalised Neighbourhoods - an exploration of the Digital Divide

ABSTRACT

This research explores the development of discourses of information society and the claims which have been made as to the transformative capacities of information and communication technologies (ICT) in particular. It explores the experiences of groups affiliated to two women's centres in the city of Salford, England. These centres, and associated groups, are situated within two economically disadvantaged areas which could be said to be peopled with "the information poor". The research argues that the enthusiasm with which technology has often been placed before such communities has been inspired by debates which have largely taken place at a high level of abstraction and generalisation and have not been grounded and connected to the needs of the residents of "real world", physically based localities. The importance of locality, of "situated knowledge", of networks built around trust and shared experience it suggests, have been largely disregarded and the global, the expert and disembodied community unconstrained by the limits imposed by place have been perceived as the most significant relationships in contemporary western societies. This has distorted perceptions of more traditional and locally-based, face-to-face interaction which has been considered limiting, insular and in many ways as looking backward rather than forward. From these perceptions have arisen a terminology which places responsibility for success or failure on the individual and the community (the digital underclass) and which suggests that a need for experts and professionals to enlighten and educate certain groups (the information poor) in order that they can be enabled and empowered in the new digital age. The research argues that this discourse, and the assumptions which lie behind it, have infused policy agendas around widening access to technology and informed many models which aim to introduce these technologies into such communities. The research concludes that there has been a disproportionate interest in technology and its powers to transform and a concomitant disregard of the human potential and abilities which enable technology to work and the personal and social relationships which will facilitate its use.

Introduction

In his most recent work *The Internet Galaxy,* Castells explores a number of debates which have developed around the significance of "virtual communities" (2001:116-136). He cites the work of Barry Wellman (1979) and Claude Fischer (1982) whose research, he maintains, has long demonstrated that "...people do not build their meaning in local societies....because they select their relationships on the basis of their affinities" (Castells 2001:126). This supposition has informed much of the debate around community and cyberspace. It has been used to underscore a perspective which sees the internet as continuing to develop an increasingly important role in the formation of social relationships and to contribute to a major transformation in the ways in which society communicates and will be shaped as a consequence. Indeed, according to Castells' perspective, major social changes have already taken place so that "...the major transformation of sociability in complex societies took place with the substitution of networks for spatial communities as major forms of sociability" (2001:127). Castells forms his position from the basis that "place-based sociability" and "territorially defined community...has not disappeared in the world at large, but it certainly plays a minor role in structuring social relationships for the majority of the population in developed societies" (2001:126). With this move from place-based communities to networks based on interest and choice, has arisen a new form of sociability which he terms "networked individualism" (2001:130), Castells argues that the Internet stands out as the uniquely appropriate means by which individuals can maintain these, now dominant, forms of social relationships. From this perspective, rates of electronic communication will continue to expand so that this means of communication will become increasingly significant in Western societies and global networks of individuals offering intellectual and emotional support will predominate over local, space-based communities which have traditionally played this role.

The research reported, here, however, casts some doubt on Castell's claims. It takes as its subject two economically marginalised neighbourhoods in the city of Salford,

England and explores the relationship of key community members to the internet, electronic communication and information technology in general. The research does not take interest and engagement with these technologies for granted and focus the technology alone. It begins by examining the dominant relationships of sociability and networking found within these neighbourhoods. The thesis argues that these are based on a shared locality which provides a common knowledge base and allows relationships of trust and support to develop and to be maintained between local actors. While there is indeed an active interest in utilising new technology among the community members who participated in the research, this thesis argues that a complex and often contradictory relationship to these technologies is developing. The technologies may be utilised and appreciated where they serve to extend and maintain pre-existing significant relationships, but can be perceived as superfluous at best, and at times inappropriate, to the building of novel and extended social relationships. In these neighbourhoods at least, it appears that new technologies will remain marginal to the maintenance of key networks of support and that locally-bounded contacts and relationships will continue to play the dominant part in the building of social relationships.

Background to the research

My interest in this research area first began in the summer of 1995. Two years into a research project which was exploring fear of crime and the management of fear in two high-crime neighbourhoods in inner-city Salford, I was asked to contribute to a debate concerning the ways in which the newly developing "information superhighway" might be used to help regenerate one of the areas in which I was working. I contributed a piece which explored community relations in the ward and argued for the need to break down barriers which had emerged between the elderly and young residents. I proposed a number of projects in which young people's interest in computers and technology might be harnessed to produce benefits to the whole community and suggested that young people engaged in these projects could help to train older residents in the computing skills which they might utilise to find

employment in a fast-changing economic environment. As far as I know, nothing came of these suggestions but I had obviously been asked to contribute in a growing area of interest. Subsequent bids to the government for regeneration funds for areas throughout the city all included an element for developing the information technology infrastructure of the area. The vocabulary of an information age had infiltrated local government policy accompanied by an acceptance that each neighbourhood struggling to gain economic and social advantage had to develop some relationship with this "new age", and that failure to do so would be to be left behind - doomed to continue in marginalisation and exclusion.

Looking back on my contribution to this debate I now realise that I had inadvertently become a technology-enthusiast. As a student in Manchester in the mid 1980s I had learned to use the statistical package SPSS on a cumbersome main-frame computer, the printout from which had to be collected from a separate building. My first research post, working for a large county council, did not have a personal computer attached to it, all data inputting and analysis had to be carried out in a room which was little more than a broom cupboard with a window at the end of a corridor. All other work had to be hand-written and sent to a typing pool, corrected and passed back and forth until it was perfect. I was not supplied with a computer at work until I began research in a university in 1989. This was a stand-alone personal computer with a 286 processor which I used for word-processing and data analysis. By 1993 I had gained sufficient expertise to link up my 386 to a research assistant's machine in another room so that we could use a common printer. Soon after that the building in which our department was located was "networked", supplied with all the cabling which was needed to link up across the campus and to other universities through Janet (The Joint Academic Network) which provided e-mail and links to many other academics, bulletin boards, databases and on-line library catalogues. In 1995 the department was updated to a Microsoft Windows based system allowing access to the vast array of resources hosted on the world wide web. I was struck by the speed with which computing technology was changing from being a tool of the professional and intellectual with access to mainframe and university networks, to becoming a more "democratic" and "open" medium which could be more easily used by someone with a minimum of computer training. The rapid increase in the processing power of

computers and the design of more accessible and easily used software applications which I witnessed was probably not untypical of many academics and other information workers and, perhaps unsurprisingly, the mid 1990s witnessed increasing speculation concerning the emerging potential of the "information superhighway".

The limitations of information and communication technologies

Proponents of the information society thesis have asserted that fundamental changes have taken place in the structure of economy and society as a result of technological advances, the increased importance of technical knowledge and the "commodification" of information. The move to an information society is generally presented as denoting economic and social "progress", offering highly valued, skilled employment prospects to its workforce and ushering in more egalitarian and democratic social structures. The information economy has been perceived as offering more advanced economic systems an alternative to sweatshop labour, a failing industrial base and a declining rate of return on investment. For this reason the move towards the information society has been heralded as a positive force for change and linked to advantageous outcomes for those societies which move along this trajectory. While there have been some voices which have spoken out against this characterisation, questioning the association of technological advance with almost entirely positive consequences, these have been largely ignored as more societies move towards the "information model". The development of information and communication technologies (ICT) and the convergence of computing with telecommunications has been similarly associated with the most advantageous of results. The democratising and egalitarian qualities of technological progress have been perceived as coming of age as a result of the "maturing" of this medium.

In 1996, when this research commenced, it was estimated that 30 million were using the Internet across the globe, although as Fisher et al then suggested, it was generally acknowledged that at that stage of its development it was important to note that "ordinary users of the Internet represent a generally well-educated and affluent

technological elite" (1996:24). Nevertheless, at that time much was written of the potential of the medium to deliver a number of services which would be of benefit to residents of disadvantaged communities. I became interested in exploring these claims in a city which I knew well - Salford in Greater Manchester. This city has been designated 23rd out of the 44 most deprived local authority districts in England.[1] It is a city which, while it encompasses a range of socio-economic problems, is certainly not the *most* deprived city in the United Kingdom but which could be said to be typical of many cities struggling with the effects of de-industrialisation and increasing poverty.[2]

A literature has grown up since the mid 1990s detailing community-based ICT projects considered to be successful in social and economic regeneration. These projects are put forward as models of good practice which can, and should, be emulated elsewhere. Computing and telecommunications technologies can be applied to a wide variety of processes but their main applications are in three areas; increasing efficiency, in the collection and manipulation of information and for communication. The deployment of information technology for community benefit, has concentrated on the last two elements; information and communication. The first element, that of improving efficiency being easily linked to productivity and thereby to profit, has been embraced in the field of enterprise and employment. Computers have altered business practices, the production process and the financial and administrative management of both private and public enterprises for some years now. This element has arguably had the greatest impact on people's lives so far. Computers were introduced into the world of work long before they became an item for domestic consumption and many people have been introduced to computers through word-processing, computer ordering of goods and services, computerised tilling and record-keeping or the introduction of computers into manufacturing to improve both quality and quantity of production. It is in the world of work too, that the social disadvantages of the

[1] See the Social Exclusion Unit (1998) report "*Bringing Britain Together*" for a information detailing the 44 most deprived local authority areas in England

[2] This aspect of the city of Salford has been popularly represented for over a century from Robert Robert's "Classic Slum" to the television soap "Coronation Street" which show a predominantly white, working class resident population characterised by poverty and poor work prospects

introduction of computers has been most sharply felt with the loss of jobs and the de-skilling which the introduction of IT can bring to an organisation.

The increasing use of computing technology in many aspects of work has in turn led to a demand for computers to be introduced and utilised in education and training. Employability in the information age has been linked to knowledge and experience of new technologies. Those individuals or workforces which do not possess such skills have been considered superfluous to the labour market or left behind in the modern, global economy. Indeed, modern communication possibilities have meant that any national economy can be easily bypassed and production and servicing of companies more cheaply relocated. As demonstrated in later chapters government policies increasingly highlight the importance of education and training in the use of ICT with calls for a computer on every school desk and access to the latest technology in every neighbourhood.[3]

The introduction of computers into the domestic market has made slower progress. It is only recently that computers have become affordable to many, allowing them to become items of mass consumption and that developments in computer chip technology have made computers small enough to find their way into domestic appliances, cars and other equipment which is more commonly owned. The digital revolution in the home is largely taking place silently and in most cases without people even being aware of its existence or its impact. The digitisation of communication exchanges and sound and image reproduction in television and home stereo and the introduction of the silicon chip into home appliances has been at the instigation of the producer, rather than the consumer and has often been provided at a level which gives the consumer more of the same experience, rather than something radically different and exciting. However, there has been more "noise" surrounding the introduction of aspects of ICT into the home. Since its initial inception the number of people who are aware of, using and discussing the internet, email and the world wide web has risen dramatically. Actual usage has grown exponentially. The last two to three years of the 1990s in particular saw use of the medium develop into a mass

[3] See the strategy of the e-envoy (2000) at http://www.e-envoy.gov.uk

market encompassing both small and large businesses, community groups and vast numbers of individuals with use ranging from the advertising of products and services, through to personal communications across cities and continents and to the more regulated newsgroups and chatrooms which allow individuals to add to pools of knowledge, swapping information and personal experiences on prescribed topics.

This growing interest in uses of ICT, however, can lead to a tendency to "hype up" the potential of this new technology without grounding this discussion in the many realities of day-to-day living. The fascinating possibilities which new technology opens up for its users are often mused upon and discussed with barely a reference to the social context in which they are to be situated. All manner of claims have been made as to the potential of computer mediated communication to transform and improve social relationships. ICT has been flagged as an inherently democratic medium, providing a network in which individuals and small groups, rather than multi-nationals and nation-states, control the flow of information, the availability of information and the uses to which that information is put. People can now, it is said, use computers to expand their social networks, to create "communities" where none existed previously, to strengthen pre-existing communities and to find superior ways of communicating across the globe without barriers of space, culture and gender intervening. Along with this expansion of possibilities, however, has emerged a concern for those who are "disconnected" from the technology and who are thereby seen to be losing out and left behind, no longer only materially, but also "digitally deprived" and "information poor".

At present access to technology is decidedly unequal, due to financial, educational and informational constraints among others. This inequality of access has meant that many people living in economically marginalised communities may be unaware of the possibilities which this medium offers. As technology has been perceived as the saviour of national economies, however, so information and communication technologies have been heralded as the solution to the economically deprived areas of our cities. If these neighbourhoods could only learn to harness the power of this technology, it has been suggested, they could be transformed into areas where technology was creatively applied to strengthen community ties and train a skilled

workforce for the modern job market. As later chapters show, these arguments have been incorporated into regeneration strategies across the country.

A changing research agenda

The research for this doctoral thesis set out to explore some of the claims as to the transformative powers of ICT in areas where access to these technologies is scarce and perhaps not seen as a priority for many individuals and community groups. It was funded at a time when the city of Salford was inventing itself as "a wired city" in which the laying of a broad-band cable network undeneath its streets would revolutionise communications, service delivery and business opportunities in every neighbourhood. This research was designed to test these claims in two areas which would have been designated as "information poor".

The research subjects were all women. Numerous community groups were invited to participate in the research but it was organisations managed by and for women which came forward as interested subjects. While not an original intention of the research, this did lend the study an added dimension. Women have generally been considered to have been marginalised from technology and as slower to utilise computer-mediated communication, such as the internet, although in the west at least they have been important and growing consumers of this medium in recent years. Nevertheless, women have been portrayed as little interested in computing technology and among the most digitally deprived of population groups. I was interested to chart the research subjects' familiarisation with and increasing confidence in utilising ICT for their own purposes.

Starting from the viewpoint of the technology-enthusiast, I expected that the research would comment on ways in which ICT had had an impact on the research areas, detailing changes in emphasis and range of contacts which had arisen as a result of exposure to the medium. I was prepared to watch the gradual inclusion of ICT into the lives of the community activists and to comment on ways in which ICT were utilised, to note key areas of application and to look for examples of women taking

control of the technology. I expected to measure their progress against the models of successful community-based ICT projects outlined in the literature. As a result of this doctoral research, however, I have developed a more circumspect perspective view of the potential of ICT to impact on disadvantaged and marginalised neighbourhoods. After two and a half years in the field and a longer period of reflection on the debates and discourses which surround this subject, I have come to realise that the incorporation of technology into people's lives occurs in much more of an untidy and contradictory manner.

At the beginning of the research none of the community groups involved had computers connected up to the internet, had sent an email, or had browsed the world wide web for information. It became apparent relatively early into the research that the diffusion of technology and ICT into the research sites was slow and beset by various barriers. Rather than a project which set out to assess the impact of ICT in the research areas, it became an exploration of the ways in which these community groups sought to engage with the idea of technology, how the different discourses of information society had permeated their world and how they sought to become "literate" in the information age.

During the course of the fieldwork some individuals and groups did move towards use of ICT, some making considerable headway, however it was clear that exposure to this technology remained decidedly unequal. It also became clear that this was not necessarily perceived as a problem by the community groups themselves, who were actually engaged in the building of community at a local and spatially-bounded level. The idea of community which motivated many of the people involved in these groups was firmly place-based and communities of attachment and interest in which they were involved were also largely associated with locality, neighbourhood and face-to-face interaction. The consequences of "digital deprivation" for the community networking of these groups then, was less than might have been expected from a reading of the literature. The research also began to question the idea of "information poverty". In the context of these neighbourhoods, the community groups which participated in the research could be said, on the contrary, to be "information-rich" . The information which was valued and trusted was locally-nuanced, lay

understandings which were tapped in order to transfer knowledge and experience to people in similar circumstances. These communities were rich, therefore, in what I have termed "situated knowledge". Some of this knowledge and experience could transfer to other neighbourhoods, but much was specific to the day to day reality of living in their areas or was valued because the knowledge-giver was a trusted individual encountered in familiar surroundings who was perceived to share similar experiences and values to the receiver of that knowledge. Indeed, much of merit in these connections may not be transferable to an impersonal, and currently unfamiliar, medium such as a computer screen. The thesis also focuses on the reality of barriers to use of technology, but also on ways in which certain individuals began to act as "community champions" and to inspire further use of ICT in their organisations. It contrasts this to the lack of interest generated by "expert champions" of the technology, suggesting that this provides evidence that community-driven, rather than technology-driven, initiatives are likely to inform and encourage interest in the exploration of ICT.

The outline of the thesis

This work is separated into seven principal chapters and a conclusion which take the reader through the various stages of this research. The first chapter traces the differing discourses, understandings and explanations which have been put forward to define the term "information society". Drawing on the work of the post-industrial theorists such as Bell, Drucker, Gorz and Machlup, this section shows that since the term was first coined it has been applied to a number of different processes and structures, some of which refer to advances in technology, others to uses of information and knowledge. This first chapter outlines many of the social transformations which have been said to have occurred as a result of the move towards the information society and information economy. It also explores claims made by writers such as Kelly and Negroponte, as to the revolutionary aspects of information technology and the "technology boosterism" which has become apparent as a consequence. The chapter then explores contrary positions which suggest that

the processes described by information theorists do not represent a revolutionary shift and new technological paradigm but rather demonstrate movement along an existing trajectory of development. The chapter then goes on to question whether technology, and an increase in information, have indeed impacted on society in the ways claimed.

The second chapter examines a range of perspectives on the social impact of information and communication technologies. It critically considers arguments which suggest that ICT have delivered immense benefits to society - connecting disparate individuals and communities, democratising relationships, offering truly egalitarian and social electronic "spaces" and empowering individuals in their domestic, community and work spaces. The "network culture" said to have arisen as a result of global use of ICT, is also briefly explored and arguments as to whether this is allowing less hierarchical and more democratic social structures to emerge. The rise of the "ICT enthusiast" is also examined and the impact this perspective has had on social policy and economic regeneration. Contrary arguments are considered, suggesting that ICT have proved disadvantageous and damaging to personal and community relationships, reinforcing existing inequalities between the have and have-nots, the information-rich and the information-poor, adding an extra dimension to the condition of the powerless in society who are now "digitally divided" from the rest of humanity. The context of the debates around gender and technology is also briefly explored and contrary positions as to whether women are included or excluded by technological advances are introduced.

Chapter Three explains in more detail the rationale for the research and the research methods chosen. It argues that the research methodology adopted - a long-term, observational and largely qualitative study - allowed the complexity of the response to ICT and information society discourses to emerge. It looks at the context in which the research was conducted and describes the research areas and participating groups in some detail. Crucially for this study, it examines meanings of community and the turn to community as a site of social change which lies behind the policy shift to engage communities in economic and social regeneration. The research methodology was designed to find ways to access local knowledge, to build a relationship of trust between researcher and researched and to examine technology in its social context.

This approach to the research is contrasted with the approach of policy makers engaged in attempting to harness the potential of ICT in Britain and more widely, outlined in Chapter Four. This subsequent chapter argues that policies have been largely shaped by the perspective of the "ICT-enthusiast". It outlines four models which have been developed to promote community empowerment through ICT - the digital city, the virtual community, the community computing facility and the information point and demonstrates how each have been influenced by a top-down approach which has not fully engaged with the needs of different communities. Problems with these models, however, have been perceived as a failure of the communities to engage with the technologies rather than as a failure of the model or its implementation.

The following three chapters present and analyse the research data. Chapter Five opens with an explanation of the concept of the "digital underclass". This notion has been used to explain low take-up of digital technology and ICT in economically and socially marginalised areas, suggesting that their residents display a lack of interest in technological innovation. However using questionnaire returns and interviews with women from the participating groups this chapter suggests that women in the researched communities have embraced ideas surrounding the advantages of using technology and of becoming part of the information society. It uncovers an interest and enthusiasm for ICT in the research areas and an informed engagement with the ideas and rhetoric of the information society which belies this conventional characterisation.

The next chapter looks in more detail at the information and communication needs of the research participants. Using material gleaned from focus groups and observation it introduces the idea of "situated knowledge" and argues that this locally-nuanced and experiential form of knowing is valued and trusted above "expert systems". It suggests that failure to engage with ICT, rather than resulting from an uninformed and dismissive attitude to technology, might instead arise from an informed decision as to the marginal value of its use. In this chapter the idea of information poverty is challenged, arguing that this characterisation derives from a lack of understanding as to what these areas might want from technology and as to the types of information

and communication which are locally valued. Chapter Seven then turns to a discussion of the barriers which block access to full use of ICT. It explores the extent to which a number of groups found a use for ICT and how some individuals began to champion their use. The experiences of these "community champions" are contrasted with those of the professionals charged with generating interest in ICT in these areas. This section concludes by suggesting that community-driven, rather than technology-driven projects are more likely to prove "successful". This finding again underlines the importance of trust in motivating meaningful relationships within these communities.

Throughout the work I try to show how debates around the information society have rarely been grounded in the realities of their use. Diametrically opposing claims have been made for these technologies and the actual problems and possibilities which they offer probably lie somewhere in the middle. This research starts from the grounded experiences of the researched communities, rejecting the approach of technological determinism. It looks at the needs and aspirations of community groups and then considers how technology might best be exploited to their advantage. It does not, like so many other evaluations of the medium, start with what the technology can do and, taking its benefits for granted, then try to fit the experiences of communities into an existing model for widening access.

The research concludes by arguing that discussions as to the potential of ICT should be more locally nuanced, sensitive to context and culture and appreciative of the interests, values and needs of their users. There were numerous reasons why the subjects of the research were eager to learn more about new technologies and were interested in harnessing their potential to help in their community work and in their private, domestic lives. Yet in many ways the work in which they were engaged and the social relationships which they found most meaningful, had a strongly local focus and may not be strengthened by access to technology and a world-wide web of information.

Against the flow...

As discourse around information society and the impact of new technologies has developed the global nature of information flows, community and networks which they make possible have been rightly celebrated. However, these novel and developing global possibilities have too often been privileged above the traditional and locally-based relationships which are a lived reality for many. There has been a marked tendency to downgrade pre-existing community relationships based on face-to-face, neighbourhood-based interaction. Those who persist in tying themselves into these relationships can thereby be characterised as insular, as limiting their opportunities and as nostalgic rather than forward thinking. Policies are put in place to encourage take-up of new technologies for the best of reasons, in the name of education, empowerment and opening up of neighbourhoods to new experiences. These injunctions have certainly been heeded and this research found that the fear of being left behind and excluded from the "information age" motivated a high level of interest in ICT. However the perspective of the technology enthusiast has obscured the significance of social relationships based in locality and neighbourhood and privileges the global over the local. It does not consider that some community groups may not have much use for the latest communication technologies. Absence of these technologies is couched in terms of "lack" - of access, of interest or of finance - and policies and community-based ICT projects set out to address these absences. Hence the negative spin associated with talk of "information poverty" and the "digital underclass".

In this context, not to embrace ICT is likely to be considered as a failure - of individuals and communities - to engage with the necessary consequences of post-industrial, information society. It is not attributed to an informed rejection of ICT, or to priorities within a community group which privilege relationships built on face-to-face interactions built around trust and shared experiences. This perception of failure to engage, however, is not only held by outside agencies but can also be internalised and accepted by the community groups themselves who can believe that their lack of interest stems from an inability to understand what ICT can offer, rather than

affirming the significance of their pre-existing organisational and communicational methods.

It is important then, not to over-emphasise the possible impact of technology on neighbourhoods or to overstate its power to change lives and afford extended opportunities to all. This thesis concludes by arguing that technology does not have the power to change anything on its own. It is essential to give as much, if not more, thought to the social contexts in which technology may or may not be applied, to understand the dynamics of communities introduced to new technologies and to understand the motivations behind community activity and the social spaces in which this takes place.

Chapter One Towards the Information Society

Information society - the dawning of a new era?

The concept of the "information society" was gradually developed over the last decades of the twentieth century and by the late 1970s and early 1980s the term had gained much currency in popular and academic discourse. It is usually applied by those who, in some sense, adhere to the view that advanced industrial society has embarked upon, or is somehow entering, a distinct and novel phase which has come about as a result of the widespread application of computer and digital technologies across different sectors of its economy and cultural outputs. Certainly, over the last thirty years in particular, many applications of digital and computing technology have successfully infiltrated the everyday worlds of many of those living in the advanced economies and have altered their way of life in various ways. Computing technologies, it is argued, have greatly extended the amount of "intelligence" available to humanity; encased within the silicon chip lies the potential to store vast amounts of data as well as extensive processing power which can be harnessed to make complicated and burdensome tasks easier and faster to accomplish, greatly expanding human potential and removing the need for human drudgery. These technologies, it is argued, have not only shaped the material worlds into which they have been adopted but have, in some profound ways, helped to transform the social structure of the worlds of which they are a part; widening the physical and mental horizons of their users and making fundamentally different ways of living possible.

Nevertheless, despite the widespread use of the term "information society" the term often defies precise definition (Malkia 1998). Indeed Webster has argued that it is "far too unexact to be acceptable as a definitive term" yet he, and many others besides, continue to employ the term as "a useful heuristic device" (1995:24) when making reference to a wide range of transformations which have taken place within different sectors of contemporary life during the post-war period. Despite the

imprecise nature of the term it has been adopted by policy-makers, practitioners and the popular media to discuss a variety of key developments in economy and society. The ideas associated with the emergence of an "information society" have been given significance in diverse fields of study and have also been instrumental in informing common understandings of many social and economic changes which have been key to the debates which have informed this study.

This notion of the "information society" is one among a number of discourses which characterise "late modernity". It has evolved since its initial inception; just as different aspects of contemporary life have altered, so too have definitions of the "information society" been modified to embrace these changes. The term has also become closely linked to a number of different theoretical developments. The concept of "information society" is therefore both complex and changing and it is important to consider how the term has been constructed and the ways in which it continues to be utilised and understood.

Information society and technology

For some writers, technology itself and the advances which have been made in the development and application of new technologies over the last few decades of the twentieth century in particular, have transformed the very fabric of society. This view is essentially a determinist perspective and views technology as "impacting" upon society, as having an "effect" upon social structures. This perspective gives technology a highly specific and influential role in driving forward social change. Exactly which technologies impact, and in what ways, is however, more of an open question. There is some debate, for example, as to when the notion of the "information society" first emerged. For Lyons it was the bringing together of computing with telecommunications, which gained pace during the 1980s which is generally believed to herald "the start of a new age" (1988:1), however other writers go back further in their attempts to identify a point of change (Bell 1974, Machlup 1962).

The emerging information society recognised by the writers of the late 1960s and early 1970s, was initially conceptualised around the general theme of scientific advance. Bell outlined the increased rate of scientific discovery and technological development which had transformed ways of thinking and living in the first half of the twentieth century and forecast that this rapid rate of change would continue along its exponential growth curve so that "...no longer would any child be able to live in the same kind of world - sociologically and intellectually - as his (sic) parents and grandparents had inhabited." (1974:170). This, he argued, could not have been said of any previous era and therefore had to be considered a challenge for humanity which could no longer rely on past experience and tradition to inform future ways of living. This rapid pace of technological advance, he believed, meant that those individuals living in the twentieth century, more than at any other time in human history, were faced with a series of profound changes to their material world, forced to adapt many times to new technological developments which profoundly affected their lives and to form new social structures which were based on novel ways of living. In these technological developments lay the foundation for the emergence of a different form of society, which he dubbed an "information" or "knowledge" society.[4]

The important place which computing technologies might play in the shaping of social structures in economically and industrially advanced societies became a topic of general interest from the early 1970s. Traber (1986:3) identifies Smith's (1971) *The Wired Nation* as one of the first influential pieces which attempted to predict how the future "wired society" might be constituted. Similar futurological endeavours have since graced the pages of a great deal of popular media, both fiction and science-based, and the subject has also been taken up in certain areas of academic discourse. During this decade, advances in computing technologies were proceeding apace and the developing mass market in computers and related technologies was seen as further evidence of the emergence of new ways of structuring individual and social behaviour as technologies were brought into the domestic setting and extended their reach into the more private spaces of our lives. While the preceding decades had seen many

[4] Malkia suggests that Bell used the terms "post-industrial society" and "information" or "knowledge society" interchangeably from 1979 onwards (1998:6)

spectacular applications of computing technologies, such as occurred in the exploration of space, they now came to be employed in the production of more mundane,[5] but more widely used, applications, many of which involved labour-saving technologies within work and home environments.[6] These new technologies not only saved much physical labour but also delivered immense calculative power to all users and were said to hold out the promise of "extending the capacity of human minds" (Lyons 1988:42). The innovative business and educational tools which were developed from digital technologies came to signify an engagement with novel and innovative ways of living and working and when produced for mass markets proved popular consumer goods as they became increasingly affordable. The miniaturisation, and increasing portability, of all these tools meant they could also be used to symbolise engagement with modern technology, outside of the confines of the domestic sphere or office arena.

Certainly the pace of progress in computing technologies has been astonishing over recent years. In the late 1980s, Forester marvelled at the headway which had *already* been made even though "Computers have been commercially available only about half the average lifetime; the microprocessor chip was invented only in 1971, and mass produced personal computers appeared on the scene only in 1977." (1987:4). Some of the most spectacular advances in computing technology, however, were seen in the last decade of the twentieth century. It is in this decade that computer power expanded at a prodigious rate, the speed and capacity of machines multiplying at the same time as their cost fell. Within industry the advent of virtual reality technology and the digitalisation of sound and images meant that computers had become much more than tools for word-processing and data storage and manipulation and were increasingly used for design, artwork, animation, film and sound editing.

The growth of internet services such as the world wide web and e-mail, together with vastly improved user interfaces and graphic and sound capabilities, meant that

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[5] Of course computer games technology also became more widely available in this decade, impacting on leisure experiences.

[6] For example, computer chips are now employed in many domestic appliances such as washing machines, fridges, the video recorder, telephones, they are found in many new cars and are also slotted into many credit and telephone cards

personal computers became more attractive to the consumer as an addition to the domestic household either for entertainment or educational purposes. Not only was there an increasing convergence of communication and computing technologies during the 1990s, but also the blurring of divisions between home and work with those technologies and skills previously reserved for the workplace increasingly used at home to programme video recorders, use mobile phones, play computer games and collect and collate useful pieces of information (Silverstone et al 1992). It is in the late eighties and nineties therefore that cultural themes have proved more important in discussions of the emerging information society as computers and digital technologies became more integral to everyday life. As Paschal has indicated:

> ...the exponential diffusion of various forms of computer technologies into our everyday worlds at work and home now means that computing is no longer about computers but 'about living' and the very essence of experience and life itself becomes all about 'being digital'... (2001:5)

Information society and the production of knowledge

The concept of the "information society", however, is not only used by those who comment upon various social changes which may have occurred as a consequence of the introduction of new technologies. The term "information society" is also used to represent a number of important social transformations which have not straightforwardly been driven by technological advance. It was not only the pace and scale of technological change which interested early theorists of the information society, but the ways in which new scientific understandings were applied to processes of production and consumption. From the 1960s onwards the argument that advanced economies were increasingly based on information, rather than commodity production, gained currency (Machlup 1962, Drucker 1969). This thesis was further developed by Daniel Bell (1974) who famously turned to a study of the rise of the service economy in the United States to argue that the western world was moving into a post-industrial age in which the majority of people would work with their brain rather than their muscle, resulting in a transformation from industrial economy to "information society" (Paschal 2001:23-31).

The information society, Bell argued, was also characterised by the sheer amount of available information which was said to be "...increasing at an exponential rate..." (1974:177). Post-industrial society, it was argued, contained within it more sources of information than ever before and which was of a qualitatively different nature to that which was available to any previous social system (Webster 1996). As a result, society became increasingly complex and information technology was seen as an essential tool with which to make sense out of a seemingly chaotic world. Computers, it was argued, help us all make full use of the abundant data which is increasingly available within a society in which, to use a phrase employed by Daniel Bell, "...all manner of activities are becoming 'information intensive'..." (Lyons 1988:50). Subsequently, within this essentially capitalist society, information came to be viewed as a resource which could be bought and sold (Bell 1974:250-262), resulting in a concomitant increase in the supply of information handling activities and producing information as another form of commodity. Information, and its continued production, thereby became a key sector of industry, contributing to "...a changeover from a goods-producing to an information or knowledge society..." (Bell 1974:487) signalling the move away from industrial society and leading to the development of an economy based on the production of information and services rather than material goods.

Bell argued that the increasingly important part which scientific analysis and technical knowledge was beginning to play within society meant that a new "axial principle" - the importance of theoretical knowledge - came to sustain the process and organisation of production (1974:14), replacing a reliance on capital alone, access to which had previously driven industrial societies forward. For these early theorists then, technical knowledge had become an increasingly important factor in maintaining high rates of productivity and in driving economic progress. Information might be abundant, but it needed to be understood, analysed, managed and transformed into increased knowledge. Thus the information society required a technical class to emerge which was trained to apply scientific knowledge to the process of invention and to production. The move away from industrial economy to one based on the production of information was therefore seen as resulting in the transformation of the

very class structure of western societies as this class of technicians and information producers gained economic and industrial strength. These theories later formed the basis of the "end of ideology" thesis which suggested a post-industrial world free of class ideologies and antagonisms (Gorz 1982, Fukuyama 1992)

Social transformations and the information society

The basis of the information society thesis lies in the realm of political economy and this work has largely introduced the theory from that perspective. However this study is more concerned with the claims which have been made as to the social transformations which have been said to have occurred as a result of technological developments generally and of computing technologies in particular. As the main tenets of the information society have been debated, so too have many of the claims which information society theorists have made as to the impact of technology, economic transformation and different patterns of global communication on a changing social structure. Some of the more significant debates are considered below in order to explore these claims in more detail and to question their validity, but also to demonstrate their relevance to continuing discussions surrounding the impact of new technology generally and therefore to this study.

Technology and social transformations

Technology, it is argued, has made different ways of living and communicating possible and it is further claimed that society has restructured as technological innovations have been incorporated into everyday patterns of life. This is a well explored argument. The idea that the application of technological discovery in various ways affects the structure, organisation and culture of those societies which embrace such changes is certainly longstanding and predates the emergence of theories of the information society and the particular technologies which have become

part of the field of computing.[7] The contribution of scientific progress to the development of Enlightenment philosophies, and societal changes subsequent to the reorganisation of production after the Industrial Revolution have been well documented within many academic disciplines and by sources too numerous to cite here. It is perhaps not surprising; therefore, that measurement of the social impact of technological advancement is generally still considered a relevant and important field of study.[8]

From the beginning of the twentieth century, however, with a quickened pace of technological development the discussion of the social impact of new technologies has become more widespread and far-ranging (Paschal 2001). A great many predictions based on science fact, but straying into the realm of science fiction, have been made as to the possible trajectory of development of information technologies. This perspective seeks to extrapolate from the pace of development across previous periods in order to predict what might become possible in the coming decades. Much of this discourse seems to have as its reference point (although not always in an overt sense) the recent dawning of the third millennium and some kind of related vision of the coming of a new technological age. Some of these claims are more fanciful than others and there is often little evidence to help the reader decide which claim is more likely to be realised.

The 1990s in particular have seen displayed a marked tendency towards technology "boosterism" and this can be seen in the work of writers such as Negroponte (1995) and Kelly (1994) Slouka has dubbed such writers "techno-evangelist" (1995:8) suggesting that they betray an over-zealous and crusading stance towards

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[7] See for example, Bijker (1995) on the social consequences of various bicycle designs at the end of the nineteenth century

[8] Indeed, the benefits and disadvantages of new technological discoveries have been debated for centuries. Whenever the wide scale use of tools and machinery has been adopted by societies, their advantages and drawbacks have been discussed. It can hardly be controversial to suggest that technological innovations are adopted precisely because they make certain essential tasks easier to perform. Furthermore, as society has become more complex and interconnected, inventions such as the calendar and the clock have played an important role in regulating human activity (Mumford 1934) and standardising units of time across the world. With the advent of industrialisation and the wide scale development of the railway system, the automobile, powered flight and telephony the movement of goods, people and ideas across the globe has been further expedited and made possible by technological advances.

technological possibilities while constructing future worlds for their readers which rely on their particular brand of technological forecasting. Negroponte, for example, in his often cited book, *Being Digital* predicted that:

> Early in the next millennium your right and left cuff links or earrings may communicate with each other by low-orbiting satellites and have more computer power than your present PC. Your telephone won't ring indiscriminately; it will receive, sort, and perhaps respond to your incoming calls like a well-trained English butler. Mass media will be redefined by systems for transmitting and receiving personalised information and entertainment. Schools will change to become more like museums and playgrounds for children to assemble ideas and socialise with other children all over the world. The digital planet will look and feel like the head of a pin. (1995:7)

Negroponte is particularly fascinated by the possible impact of digital technology and the transformation of sound, images, words and ideas into bits of computer code that can be electronically transmitted around the world in seconds.[9] In the very near future, he argues, most global trade will consist of the inexpensive and instantaneous exchanging of bits of information rather than the expensive and slow-moving transportation of bulky goods (1995:4). Kelly goes further in his conception of his future society, declaring that the world is very near to the technological breakthroughs that will allow machines and humanity to be so closely inter-linked that divisions separating the two will be rapidly broken down. Already, he argues, the human-made machine is becoming more lifelike and nature more engineered and that these changes will continue to develop. Kelly's work in particular betrays a lack of consideration of complex social, economic and cultural processes which work in tandem to effect change in society, instead positing a totally technology-driven transformative process. The work of both Kelly and Negroponte, however, has gained common currency and has been incorporated into much popular culture. The technological determinism which they display has, as a result, also become part of mainstream discourse surrounding computer technologies. Technological forecasting often betrays an obvious vested interest in talking up the technologies themselves and their prospective markets. Much speculation, for example, emanates from the

[9] Negroponte is a key proponent of the information society thesis and is persuaded that the significance of global trade in goods is becoming secondary to the trade in information, he writes that "World trade has traditionally consisted of exchanging atoms. This is changing rapidly." (1995:4).

corporations involved in selling a message to the potential consumer.[10] A great deal of this marketing rhetoric appears to have been absorbed into popular understanding of technology and its future impact on our lives. As will be discussed in later chapters, technological artefacts were viewed as a key component of contemporary leisure and employment opportunities. The subjects of this research were concerned that they, and their families, did not miss out by remaining unfamiliar with technological developments. These attitudes contribute to what Paschal has termed the "hegemonic hype" (2001:32) surrounding this subject

The very real and the fascinating possibilities which these new technologies open up for users are often discussed, then, without any reference to the social context within which they might be applied. Aside from the speculative nature of much of this writing there is an assumption that because something is technically possible it will happen. Many politicians, in particular have caught this mood. In 1996, the then British government minister Michael Heseltine claimed that society was:

> ..about to go through a revolution which is immensely exciting, basically a technological revolution of the superhighways...people today have not fully grasped the effect it's going to have on their lives...People will have more leisure and will have more wealth...it's all very exciting, very positive. (Computer Weekly, 18.04.96)

This belief in the transformative possibilities of these technologies continued with the Labour government which followed,[11] however there is little attempt in these predictions, to relate future possibilities to the reality of social conditions under late capitalism. Hamelink (1986) refers to such perspectives as "computopian" suggesting that they equate technological change with progress in society as a whole and do not

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[10] The Guardian newspaper of 02.05.96, reported that the computer company Olivetti expected the next twenty years to see computers involved in all aspects of daily life, from controlling laser guided vacuum cleaners to replacing visits to the doctors by the use of teleconferences facilities and using sensors on the body to transmit vital information to the medical practitioner. Bill Gates (1995) in *The Road Ahead* predicted the development of the pocket computer which allows the owner to read and send e-mail, monitor weather and stock reports, play computer games, take notes at meetings, browse information on the Web, store digital images and so on and further suggested that it would develop to take the place of money, keys and passports. The *Microsoft/Intelliquest National Computing Survey* reported in 1997 that most Americans believed that by the year 2000 their cars would be fitted with computer controlled navigation systems and that by the year 2005 cash money would be obsolete and home appliances respond to spoken commands.

[11] See for example The Government's Policy for the Information Age at http://www.isi.gov.uk/isi/infosoc/govpolicy.htm

address any possible disadvantages which might accrue or any barriers to the wholesale adoption of technological innovation. My own research suggests that these perspectives are not based in any empirical reality and that they betray nothing more than a form of technological determinism which is dressed up to be the cutting edge of new thought and an engagement with technological change. The technology enthusiasts posit an absorption of technology into people's lives which is clear-cut and always advantageous while my own research showed it to be rather more of a "messy" and "untidy reality" (Graham 1996:312), which did not bestow immediate and wide-scale benefits to the research subjects - none gained paid employment as a result of their new-found interest and knowledge in ICT, for example. At worst this rhetoric could act as a smoke-screen, disguising lack of social, economic and employment opportunities in the research areas.

The information economy and social transformation

For the early theorists of the information society, the changing nature of work in post-industrial society was key to understanding the impact of technology. Their perspective noted how material and technological developments in the economic base and in the dominant mode of production significantly alter and constrain the ways in which people are able to lead their lives, communicate with others and access knowledge and information. The information economy, it is argued, creates a requirement for more knowledge intensive work practices which foreground the intellectual abilities of employees. This results in a new occupational distribution and the unprecedented growth of a professional and technical social class. Workers move into these new occupations through the acquisition of a different set of skills and the development of their intellectual resources, resulting in a better trained and educated workforce which gains requisite skills by staying on at school beyond the compulsory education age, or by opting for retraining later in the work career. Society's education and employment sectors are thereby transformed as a result but so is the intellectual capacity of the workforce and this, it is argued, has major implications for the way in which society is organised. It is further argued that these changes go deeper than the acquisition of new skills and begin to affect power relations inside and

outwith the workplace. Geoff Mulgan, in his time as a regular contributor to *Marxism Today*, explained:

> ....as economic life shifts from the domination by "Fordist" to more flexible "post-Fordist" structures, so the dominant form of social power shifts from the "strong" and centralised to the "weak" and decentralized. (Mulgan quoted in Sparks 1994:38).

This shift occurs, he argues, as a result of the adoption of new kinds of work practices which are a feature of the modern corporation. Firstly, self-esteem and peer groups are emphasised and secondly, management decentralises and therefore "weakens" in order to unleash creativity and novel thinking among its workforce. This move is deemed necessary in order to take advantage of all that the new technologies can offer. So for Mulgan, these changed work experiences affect relations outside the sphere of work as individuals who have become used to rising to challenges and confronting old power relations inside their workplace, use these newly developed skills in other arenas. As society becomes more diverse and decentralised the political arena changes too, so that:

> In societies more dependent on weak power structures....power becomes systemic in nature, less respectful of boundaries.... Change can no longer be conceived of as something that can be imposed by a government outside society, nor as something that can be achieved through imposing a structure, whether democratic or technocratic, onto society.... (Sparks 1994:38-9).

This position is echoed in the work of Gill (1985) who argues that the new technologies require intelligence and reflexivity to operate successfully, and that once developed these skills can be applied to all areas of life. Gill therefore agrees that information-driven work practices can be seen to have an important influence in the way that society operates. So, according to Sparks, Mulgan and Gill's position, leads to a conclusion, firmly embedded in post-industrial utopianism (Frankel 1987), that:

> The shift toward a productive capacity based upon new technological developments, particularly those associated with information technology, will lead to a progressive weakening of the power structures that have so obviously been characteristic of industrial capitalism both at work and in government. In their

> place will be flexibility, equality, empowerment of the powerless, and no end of other good things. (Sparks 1994:39)

According to information society theorists, then, "...contemporary fundamental technological innovations are related particularly to the development of a new economic sector" (Splichal 1994:8). This sector, it is said, has developed as a consequence of the 'informatization' of contemporary society (Splichal 1994:51) as productive forces in a particular nation or region move away from work based in the industrial economy to that based in the information economy. This particular perspective is based on the premise that the wealth on which modern capitalist economies rely has been, and continues to be, created by new technologies and the information industry. Continued economic prosperity and the social benefits which this brings are therefore attributed to the success of these industries. Toffler (1980) famously identified three waves of social development of which the information society was said to be the third, agriculture and industry being the first two stages. He uncritically allied movement along these stages of development with an idea of progress, suggesting, not only that advancement along this path was desirable but that it was also inevitable and should not be resisted (Toffler 1983). As the production process became more knowledge-driven, he suggested, production techniques would increasingly become tailored to more individual and specialised markets in which the needs of the ultimate consumer would be incorporated into the material goods produced (Touraine 1974, Miles and Gershuny 1986). The increasing application of computerisation to the production process, and the development of automated production techniques in particular, was not only seen as ushering in the end of the mass production techniques of industrial capitalism as it was then constituted, but also as signalling the end of the monotonous and backbreaking assembly-line work which had come to symbolise the Fordist era (Gorz 1982).

This perspective has not only concentrated on changes in the dominant process of production, however, but has also characterised the information society as differing from preceding social formations in that it is dominated by the information wealthy consumer (Smart 1999:21). The power of the mass (fordist) producer of former industrial periods, it is said, is in the process of being replaced by that of an ever more

knowledgeable and informed new consumer, driven by "the symbolic dimensions of consumption" (Webster 1995:153) to purchase chiefly those goods which can satisfy their increasingly individualised needs. From this perspective, then, the new information society empowers individuals as producers, workers and as consumers. These views have been further explored as a result of recent debates in post-modernism (Lyotard 1984, Lefebvre 1991). These theorists have investigated the construction of knowledge and pointed to the demise of the expert[12] in post-modern societies suggesting the growing importance of differing interpretations and of lay knowledge in post-industrial, information-rich societies. The new technical class "...who rejected the values of hierarchy, statism, and corporatism which marked the old working class" would re-emerge as "...one of several social movements, all sharing the values of radical democracy, decentralization , opposition to bureaucracy, and local control." (Lash 1990:29)

Metcalfe (1986) identifies the very beginnings of the construction of an information society in changes which occurred within the early industrial period. He argues that the division of labour in the production process which was such a key factor in industrialisation fundamentally altered our relationship to employment and required novel ways of thinking and organising work. As knowledge of the complete production process is taken away from one individual, he argues, the various stages of production must be managed and this requires the creation of a new managerial layer which can use information in distinctly different ways than previously, in order to organise and co-ordinate a series of tasks, rather than to carry out the tasks themselves. Under this manufacturing process Metcalfe points out "....the information problem is to see that each individual knows what to do, to marshal the appropriate inputs and to ensure that they are carried out in the right sequence in the most economical way." (1986:38). As knowledge of the whole production process is taken away from the expert in their craft, work becomes, for the majority of the workforce, a series of small, repetitive tasks for which little training is needed. Knowledge which was previously held by one individual is therefore broken up into bits of data which are passed on to numerous people, none of whom hold all the

[12] Although see Giddens (1991) on the importance of "expert systems"

information which is needed to see the process through from start to finish. Thus information on the process of production must somehow be managed and the relevant data held by each person must be stored, used, manipulated and disseminated in ways which were previously not necessary. A bureaucratic elite (the precursors of Bell's technocratic elite (1974:76-80) which has very different information needs, must be formed to manage this process. As society incorporates more technological advances, Metcalfe suggests, we move further away from the individual as a repository of knowledge towards a collective knowledge and memory.

The consequences of this process have been much debated and have been associated with an alienated workforce (Marx 1844), and a loss of intimate community and shared culture (Tönnies 1955). According to Bell (1974:129-164), however, the post-industrial, information society, although retaining the principle of division of labour, has gone some way to rehumanising work relations (1974:163) and restoring the individually held knowledge base (1974:212-262). Industrial society, Bell (1974) argues, being productive enough to free the surplus gained from mass production to finance a growing service sector, freed people from the atomised working processes which were necessary to industrial production and required them to move instead into work which allowed them to develop their mental capacities within a less fractured and more holistic work environment. This change in the nature of the workforce he sees as resulting in a different set of social values as this more widely educated workforce learns to think strategically, to plan for the future and to value intellectual rather than physical power, both inside and outside their work environment. This development opens work to more diverse groups, for example to women and the physically less able. In addition, as capitalism upgrades the skills of its workforce production workers become in effect information employees, and as the use of information technologies become more widespread in the workplace, workers learn to be more proactive, to understand system failure and to intervene and reflect on their work practices (Piore and Sabel 1989, Zuboff 1988, Lash and Urry 1994).[13]

[13] Turkle however, has argued that the the new "user-friendly interfaces of the Apple Macintosh and the Windows operating system have actually deskilled computer users, who no longer need to know how a computer functions, but only need to engage with surface manipulations and representations of computer function." (1996)

Bell (1974) has also argued that this shift in the production process heralded a move towards a more planned and rational society, rather than one based on the laissez-faire principles which characterised earlier industrial eras. This more organised and knowledgeable society, Bell feels, serves another purpose - it is crucial to maintaining order in an increasingly complex world. Continuing in an optimistic vein, Bell has argued that as work becomes more service-oriented, personal relationships will prevail above commercial and a more caring and participatory society will result. Bell's account emphasises, therefore, the social changes which are brought about through the adoption of advanced methods of production, with new technology playing a key role in enabling these production methods to remain profitable and thereby releasing wealth which can be spent on more services, further expanding this sector. Bell also indulged in social forecasting, suggesting that future societies would develop computing and telecommunications in a generally progressive manner, strengthening individuality and variety in an expanding and prosperous economy. Hamelink has criticised this perspective arguing that this vision of a new type of society "presents the normative implications of its historical interpretation" (1986:7).

The revolutionary aspects of technological change

Many writers have put forward arguments to demonstrate that the information society demarcates a significant and separate historical period in which a different mode of production has contributed to changes in social organisation leading to the predominance of a new set of social values. They each construct their premise from varying observations of a changing world but invariably make great claims for the future transformation of communication, work, society and the nature of individual identity. These are largely optimistic in tone, sometimes excessively so. These theorists have put forward a vision of a post-capitalist, meritocratic, egalitarian world in which technology has made it possible for individuals to lead more fulfilled and connected lives at home and at work. In popular discourse, much of the discussion of the information revolution has been informed by these theorists, by the vision and marketing statements of the major technology producers, or a reading of popular

cultural output such as the writings of William Gibson and other science fiction authors and filmmakers. This results in a fascination with the possibilities inherent in new technologies and a desire to harness these in the construction of a much improved society, rather than being the result of a dispassionate or critical gaze. Continued technological advances in the field of computing and communications and their increasing application outside of the world of production and commerce has led many to speak of an "IT revolution" (Lyons 1988). This talk of the revolutionary impact of information technology is based both on the speed of technological advance in the last half of the twentieth century in particular and on the pervasiveness of information technology in contemporary society which has penetrated "all domains of human activity, not as an exogenous source of impact, but as the fabric in which such activity is woven" (Castells 1996:31).

While many of the claims made as to the impact of information technology have been contested, it is interesting to note that those who support the idea of an IT revolution continue to dwell on the most positive aspects of the technology. Information technology has thereby become closely associated with scientific and economic progress, wealth creation, utopian notions of the end of work and increased leisure time, the empowering of the individual and the lessening of centralised power and control, cleaner and more liveable cities, increased communication and the flowering of communication. Technology has thus been variously presented as the saviour of economy, society and community. Lyons (1988) has argued that such technology boosterism became more prevalent after the economic crisis of the mid 1970s threw the continued "health" of western economies into doubt. A continually expanding economy could no longer be taken for granted and information technology was looked to as a possible solution to economic crisis. The social forecasting begun by the post-industrialists, and based on the notion that advanced, technology-rich societies would continue to prosper was, Lyons argues, carried forward in a more deterministic and less critical way after this time. He cites the work of Tom Stonier, Mark Poster, Yoneji Masuda and James Martin in particular to demonstrate how their views concerning the application of information technology hold out hope for the end of war, for truly democratic and participatory government and for the removal of the burden of work. It is these visionary aspects to their thinking which, Lyons argues,

gained popular currency and were taken up by city planners and national governments across the advanced economies in the aftermath of economic crisis (1988:5-7). This theme is further explored in later chapters where the take up of technology by various national and regional governments is outlined. It is this association of technology with advancement and positive changes which, I will argue, dominates the discourse which has arisen around the new information and communication technologies and which motivates many people to enter the digital age, to "get on-line" and to encourage others to do so.

Information society - a contested terrain

By the late 1970s, in a post oil crisis world in which the economic certainties of the past few decades seemed to be waning, with unemployment increasing and a crisis of profitability across much of the industrialised world, a critique of the information society theorists also developed. With the disappearance of traditional manufacturing jobs in the western world the drawbacks of the widespread take-up of computing technologies were more often discussed and the impact of technology on employment rates became a major topic of concern (Gorz 1982). These doubts as to the benefits accruing from the information economy were answered, however, by claims that the information technology sector could deliver a "principal source of economic growth" (Lyons 1988:50) and gains in productivity (Castells 1996:67), and thereby, prove a powerful solution to failing economies. Such arguments gave new impetus to the move to embrace IT and to combat unemployment by delivering a skilled and IT literate workforce which could benefit from the opportunities created by the demand for information which was being generated by increasingly complex organisations.

Of course writers from Adam Smith (1993) in the eighteenth century through to Lewis Mumford (1934) and Huw Beynon (1973) in more recent times have highlighted the dangers which the introduction of technology into the workplace have presented, citing loss of employment, creativity and choice as the possible risks flowing from its wide scale adoption as work becomes increasingly split into a series

of automated and highly regulated tasks. Furthermore, the social implications of the changes brought about in working practices as a result of the adoption of new technology throughout industry have been extensively discussed in civil society. Claims that ICT have brought about revolutionary changes in the structure of work and society more generally, have also been refuted. It has been argued, for example, that the move away from blue-collar to white-collar work in the west has either made very little difference to power relations in the employment market (Sparks 1994, Robins and Webster 1999) or that new patterns of employment have, in fact, placed the workforce in a more constrained and unequal position vis-à-vis their employers (Castells 1996,1997) than previously. Sparks refers to the work of Morris-Suzuki in Japan and Schiller and Elliot in the west when he argues that:

> ...far from representing a transformation of the system, these innovations have all been marked by the logic of capitalism itself. (Sparks 1994:41)

Robins and Webster (1999) argue that white-collar work in post-industrial societies has taken on many of the characteristics of blue-collar employment practices in the industrial age and that much of what passes as professional or white-collar work has become subject to similar processes of mechanization and subsequent surveillance and control as were developed on the factory floor at the beginning of the twentieth century. [14] This has led Robins and Webster (1999) to argue that the modern labour-force is "super industrialized" and that far from being empowered by its experiences, the majority of the workforce is still expected to carry out mundane, repetitive and highly centralised procedures at work.

Castells' position is ambivalent.While accepting that low level clerical jobs have been further automated with the introduction of computing technology and that this has resulted in the de-skilling and loss of control over their work environments, he has also argued that changes to some middle-level jobs have given these employees more flexibility and autonomy in their work. He is concerned, however, that those who find

[14] See for example the advent of Taylorism and his call for a scientific management of work. Many of the surveillance procedures which he championed can be seen operating in call centres and other computerised workplaces today.

themselves unable to acquire information skills "...could be excluded from the workforce or "downgraded as workers"..." (1996:264). He remains sceptical of the claim that new technology will lead to a diversification of employment practices or the removal of centralised power. Established capitalist power elites, therefore, have maintained their domination and embedded their own cultural codes and values within cyberspace and the information workforce is as subject to these social pressures as any other. That information workers may experience an overload of information, possessing few of the skills necessary to make sense of the data with which they are presented or to turn it into something meaningful which can increase their knowledge of the world needs also to be taken into account. Those who do have the skills, it is argued, can better control these flows of information to their benefit as individuals and as members of certain social groups which are better represented in electronic media.

It has also been suggested that the theory of post-industrialism and the move towards a service-based economy has been overstated. According to Miles and Gershuny (1986) the adoption of new technologies has actually lead to a trend in Western societies whereby many people meet their own service needs rather than purchase them from others. He cites data from the early to mid 1980s which demonstrated that the provision of services such as laundry, public transport and theatre productions were in decline as people bought increasing numbers of consumer goods such as washing machines, cars and video recorders which allowed them to meet these needs for themselves. Lyons has looked for evidence of a change in occupational structure which would prove the existence of a new technical class, postulating that if it does exist, then a "new economic sector" would indeed be emerging and the consequences for social life in the coming century "will surely be profound" but if these claims lacked substance then, he argued, the whole "information society edifice is rendered rather fragile" (1988:43). He concluded that some occupational restructuring has taken place but that this has not had a significant effect on social relationships, leading him to question whether a new dominant class of technocrats has indeed emerged.

Questioning the impact of technology on society

Although the developments in technology which have been used by theorists of the information society to justify their claims cannot be denied, there is considerable doubt as to whether they can be said to have brought about new types of social formation and values. One should interrogate many of the fundamental assumptions upon which the information society thesis rests. In the first instance there has been some question as to whether the technological innovations of the last few decades do indeed represent a distinctive and new technological paradigm.[15]

What all theorists of the information society offer is a reading of the world which attempts to understand the social impact of "the changing shape of the technoscape" (Robins and Webster 1999). They are all essentially commenting on the information society, as it was first conceived by Bell and others, and as it has developed since. If there is some criticism of particular authors' reading of the significance of this technoscape, there is general agreement that major social and cultural changes have taken place alongside the widespread application of technology in society. While not denying that "...IT is a major phenomenon with a broad potential social impact..." (Lyons 1988:7), writers such as Roszak (1986), Miles and Gershuny (1986), Golding and Murdock (1986) and Lyons (1988), have questioned many of the assumptions of the futurologists and social planners of the information society. They have argued that too much emphasis has been placed on the technology itself, and that human relationships have been forgotten:

> ...the question is not really about the *impact* ... [of new technologies] on ways of life, values and culture, but the way in which societies reproduce and adapt themselves, using and reshaping technologies in the process (Miles and Gershuny 1986:26)

[15] Bell himself, questions whether technological changes act as a break with the past, or whether they represent a continuous progression, and points out that, whatever the conclusion, "...it is difficult to demonstrate that the "rate" of technological change *has* leaped ahead substantially in the past decades..." (Bell 1974: 196 [my italics]) yet he continues to rest much of his work on this premise

These writers more critical of the information society thesis, also point to the fact that to many information society enthusiasts there is an inevitability to the absorption of technology into society's working practices, behaviours, and ultimately, values. Metcalfe (1986), for example, argues that new technology will be taken up wherever it generates cost advantages or superior services, and indeed the adoption of new technology would seem unavoidable under these circumstances as, measured by these terms, it can only bring benefit to society. Castells (1996), however, argues against the inevitable development and uptake of technology,[16] but does acknowledge that those economies which have embraced industrial capitalism have assimilated technological change and that social behaviour has altered as a consequence. He avoids a crude technological determinism by clearly stating that information technology is the fuel to social change rather than its major determinant. Castells also places human agency firmly on the agenda as a significant factor which contributes to shaping the development of technology. He states that "...technology does not determine society: it embodies it. But neither does society determine technological innovation: it uses it." (1996:5). He goes on to argue that advanced "informational capitalism"[17] has seen especially close links develop between culture and production and that as a result "...it follows that we should expect the emergence of historically new forms of social interaction, social control and social change" (1996:18). Yet while seemingly eschewing the idea that technology shapes society, Castells' information technology "revolution" remains, to him, as significant an historical event as the Industrial Revolution (Castells 1996:31).

The optimism of information society theorists has also been challenged as has their construction of technology as a benign force which brings universal benefits. Lyons (1988) and Roszak (1986) have deployed a different perspective, both have highlighted the hand of the military in shaping the form of available technology, pointing to the fact that defence budgets have increased at the same time as welfare budgets have been cut in most of the major economies. Roszak suggests that

[16] He cites the rejection of available technology which would have helped 14th century China to industrialise, in order to illustrate this point (1996:7-10)

[17] Castells explains that progress in IT drove economic growth with concomitant increases in productivity and crucially allowed hitherto difficult to reach markets, and thereby sources of labour and profit, to be fully exploited. This phase he has termed "informational capitalism".

particular areas of the advanced world have benefited more than others from the wealth creation which has been underpinned by information technology, citing the wealthy conservative sunbelt states such as Georgia and California in the United States - the main sites of IT production - as the main beneficiaries. Lyons goes on to argue that IT in the form which it is available is not an inevitable outcome of technological development but that it is shaped by its social context. This is a context in which the military has dominated since the Second World War and in which the interests of commerce and national government have also been of paramount significance. Graham refers to social construction of technology (SCOT) and theories of urban governance to make this point with reference to the take-up of telecommunications initiatives in Britain and France. Rejecting the simplistic "technology-impact - society effect model" he argues that "society and technology are *recursively linked* in complex ways" (1996:55) and demonstrates that political, economic, institutional and social forces shape technology to their own advantage. Technology thereby becomes available for wider use if to do so suits the interests of one or another powerful social grouping and their particular interests play a large part in shaping the type of technology which becomes widespread.

So technology is not some outside force which descends upon society and changes it for all time. Instead these critics of the information society thesis claim that technology can be resisted or absorbed, in whole or in part, that it does not develop outside the realms of human control and that powerful social forces shape its eventual form and availability. From this perspective it makes far less sense to talk about the impact of technology on society but to consider how social structures can influence "...both the *rate* of technological change, and the general *directions* that it is taking" [italics in original] (Edge 1995: 15). Nevertheless, as my research will go on to explore in more detail, for those who are not a part of the social groups who might influence the pace and direction of technological development, the changing technoscape can indeed appear to be an exogenous force visited upon them, outside of their control and something to which they must adapt if they are to continue to engage with modern society.

Questioning the impact of information on society

It is also important to examine claims which have been made as to the importance of information within contemporary society. Paschal criticises information society theorists for their inability to construct a unified information theory or to agree on definitions of key concepts in their field (2001:42-3). We are left to work, therefore, with unclear and varying definitions of key concepts. In addition, the concept of information has often been conflated with that of "knowledge", indeed Machlup in his influential work *The Production and Distribution of Knowledge in the United States* specifically rejects any separation of the two terms, claiming that "all information is knowledge" (1962:8). Roszak (1986), by contrast, has rejected this viewpoint and has argued for a more sophisticated analysis which seeks to differentiate these concepts and to acknowledge the important part which human intervention plays in creating knowledge from information. Without this basic understanding, he suggests, an intercontinental ballistic missile which has been programmed with target-finding capacities will be deemed as knowledgeable as the humans who designed, developed, primed and fired it and those who deliberated on why and where it should be aimed (1962:14). It is the ability of humans to process bits of information, he argues, which is the key to understanding both knowledge and progress. He sees humans as highly selective in the way they process information, rejecting that which does not fit with their particular world view, making choices as to what information sources are utilised and using their previous experience and prior knowledge to make judgements on the quality of the information which they receive. This position fits very well with the research findings which are examined in later chapters where I argue that people do not absorb information indiscriminately, but that they make active and informed choices concerning the relevance and significance of information and information-providers, building a reservoir of "situated knowledge" which is drawn on to maintain social relationships and build social support systems. Roszak proposes that ever since Plato based his theory of knowledge around mathematics scientists have continued to "trust in the clarity of numbers and of mathematical logic" (1986:106), appropriating the term "information" such that it has become usual to apply the term to:

> ...any transmitted signal that could be metaphorically construed as a "message" - for example the firing of a nerve impulse. To use the term so liberally is to lay aside all concern for the quality or character of what is being communicated (Roszak 1986:14)

Yet Roszak rejects the conception of the human mind as a simple information-processing tool, believing that "..the mind works more by way of gestalts than algorithmic procedures" (1986:213), while information soon becomes outdated, he concludes, ideas live on. For Roszak, a cult of information has developed in which information is said to represent the secret of progress. He argues that computers have become similarly associated with this belief and that as computing technology has become inextricably linked in the public eye with the imparting of information to the user, it is in this field especially that many myths and misinterpretations have arisen (1986:2-16). It is from this position that the concept of "information poverty" arises as to be denied information is to be seen to be excluded from the possibility of progress.

Claims that both the quantity of information and knowledge available to society have grown exponentially throughout the twentieth century (Bell 1974: 177-212) are most often used to provide an empirical illustration of the move to an information age. Slouka's techno-evangelists reduce information to "bits" of computer code, and are concerned with the digital transmission of data but have little or nothing to say about the quality of the data so transmitted. Hamelink (1986) points to the relish with which information society theorists explain that with ever more powerful personal computers and internet connections, everyone can "own" information. Within this context the idea of information as commodity resurfaces - that information is a material good which can be possessed and traded. Information is thereby seen to confer power on those who own or produce it (Bell 1974:358-367) as it can be a source of both prestige and wealth. However, as both (1986) and Lyons (1988) acknowledge, information can be a difficult resource to exploit, especially when specialist and complex in nature and the intellectual and managerial skills which are needed to exploit information are in reality quite unevenly distributed. Hamelink also questions whether the ownership of information does indeed empower, the converse of which notion, he explains, suggests that it was lack of information which

previously led to powerlessness. For writers like Hamelink and Lyons, information, when confined to the transmission of bits of data, confers very little of real substance to the recipient.

The distinction between information and knowledge is therefore important for an understanding of the impact of the information technologies on individuals and on society. If Roszak, Hamelink and Lyons are correct then even if the empirical data demonstrates that there are more information exchanges to wider populations than ever before, that information networks are growing at an unprecedented rate and that more information is being produced and disseminated widely, this still might not mean that society has changed in any way from this increased availability and flow of information. Yet, as the above writers have demonstrated, information has been endowed with life-enhancing qualities and to be without information is to be deemed disempowered and disengaged, the "information-rich" are considered multiply advantaged while the "information-poor" are deemed to be disadvantaged on a number of levels.

Rhetorics of the information society

The notion of an information society, then, has taken many guises and has been invested with various transformative capacities, although the rhetoric claims that it is, in the main, an agency for positive change. As Morris-Suzuki has outlined, the information society has been seen as a chance to:

> ....offer the image of a world in which material abundance and spiritual fulfilment will be achieved, not through the painful restructuring of the social order, but through the spontaneous evolution of the existing system itself: an image of a transformed society in which, nevertheless, the fundamental structures of power will be conserved and strengthened. (Sparks 1994:22).

And while the whole concept of the information society has been questioned, its existence has been largely accepted and the phrase has entered into common parlance. Indeed, Robins and Webster go further in stating that the *revolutionary* impact of technical change is also rarely queried when they state that "The idea of technology

revolution has become normative - routine and commonplace - in our technocultural times." (Robins and Webster 1999:1). Certainly many of the themes which have been developed above will be familiar outside the academic field of their authors. They re-occur in the discourses of policy-makers, of politicians and people working with new technologies in the commercial and public sectors. These themes have been taken up by the popular media and the wider application and advertisement of communication technologies in the late 1990s in particular has meant that more and more people across the globe have become familiar with terms such as the internet and the World Wide Web, even if they may never have had cause or opportunity to use them. The contested nature of these concepts will be less well-known, however, as technology boosterism holds sway.

The following chapter looks more closely at those technologies which have been dubbed information and communication technologies (ICT). It explores how the themes developed of information society have further developed with the introduction of these particular technologies in the last two decades of the twentieth century.

Chapter Two The social impact of information and communication technologies

What is different about information and communication technologies?

Chapter One explored changing definitions of the information society and different perspectives regarding the impact of technology and information on society. This chapter focuses more particularly on the impact of those technologies which have been grouped together as "information and communication technologies" (ICT). While many technological devices, such as the telephone and radio have become familiar communication tools, the abbreviation ICT, more usually refers to those computer-aided communication devices such as e-mail, the internet and the World Wide Web, which have harnessed and integrated the growing power of computers and existing world-wide telecommunications structures to greatly expand and expedite communication possibilities across the globe. Prior to the advent of the telegraph, telephone and fax, the only way that technologies could aid the spread of ideas and culture was by moving those people and goods around the globe who would be the repository of ideas, more rapidly and efficiently - thus ushering in the age of mass transportation. ICT, however, are said to be "...'dematerialising' or making 'virtual' what we mean by time and space" (Urry 1998:2) enabling ideas to be moved around the globe with no more effort than the click of a button. This increased flow of ideas reaching out to different parts of the world faster and more efficiently than before, has been said to result in a "cumulative feedback loop" (Castells 1996:32) fostering greater collaboration and hastening the production of knowledge (Machlup 1962:7).

In many ways, technological innovation and increasing interrelation between social systems across the globe are inextricably linked. One cannot progress without the other. It can, therefore, be difficult to separate these processes and to attempt to discover any causal relationships between the two. Although any discussion of the

impact of ICT is often incorporated into that of the information society and the more general technological developments associated with this historical phase, I have found it useful to separate these discussions in order to demonstrate how discussion of the impact of ICT is both embedded within the discourse of information society and lends it an added dimension.

Social and individual impacts

Two themes have dominated the discourse around technology-driven social change. The first is that the introduction of technology would have a direct effect on the individual user, for example by introducing new ways of reproducing their material reality, and that this would effect the individual's relationship with their material world and ultimately result in changed sense of being and place in that world. The second theme is that technology would have an effect on the collective or social world, and that this would be more than the sum of the effect of technology on numerous individuals. Both these themes, of individual and collective transformations, re-emerge in the debate as to whether ICT will radically alter our social environments, with the second theme being the more prominent. While the technology surrounding ICT can be seen as incorporating features which have the capacity to transform the individual user's strengths and capabilities (for example by widening their social horizons), it is more often the connectivity which these technologies enable and the collective response to this increased connectivity which is seen as the main driver of societal change. Whereas previously technologies had to rely on external processes and forces to ensure their effects permeated across the globe, the possibility for global spread and growth of ICT is inherent in the technology itself. It is the power of these technologies to connect people which ensures that their impact is widespread. It is also this connective power which allows the possibility for a collective, rather than an individual, response to emerge from their introduction. This argument can be taken to extremes, as we have seen in the work of Kelly (1994), more usually, however, ICT are seen as the latest and most extreme example of:

> A wide-ranging set of new technologies [which] are producing 'global times' in which distances between place and peoples...seem to be dramatically reducing (Urry 1998:2)

This process, which began with telephony and was extended through radio and television, has supposedly "come of age" with the marriage of computer and communication systems which utilise digital technology. These linked technologies can transport complex documentation, audio and visual links and computer software across the globe using cable, satellite, and static or mobile phone-lines, in a matter of seconds. The development of increasingly easy to use gateways to what has become known as the world wide web, has helped to create "cyberspace",[18] a "virtual" realm in which people can "meet" and communicate their ideas. This space has, indeed, no material reality, hence its virtuality, however it has been seen as a new arena which can extend the possibilities of human interaction.

The power of connectivity

The various cables, satellites and wires which link computers and servers across the world have been said to have resulted, in a "dense network of connections" (Harvey and Green 1999:2) as they are increasingly utilised by individuals and groups to communicate with one another. ICT present the user with a very flexible communication tool which can be used to forge links between or within organisations or for more personal communications between individuals on a one-to-one, one-to-many, or many-to-many basis. As more people join these vast networks, by buying the requisite computer "kit" and "getting on-line", a growing number of internet service providers increase the capacity of the network still further, expanding its range and utility. The growth in internet use has, as a result, been rapid and exponential as more services are made available through the internet and people find more ways to communicate through its use (Katz and Aspden 2000).

The view that society as a whole is changing as a result of the growth of interaction in cyberspace and that their use can "...increase the sense that we live in a single world"

[18] The term was coined by William Gibson (1984) in his novel "Neuromancer".

(Urry 1998:3) ignores divisions in access to these technologies. Statistics on web-use continue to demonstrate that the typical web-user is an English speaker, likely to be white, highly educated, and earning an above average income. In July 2000 it was estimated that, of the 332.73 million people using the internet, the greater part were located in Canada and the United States (147.48 million), then Europe (91.82 million) and Asia and Australasia (75.5 million). Rather less were located in Latin America (13.19 million), Africa (2.77 million) and the Middle East (1.9 million).[19] Cyberspace would not appear, therefore to be a place of cross-cultural communication, where barriers of language and class are broken down, but appears more likely to be a realm in which people who already have a shared language, educational background and interests can choose to communicate. So, far from engaging its users with a true reflection of the social world with all its diversity, the internet could be said to present more opportunities for the like-minded to share experiences and ideas, albeit more easily and across physical barriers afforded by geography. Certainly my research in Salford suggests that people look for similarity across cyberspace, rather than an opportunity to engage with difference. This search for sameness rather than difference has been noted, in pre-internet days, by Fischer who argued that "Within their constraints and their preferences, people tend to build networks composed of others very similar to them" (1982:6). From initial, kin-based, relationships throughout life he posits "...social processes indirectly encourage homogeneity by channeling people into specific structural locations" through, for example, residential differentiation and occupational segregation. As a result, he argues, subcultures are formed with shared references, language and communication preferences. It is these processes which are thought to be replaced through connection across the internet, but which my work suggests still have a strong influence on the way people choose their significant and lasting social support networks, whether conducted in "real" or "virtual" spaces.

Despite the uneven spread of ICT across the globe, the powerful connectivity afforded by the internet has been seen as a powerful force for change, resulting in a transformation in personal relationships wherever access to the technology becomes more widespread. The internet, it has been argued, seems:

[19] Nua Internet Survey, August 10th 2000

> ...to be both extending the reach of networks - allowing more ties to be maintained - and specializing relationships in networks - so that people are increasing (sic) known and related to only in terms of particular aspects of their persona: role-to-role instead of person-to-person. (Wellman 2000:20).

It is assumed that "... through use of, and exposure to, these new technologies, users will adopt new forms of behaviour explicitly linked to the technology itself" (Rutter 2001:371). Wellman's experiences as a "community networker" on the web, lead him to argue that use of ICT allows the development of communities of interest which are *uniquely* built on such specialized relationships. The communities built in cyberspace, he argues, are self-selected, they do not depend on the chance meeting of people in physical space, whether through neighbourhood (which he refers to as "door-to-door" encounters) or work ties, but are based upon the active selection of community members by participants on the basis of personal interests and personality traits. Unlike "physical communities", these "virtual communities" have no need to negotiate difference or disorder and are far removed from the "..dense, disorderly, overwhelming..." urban spaces in which communities have been forged in the twentieth century (Sennett 1970:xvi).[20] Wellman is also encouraged by the fact that the constituency from which communities formed via the internet are selected, is in no way bound by geography but potentially consists of the millions who are on-line across the globe. He writes:

> For better or worse, the shift to a personalized, wireless world will afford truly *personal communities* [emphasis in original] that supply support, sociability, information and a sense of belonging to individuals, one-by-one (Wellman 2000:15)

Wellman clearly welcomes the growth of such communities and sees in them the potential to develop highly significant relationships. He makes the case that, because these communities are not constrained by geography or come about as a result of chance encounter, that they are fully chosen by their members. For Wellman, this somehow leads to relationships which are purer in essence, uncluttered by the

[20] Sennett himself mourns the loss of disorder and difference which the search for "purified communities" brings. He sees this as self-limiting and a denial of a sense of exploration and adventure (1970:27-49)

expected niceties and polite conversations which characterise our physically bounded relationships and avoiding the fear and danger which can be invoked by chance encounters in disorderly streets.

Wellman's claims to the purity of electronic communities are problematic. In the first instance, given that only a certain percentage of the world's population make use of the internet, these personal communities are also limited. Wellman and other community networkers can only communicate with others who are equally connected to the internet, whether at work, home or through a shared internet facility. Although millions do connect to the internet regularly there are millions more who do not or cannot. This leaves existing communities on the internet denuded of many potential contributors and the communication which does take place will be different as a result. Secondly, an element of chance also affects encounters in cyberspace. Given that there *are* millions of people using the internet, Wellman will not have an equal chance of meeting with them all. It might not be geography and physical proximity which determine the encounters which he makes on the internet, but other characteristics will shape the formation of electronic communities - the choice of search terms, knowledge of available networking points and, as highlighted earlier, shared language will all play their part. Wellman's position implies that those people who do find each other and converse on the internet will engage in more meaningful encounters as a result, however this presupposes we share his understanding of which "meetings" convey meaning and significance. All sorts of meetings can be advantageous, enjoyable and rewarding, not only the previously arranged and managed. Wellman ignores the potential benefits and pleasures of the serendipitous encounter. As will be discussed later, the women who took part in the research for this study often attributed a great deal of significance to informal contacts and chance encounters in their shared physical spaces of neighbourhood and community. Furthermore, their lives were often not pre-planned, ordered into chunks of work/leisure/community activity/domesticity. These aspects of their lives were often jumbled together and one meeting could serve numerous purposes. Wellman's position suggests a degree of planning and design in social intercourse which was often not present for these women who could be severely limited by the requirements of family and household, often living around the needs of others and snatching their

own pleasures whenever these could be taken. Under these circumstances every opportunity was taken to make the most of meetings and encounters, whether chance or pre-arranged, and while their lives could thereby appear disorderly and confused, these women often appeared to have little chance to structure their lives differently.

Wellman, also argues that communities which can emerge through the internet afford their members a greater degree of independence. Virtual communities grant their members greater freedom of movement, he believes, as their encounters can be managed from anywhere in the world that the user finds themselves as long as they have access to the requisite technological apparatus. In addition there are no fixed places in which these communities engage so there is no necessity to travel long distances to meet at stated times and places. They afford their members greater freedom of action, he posits, as they disengage people from the often rigid roles which are associated with ideas of household, neighbourhood, region or nation - there is no need to dress up or down for these encounters and no necessity to consider physical presentation at all. According to Wellman's thesis, therefore, internet users benefit from communicating in the freedom of the electronic realm, a medium where strictly imposed codes relating to physical display and dress at least would be irrelevant. Harcourt suggests that this aspect of the technology has been particularly useful in encouraging women's use of the internet, adding that this medium can "...involve women who due to their culture or locality would not be in a position to voice their opinion." (1999:2). It is important to question whether the internet *does* provide a fundamentally different service to previous communication technologies, however; the telephone has long served this purpose for synchronous and the postal system for asynchronous communication with people who are not physically close, and access to these systems is far more widely spread across the world's populace. Furthermore neither of these communication systems requires the sender or receiver to adopt accepted dress codes, for example to read the letter or, especially with the advent of mobile phones, to be in a specified place to talk on the phone. Granted the internet affords a faster means of communication and appears to offer greater flexibility, especially to the person on the move, however, it is another thing to suggest that social relationships which have been forged through this medium will

prove to be fundamentally different from those which have not or that existing cultural values and power relations in society will lose significance as a result.

It has been argued too that encounters in cyberspace are inherently more egalitarian and inclusive than physical encounters as visual and aural codes and symbols play no role in a broadly text-based medium. Cyberspace, then, is a world which is seen to be devoid of "distinctions" (Bourdieu 1979), in which everyone starts with the same blank sheet, or computer screen and fashions, through the power of their ideas alone, a persona which they present to the (electronic) world. In cyberspace, it is argued, existing stereotypes attached to physical characteristics, such as skin colour or speech patterns and accents are unknown and therefore unimportant. It is even claimed that a person's sex, because it can be hidden or disguised in cyberspace, is equally unimportant. It is, writes Castells:

> ....as though the symbolism of power embedded in face-to-face communication has not yet found its language in the new computer-mediated-communication. (Castells 1996:360)

As discrimination and negative stereotyping do bar people from full involvement in what Wellman terms "face-to-face" discussions, it is suggested that those who are excluded in physical spaces can therefore benefit from interaction in virtual spaces. Slouka's "techno-evangelists" take this view further, holding up the possibility of a world without borders, without disputes and, for some, without the limitations imposed by physical embodiment. In such a world, they argue, the disembodied nature of interaction in cyberspace offers humanity the opportunity to transcend our physical beings which are bounded by ideas such as nation, gender, physical ability and race. Slouka recounts:

> I'd heard it said...that the disembodied nature of cyberspace was precisely its strongest suit, that because it was disembodied, it would teach us to value quickness of mind over beauty, wit over physical power, the content of our character over the colour of our skin (1995:48)

He goes on to explain further:

> ...the violent would see the futility of their ways and the intolerant would come to understand that human beings are more alike than different (1995:48)

Although critical of this perspective, Slouka argues that we should take this viewpoint seriously, recognising that in an increasingly violent and fearful world some might find such an alternative quite attractive. For Slouka the outcome may be a retreat inside the private sphere or into cyberspace and the realm of virtual reality as the outside world appears to have less and less to offer. Cyberspace could then offer a much needed and safe public space for meetings, discussions, debate and political activity which is missing from so many cities. This perspective has encouraged many of the models for community-based ICT projects which are discussed in more detail in Chapter Four, many of which look to recreate a sense of public forums, civic associations and meeting places which have been considered lost or marginalised in recent decades.

Like Slouka, Wellman also argues that interaction on electronic networks will allow circles of acquaintance to develop and grow which lie outside of the narrower sphere afforded by face-to-face interactions. He further suggests that as people later choose to reveal their physical characteristics to other members of their electronic communities, they can begin to challenge stereotypes which might previously have held them back. In this way, he suggests, society as a whole, ICT-user and non-user alike, benefits from these transformations as prejudice and stereotyping based on what can be seen and heard of an individual, and the basis of much negative discrimination, withers away. Yet this argument, by focusing on what cannot be perceived in internet communiqués, ignores so much of what makes up the distinctiveness between human beings and the culturally coded behaviours which we carry with us but which remain largely hidden from view, as Bourdieu explains:

> ...a difference, a distinctive property, white or black skin, slenderness or stoutness, Pernod or Scotch, golf or soccer, piano or accordion, bridge or belote... only becomes a visible, perceptible, non-indifferent, socially pertinent difference if it is perceived by someone who is capable of making the distinction - because, being inscribed in the space in question, he or she is not indifferent and is endowed with categories of perception, with classificatory schemata, with a certain taste, which permits her to make differences, to discern, to distinguish... (Bourdieu 1998:9)

Bourdieu refers to class differences, for example, as an "invisible reality that cannot be shown but which organizes agents' practices and representations" (Bourdieu 1998:10), arguing further that it is an erroneous notion to suggest that by merely discarding a physical presence we can leave behind so much more of our background, experiences and culture which help to distinguish us from others. Even purely text-based conversations can reveal a great deal about a person through the sender's levels of literacy, tastes, opinions, use of language and range of experience. It is more likely, then, that distinctions and patterns of exclusion encountered in physical space will transfer to the virtual. Exclusion may even be further intensified in this realm as so many are without the means to engage in electronic conversation in the first instance or the electronic realm appears to be a forbidding or alien environment. Spender (1995) looks at this from the perspective of gender, she gives various examples of gender bias in the use and design of computing tools, and outlines how women are socialised into different "relationships with technical objects" (1995:172). She discusses how women are less likely to learn computing skills by playing with the technology than are men and that, as much computer software "...is presently formatted, it is more in tune with the disposition and training of boys" (1995:175). She also reports that women in cyberspace can be at risk of experiencing levels of sexual harassment which are equal to those experienced in physical spaces[21] indicating that Wellman and others are naively optimistic in their view of the inclusive reality of cyberspace.

Roszak (1986) has also commented on the possibilities afforded by on-line communication to change the perceptions and experiences of its users. He starts with a discussion of the sheer size of the networking opportunities available to the individual through the use of ICT. No other technology, he argues, has enabled the individual to communicate on such a vast scale. He distinguishes broadcasting on television and radio, which allows organisations or individuals with enough money or power to transmit their ideas to mass audiences, from the construction of bulletin

[21] This has been true of previous technologies too, even the telephone which has been adopted as a form of communication well used by women (Spender 1995:191) can be used as a tool of harassment.

boards, e-mail, web-sites and newsgroups which allow two-way communications to develop between any individuals with access to these spaces. The emergence of ICT, he argues, has meant that computers can be used, not just for the collection of information or one-way broadcasting, but to develop "...an expanding forum of opinion and debate." (Roszak 1986:168). The mass viewing of fixed entertainment schedules, for example, chosen by an elite group of programmers can be replaced by individuals choosing to download and enjoy television, computer games and material from web sites whenever they want. So too the passive consumption of entertainment material thought commercial enough to be produced by a small number of large media corporations can be replaced by the products of a multitude of small production companies and individuals who no longer have to seek the patronage of the powerful, but who can place their own material in the public realm merely by maintaining their own web sites. Minority tastes, preferences and cultures, it is argued, will thereby be represented and find their own audiences, so that media products can reflect the reality of people's lives and experiences, giving confidence and providing validation to minority groups and those who choose to live their lives outside of conventional norms.[22] Roszak's views suggest that a counter-culture can be sustained more easily through the use of new communications technologies and even that ICT presents users with the opportunity of subverting traditional power structures.

A number of writers have expanded on these themes suggesting that the internet can create a space for alternative political agendas to be presented. Castells invokes a number of examples to demonstrate the emergence within a "network society" of an "electronic grassroots culture" and "interactive society" (1996:354) which suggest libertarian and communal undercurrents. Kelly's "network era" inspires co-operation and self-organisation (1994:116) and Miles and Gershuny write that informatics (utilising mass communication devices such as the internet in the provision of information) can create "new forms of social participation" (1986:32) which will involve formerly excluded groups. Again, it is argued by all these writers that these values, once given space to develop through electronic media, will permeate

[22] See for example Taylor (1999) on "hacktivism".

throughout society generally, replacing more individualistic and greed-oriented behaviour. Kelly sees the technology of the internet as an inherently collective system, controlled by no one power and founded on modular and non-linear communication patterns which have created new organisational possibilities, permitting new ways of thinking, breaking down old patterns of command and control and discouraging linear, autocratic system management. The internet in particular, he outlines:

> ...encourages a type of thought which nurtures the non-dogmatic, experimental...global perspective, interdisciplinary synthesis and uninhibited response. (Kelly 1994:598)

These arguments emanate from a number of writers who have very different political perspectives, Castells is influenced by Marxism and a materialist interpretation, while Kelly appears far more inspired by an idealist and libertarian viewpoint. Miles and Gershuny are concerned with existing, place-based communities and Wellman by the notion of electronically mediated communities developed and maintained in cyberspace, yet all consider the possibility that the realm of the internet can offer hitherto unknown or unrecognised forms of interaction, transforming the potential for human communication. It is tempting, faced with these assertions, to accept that these writers have recognised something novel and potentially liberating in communication across cyberspace. However, such theorising often underplays the mundane reality of much internet use, which shows the internet to be a far less inspiring communication device (Spender 1995:175). My own research suggests that these technologies are used, not as tools to launch innovative practices and new social networks, but to aid established ways of working and, where relevant, to deepen existing organisational and social ties.

The democratic potential of cyberspace

The extensive communicative power of ICT has been recognised as a useful tool for the dissemination of political ideas and the hosting of debates (Miller 1995, Wellman 1999). The medium is seen as lending itself particularly well to political forum and discussion, facilitating contact between the individual, politicians and pressure groups.

In the first instance, it is argued, ICT allow greater access to information and more direct and speedy ways of communicating with politicians than any other means that existing institutions have currently devised. The internet is seen as creating a more open and direct style of interface between those who govern and the governed, extending the ways in which the views of the populace can be represented. Furthermore, ICT are seen as a medium through which political ideas can be delivered in ways which are more appealing to the electorate than traditional leaflets, posters and broadcast. The use of newsgroups, group e-mail communications and interactive web-sites has also furnished the political arena with new ways of organising political interest groups or single-issue campaigns, allowing more direct interaction between political groups and individuals (Miller 1995, Aichlozer and Schmutzer 1999) and even holding out the possibility of bypassing established political organisations altogether. Castells quotes from a survey by Charles Piller (1994) which suggested that possibilities for access to community, political and educational information were more likely to motivate people to buy into computers than an interest in further sources of entertainment. The survey, he reports:

> ....revealed a much deeper interest in using multimedia for information access, community affairs, political involvement and education than in adding television and movies to their choice. (Castells 1996:368)

While Piller's respondents may have underplayed their interest in the entertainment value of computers, the research presented in later chapters does suggest that the research participants, at least, were more interested in computers as an aid to community organisation and self-education, than as recreational devices.

If ICT do indeed have the potential to involve and to engage people in meaningful political debate and discussions, then the problem of access must be addressed. In a world where access to ICT is restricted to the most wealthy and educated populations then some will appear "super-connected",[23] there is concern that information will be concentrated in the hands of a few, information-rich, individuals and that control of

[23] This term was used by Wired magazine in their 1998 article entitled "The Digital Citizen". It was apparently coined by a number of American researchers to describe people who use e-mail three times a week and also use laptops, a cell-phone, pager and home computer.

cyberspace, as with physical space, will rest with culturally dominant elite groups (Day 2000, Graham and Aurigi 1997, Lyons 1988), compounding material deprivation with the problem of "information-poverty".[24] The dominant groups in cyberspace, it is argued, are interested in ensuring that market principles, rather than liberal-anarchist values, prevail within the medium. Thus corporations not only wish to carve out their own "cyberplaces" which will attract the majority of "cybertraffic", but also to develop the medium as a space of entertainment and of commerce in which "People are seen as consumers of entertainment rather than producers of their own content" (Day 2000:6), replicating power relations experienced in physical spaces. Rather than offering alternative spaces where inclusion, sharing and freedom from commercial forces predominate, cyberspace will offer nothing different from the patterns of inclusion and exclusion which are found elsewhere.

Claims as to the potential of ICT to engage and involve the public must also be scrutinized. Roszak, while accepting that the internet-user has easy recourse to vast tracts of information which are placed on the web by various political groups, suggests that this is not enough to ensure greater participation in politics. He questions the ability of information alone to empower anyone, commenting that "Information is transformed into a political issue [only] when it is illuminated by an idea." (1986:166). Hill (1999) concurs, pointing out that information exists regardless of what people do with it. Information can, he argues, correct a misapprehension or open up completely new fields of knowledge but it can also merely confirm or duplicate existing (mis)understandings. The internet, Hill argues, can also contain misinformation and without the skills to enable the receiver of data to comprehend, manipulate and interrogate the information which is placed on the web it is doubtful whether s/he can use it to inform or present, coherent ideas. This emerges

[24] The notion of "information poverty" is revisited in later chapters where I argue that the research areas, though areas of material deprivation, could be said to be "information-rich", by this I mean that they are steeped in locally situated knowledge, emanating from their connections to neighbourhood and networks of social support built around kin and locality. The sourcing and sharing of information in these neighbourhoods, I argue, is valued when it is locally-nuanced and relevant to lives as they are lived in these areas. Much of the material placed on the web, then, would not be perceived as important information, crucial to the well-being of the research participants and the wider areas in which they lived, and therefore would not be particularly sought out, or its absence missed.

as an issue later on in this study. Many of the research participants in Salford were not sure how to find relevant information on the web in the first place and were often unable to assess the quality of the information presented. A number, for example, visited sites dedicated to individual health concerns but found they were written in medical language which was difficult to interpret. They sought out sources of lay knowledge on the internet in the same way that they sought this out in their own neighbourhoods, thus duplicating existing patterns of information gathering, rather than seeking out novel means to inform. The issue of who, and what information, to trust surfaced as a key consideration. The subjects of the research often spoke disparagingly of existing information providers who could be portrayed as disconnected from local concerns and issues, unwilling to take the views of local residents into consideration and unable to frame ideas in terms which could be easily understood by the lay person. Trust had to be earned and was more easily gained by the "insider" than the "outsider", so too web-based information providers had to prove their worth. Sites which were obviously designed by professionals using technical jargon and esoteric terms were quickly "exited" while the search for sites maintained by amateurs and aficionados were more valued and were seen as offering more relevant interpretations and information.

Roszak has written of his concern that the current emphasis on education and training to use information technologies can even have antidemocratic implications. He wonders what the emphasis on "computers in the classroom" teaches schoolchildren in particular, and he criticises the focus on computer literacy in schools suggesting that this gives prominence to an "information processing model of thought" over skills of comprehension and critical analysis necessary for sound judgement and meaningful political participation (Roszak, 1996, 1986:213). These concerns link to Splichal's arguments on the erosion of civil society in the information age. For Splichal, far from increasing democratic participation, the economic inequalities resulting from the transformation from an industrial to an information society have prevented citizens from participating and exercising control over democratic decisions. He uses Habermas' notion of the erosion of the public sphere to argue that the civil society has been commodified in the information age, so that "...not only does information society not equal civil society; information society may even be

adversarial to civil society..." (Splichal 1994:73). Far from increasing the autonomy of the citizen, he argues, the so-called information society produces a "passive and uninformed citizenry" (Splichal 1994:64), endorsing Simonds view that:

> ...public information is subordinated to the interests of producers rather than consumers, owners rather than citizens, the interest of capital accumulation rather than the interests of a democratic public (Simonds 1989:204-5 in Splichal 1994:64)

Indeed, Splichal goes on to claim that:

> The principle of maximisation of power and the principle of maximisation of profit...merge in the communication sphere to the detriment of the part of global society that is not governed by these principles...Consequently it would be very difficult to claim that informatization, which *in principle* can make citizen's activism more feasible, actually extends the space for their autonomy from the state to their participation in public life. (Splichal 1994:64-5).

The growth in the use of ICT to access information and to communicate with individuals and organisations does not in itself herald a step towards an included, empowered pluralistic and democratic populace. If there is *some* evidence that ICT can empower and include its users (DTI 2000), there is certainly little evidence that those who do not have the use of these technologies will similarly benefit, and, as Roszak and others have argued, there is little use in accessing information which cannot be clearly understood and converted into knowledge and understanding.

The internet has also been linked to ideas around free association and free speech and seen as thereby contributing to the opportunity to develop a fully democratic political forum on-line. As, theoretically, anyone can post a message to a newsgroup or launch their own website it is said that there is less censorship on the internet and that those who may not obtain a hearing through traditional political channels can present their views in cyberspace. It is further argued that, as the internet is currently a largely written medium, which additionally makes use of asynchronous communication methods, anyone who can write can present their ideas to a wider audience. Unencumbered by timidity, or any other challenges such as physical disability, individuals who might feel discouraged from participation by the current

format of debate in open meetings can find their voice in an electronic, text-based public forum. Furthermore, individuals will no longer have to travel to political meetings and debates - which instead can be held on-line - so including in political discussion those living in remote places or those unhappy to travel to public meetings, who may previously have been excluded from political participation. This view has lead Nixon and Johannsson (1999) to further assert that cyberspace is a place where competing and challenging perspectives can be fully aired without fear of intimidation or recourse to cultural stereotypes. In a time when political interest in much of the western world (as measured by turnout in democratic polls) is seen to be at a low ebb, Nixon and Johansson believe that the open and inclusive nature of these places of cyber-politics, or indeed the possibility of voting on-line, can awaken interest in the democratic process. However, there are also a number of anti-democratic groups which use the internet to spread their own views. These groups are as likely to see the advantages of posting their manifestos on the web as are those organisations interested in furthering democratic values, indeed the largely unregulated nature of the web may mean that this is one of the few mediums which will continue to provide space to host the ideas of such organisations.

ICT and the network culture

The rapid development of ICT has been said to have hastened, and in many ways underpinned, a process of globalisation[25] in the world economy over the last two decades. Without these sophisticated and rapid methods of communicating vital bits of information across the globe in a matter of seconds, rather than hours or days, it is argued, this process might have faltered, constrained by physical and spatial limitations. ICT, however, have been said to have helped to further "compress" time and space (Harvey 1989) and to increase the "space of flows" (Castells 1996),

[25] Globalisation is also a term with many different meanings. Urry outlines two processes of globalisation. The first involves "Processes operating on an emergent global level which over time are compressing the distances between peoples and places found within different societies" and the second which refers to "An end-state in which the whole earth is criss-crossed by global processes and in which individual places, groups of people and individual societies have entirely lost their significance and power - there is a single global society" (1990:3)

elements which have been identified as essential factors underlying the move towards a globalised economy and culture. As such these technologies are generally perceived to be advantageous to already powerful global elites.

Bell (1974) saw the roots of this global system in a new kind of modernity which was ushered in by changes in transport and communication in particular. As modes of speedy, long-distance travel and communication became normalised, so perceptions of time and space were altered forever and the world became "a smaller place", more easily explored and dominated by capitalist enterprise and western cultures.[26] The importance of the rapid movement of goods and information across the globe and the rise of the global marketplace were considered crucial to this development. The needs of producers to establish the optimum market for their goods, to identify potential buyers and prices, to sell the goods which are in demand and at the time that they are needed, it is argued, drive this change forward.[27] Good quality information networks are seen as essential to ensuring that such companies stay competitive and informed in a greatly expanded global marketplace. Manuel Castells (1996,1997,1998) expands on these issues in his three volume treatise, *The Rise of the Network Society.* He suggests that existing trends towards interconnection and globalisation have been aided, and indeed underpinned by, technological innovation which in turn have been driven by the needs of capital in an "informational mode of development" (1996:17).[28] According to Castells, the social world has become part of a new and radically different paradigm as the twentieth century has seen the emergence of "...a networked, deeply interdependent economy" (Castells 1996:67) in which, in their drive for profit, businesses must find expanding markets for goods and the cheapest sources of raw materials and labour power across the globe. The global market can only be properly played by the transnational corporation, whose immense productive potential has only lately been realised, argues Castells, through the recent

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[26] These ideas have since been taken up by David Harvey (1989) in *The conditions of post-modernity* and his notion of "time-space compression" is more often used to refer to this phenomenon

[27] This demand and supply mo(Roszak, 1996, 1986:213) del is very much the view of the classical economist, it could as well be argued that consumer demand is in fact created through advertising and marketing by the producers of the goods themselves

[28] Writers, such as Roszak (1986) have highlighted the important part played by the military establishment in the development and promotion of such technological innovations

application of technological innovations and their convergence in information and communication technologies. Developments in computer networking, the emergence of email and the world wide web have been seen as contributing to these globalising trends and as helping the new type of global economy to arise in the last quarter of the twentieth century, with ICT thereby providing the "indispensable, material basis for its emergence" (Castells 1996:67).

The networked economy, Castells goes on to argue, has led to the emergence of new types of enterprise, favouring those organisations which have developed capacity as generators of knowledge and innovation. The key to successful intervention within the globalised market system, he suggests, is the efficient processing of information and the ability to adapt to variations in economic systems around the globe. Only those organisations which have proved flexible enough to adjust their goals and activities to keep up with the constantly changing demands of the world economic system in the late twentieth century can survive in the new business environment. He goes on to argue that new forms of organisation and a different business culture were necessary to sustain new working practices based on autonomous, networked and interdependent sectors rather than a highly centralised business model, in what he has dubbed "the network enterprise". Kelly (1994) has also identified the success of new forms of enterprise and networked organisations, positing an evolutionary model to explain their development. A "network era", he suggests, emerges from the increasing complexity of contemporary economic and social systems in which:

> dense communication creates artificial worlds ripe for emergent co-evolution, spontaneous self-organisation and win-win co-operation. (Kelly 1994:116)

The network era therefore points to the emergence of new structures and methods of enterprise together with the demise of the old traditional and powerful hierarchies of the past. Within the contemporary network economy, patterns of production and consumption are said to be consumer rather than producer led, with choice as a major feature of the marketplace. There is another sense in which the new network era has been said to usher in a new spirit of co-operation. National borders, and therefore nationalist and parochial sentiments are said to be breaking down in an era of transnational corporations and cross-border communications. This "...vision of a

borderless, decentralised world of bits (rather than atoms)..." (Paschal 2001:33) has been credited with breaking down traditional power relations and class identities leading to the emergence of multiple identities which function within more democratic, non-heirarchical structures in which co-dependency is fostered and more interactive and egalitarian relationships are allowed to emerge (Kelly 1994).

Again, these developments are presented in a largely positive light, however globalisation has been criticised from many quarters. In the first instance a number of writers have questioned whether a new global economy did indeed arise in the last quarter of the twentieth century, suggesting that markets began to develop on a truly global scale at least a century earlier (Harman 1996:5-9). Others have argued that twentieth century globalisation is a more a period of ascendancy for the transnational corporation rather than the small, flexible producer and that this has resulted in a degrading of labour market conditions worldwide, loss of consumer choice, of democratic accountability within a world in which little has changed with respect to power and class structure (Klein 2001). Ironically, opposition to these, more damaging, effects of globalisation has also been organised on a transnational basis. The demonstrations against the World Trade Organisation (WTO), for example, which began in Seattle in 1999 and which have been held in a number of countries since (Bircham and Charlton 2001: 340-1) have been organised on an international basis, mirroring the international constitution and remit of the WTO itself

That the economic structures within most Western societies have been transformed in the last twenty-five years, largely as a result of the gradual emergence of global information flows, is rarely challenged. The consequences of these changes are more often disputed. Lyons (1988) has questioned the novelty of network enterprises, pointing out that the global marketplace is less crowded with emerging innovative business enterprises and in reality continues to be dominated by existing multinational corporations, which are becoming fewer in number and larger in size and range of interests. The argument that new, flexible network enterprises have eschewed the mass production techniques of old and are producing for an increasingly individual

consumer tastes has also been challenged.[29] Rather than witnessing a flourishing of new, smaller and more flexible organisations meeting individualised consumption needs, Lyons suggests that a new cultural imperialism has emerged together with a universal culture in which western ideas, images and values predominate over a loss of local culture and imperatives.

In the network society, however, more egalitarian and less heirarchical social structures are said to prevail. This observation has been especially pertinent to discussions of the contemporary built environment where it is argued that existing models of city development have been overturned (Graham and Marvin 1996). Previously cities were concentrated around a central commercial core, where land was at a premium as business expanded to take up available space. The solution to rising land prices was building density, hence the corporate skyscrapers and residential tower blocks which have come to dominate many central city spaces around the globe. However in the network society advances in communication, the move away from factory production to information production and transfer and easier and faster modes of transport, all mean that the city's physical form can be planned very differently along the principles of networks rather than of centralisation (Graham and Marvin 1998). The new networked city, it is posited, would have no need of a central core, businesses could locate outside of cities, or within residential districts, wherever transport links were sufficient to allow the efficient movement of their workforce. Indeed, information industries would not even need a centralised workforce, and teleworking would allow workers to remain at home or when on the move, working at personal computers and laptops connected to a central office.[30] As a networked society develops, the geographical location where people are based becomes less important, local community and connections are transcended and communities of interest are forged across the globe replacing communities based on geography and residential location (Wellman 2000).

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[29] Indeed Klein (2001) shows that mass production techniques have largely been exported to low-wage, poorly regulated economies of the South

[30] The much heralded rise of the teleworking society has, however, been slow to materialise, (Castells 1996, Britton et al 2000) suggesting that any proposed benefits have to date only impacted on the lives of a minority of the population.

However, so much has been invested in the development of existing cities, built around traditional models which fitted the needs of early industrial production, that these are unlikely to be completely abandoned in the short term, despite the much discussed movement of shopping centres and supermarkets to out of town locations which took place, in Britain during the late 1980s and continued into the 1990s. Instead there has been a move to link existing cities, by means of advanced telecommunication links, in urban corridors or hubs (Malaysia and Singapore respectively) (Graham and Marvin 1998:346-9). City planners have been eager to discuss the possibilities of building networked cities, laying a network of broadband fibre-optic cables under the streets and between major centres, or supporting projects which provide concentrations of advanced telecommunication hardware to particular areas or buildings within the city, thus opening up access to a wider layer of businesses and individuals.

Rather than resulting in a "flatter", more inclusive and less hierarchical communications structure, however, this trend has been identified with a fracturing of cities (Garreau 1991, Graham and Marvin 2001) and a bypassing of whole populations (Davis 1990, Castells 1998) as investment, employment and opportunity are increasingly concentrated in particular nodes and networks. Castells also argues that ICT have been used to reinforce culturally dominant networks and have favoured "...the cosmopolitan, global elite" (1996:363). He outlines the dominance of investment in products which use cyberspace as an entertainment medium, and while celebrating alternative social movements which have challenged this dominance, sees the continuing predominance of market-led, profit-dominated behaviour in "cyber" and real worlds alike. To illustrate this point, Castells (1996:404) examines data on rates of telecommuting which show this is a minority practice despite technological innovations in communication technologies which make it perfectly feasible working practice for growing numbers of employees. He demonstrates however, that most corporations still demand that their employees travel daily into the traditionally supervised environment of the central workplace. He points too to the fact that, despite the flexibility in business and working patterns which ICT allow, most cities are still constructed around central business districts where work and commerce are concentrated. Where out-of-town developments take place these still concentrate

work, although in this instance in suburban science and technology parks, and the traditional city structure is rarely abandoned. Castells reflects on the continued rise of cities, and the appearance of the "mega city" of ten million plus inhabitants demonstrating that power remains concentrated in these centres where little decentralisation of wealth, power, or work has occurred.

Certainly over the last decades technology has come to play a part in many people's everyday lives. It is no longer the preserve of the expert, or the extremely wealthy. Many people are now familiar with the use of computers at work, the domestic market for personal computers in the home has grown quickly and many people are used to having domestic appliances and cars with computer chips which can be programmed to perform in ways which were not possible even ten years ago. As an example, the growth in the use of the internet and communication by email has undoubtedly been phenomenal. Use of the internet has been reported in the media as "The fastest growing activity in the world" with one million people on-line at the start of 1995, and forty million around the world at the beginning of 1997.[31] In March 1997 the Guardian reported a growth in web pages from one hundred and thirty in 1993 to thirty million in early 1997.[32] At the start of this study in 1996 it was estimated that, by the year 2000, there would be 200 million people using the Internet world-wide[33] in fact Nua internet surveys estimated that there were over 418 million by December 2000. A Guardian/ICM survey in late 1999 claimed that use of the internet in Britain was growing faster than any previous technology, including radio and television, predicting that half the UK population would be on-line by late 2000.[34]

While use of the Net may be growing at a prodigious rate, however, at the turn of the twenty-first century it remained a far from inclusive medium. The Graphics, Visualization and Usability Center (GVU) at the Georgia Institute of Technology publish their *World-Wide Web User Surveys* which showed that the typical web user in 1999 was male, aged thirty-five, working in the computer or other professional/

[31] The Guardian newspaper 13.05.97, "What a Web We Weave"
[32] The Guardian newspaper 27.03.97 "How to disentangle the Web"
[33] The Guardian newspaper 11.06.96 "BT scores Internet coup"
[34] Reported in the Guardian 20.12.99

managerial occupation and likely to have a degree and an above average income. The research did, however, show more interesting relationships emerging over time. GVU's first WWW-user survey was conducted in 1994 and has been conducted at six monthly intervals ever since with its findings published on the World Wide Web. The first few surveys showed dramatic shifts in the demographics of the user population as millions came on-line in the mid 1990s. The age profile of the typical internet user increased steadily, women began to make up a larger proportion of web-users than previously and professionals from a wider range of fields began to find the web a useful tool. In the United States the age and gender profile has shown that women over fifty years of age have become an increasing user population and that the United States has a slightly older age profile of Web use than does Europe. Worldwide, GVU argues, there is a trend towards an ageing web user profile - the average age of users has aged one year in each year of the survey, suggesting that people who have been introduced to the use of the Web are staying with that use. Their figures suggest that "...the core demographics of Web users are stabilising" (1999:6) and that the inclusion of more women and a wider range of social groups may have plateaued. This increasing interconnectedness has been associated with the de-monopolisation of information flows and the empowerment of those individuals and organisations which take control of their own information needs (Castells 1997:108).

The best of all possible worlds? The emergence of the ICT-enthusiast

The development of information and communication technologies has been seen as further evidence of the emergence of the information society. Previous conceptualisations of information society have seen technology as a more or less benign and progressive force and this outlook has also permeated the discourse around ICT. It has been argued that to fully understand the optimistic outlook demonstrated by the enthusiasts for ICT it is necessary to look back to the history of this particular technology's development and the values which helped to ensure that it was a success. Barbrook (1999), for example, explains the development of the internet as a product of an academic "gift-economy", where, he argues, the free

exchange of research findings and ideas is seen as the norm and where collaboration with, and the recognition of, peers is the main reward expected. These values, he argues, are far from those upon which a purely commercial market-oriented approach would rely. According to Barbrook, the internet pioneers were motivated and informed by "New Left" thinking, which he believes predominated in the academic community of the 1960s when the internet was starting to become an accepted way of communicating within a number of connected universities. These ideals, he argues, fostered an anarcho-communist approach to its use which has ensured that:

> ...the free exchange of information has therefore been firmly embedded within the technologies and social norms of cyberspace. (Barbrook 1999:2)

Roszak (1986) has referred to the counter-cultural development of the personal computer. He writes of the lack of interest which the market dominator IBM showed in the possibilities of home computing in the 1960s and early 1970s. According to Roszak, a group of "radical hackers" in the United States, concerned that computers were being used primarily to hold information on the mass of the population for the benefit of governmental organisation, set out to democratise the holding of information. They set up a network of computer terminals in an area of San Francisco which were free to access and which hosted bulletin boards upon which people posted their own ideas and computer art. This group were later involved in providing the first commercially available microcomputers which could be used from home and which were bought through mail order. Members of the group were, he suggests, motivated by a vision which married concern with creation and the sustenance of community with a return to more rural environments and they hoped, through the mass use of computer mediated communication"...to create a global culture of electronic villages..." (Roszak 1986:147), and thereby to sustain community outside of an urban environment.

While the guiding vision of Roszak's "radical hackers" might appear naive in the early twenty-first century, Barbrook argues that the value system of free access and free services continues to permeate the use of cyberspace more than thirty years on, despite the increasing use of the internet by commercial organisations and that

although "...most politicians and corporate leaders believe that the future of capitalism lies in the commodification of information" (1999:4) that most people still use the net to freely exchange information, knowledge, views and services in the spirit of its early pioneers. It has been persuasively argued that "communities" have thereby been built in cyberspace (Rheingold 1994, Wellman and Gulia 1999) and that as these connections made in cyberspace become increasingly important to individual members they begin to emerge as "cyberplaces", places which are "full of significance" and "replete with meaning" (Smith 1987 in Williams and Thrift:297) to their users. These claims are echoed in the work of Erik Stolterman (2000), who argues that ICT should be seen as an "open technology" which, being suited to varied and extensive manipulation and customisation by the user, can be better adapted to a community's needs than any previously existing technologies.

The digitally deprived

If the internet is celebrated as opening up novel forms of communication and co-operative working the converse notion that those who do not have access to ICT will be trapped with more traditional and thereby, less liberating, forms of social relationships has also received a great deal of attention. The concentration of internet use in the wealthier regions of the world, outlined above, has led to a concern that new inequalities are being created (Castells 1996, Urry 1998) as key people, information and economic capital flowing across powerful global networks, bypass whole regions of the world. The resulting disparity in access to these networks has been called the "digital divide"[35] and Castells has spoken of "switched-off regions of the world" in which "...differential timing in access to the power of technology for people, countries and regions is a critical source of inequality..." (1996:34). His data alone does not necessarily negate the claims made by those who are concerned with the inclusive *potential* of the medium of cyberspace, but they certainly suggest that this potential is far from being reached.

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[35] See for example Carvin, A. (2000) "Beyond Access: Understanding the Digital Divide" or "Closing the Digital Divide: Information and communication technologies in deprived areas", DTI 2000

The digitally deprived are constructed as those who lack access to the new technologies wherever they are physically located or who find that they do not have the requisite skills to "sell" in the information economy. For Castells, the economically marginalised and impoverished inner-cities of North America, while they might be closer in geographical terms to dominant groups who make much use of digital networks, are as much a bypassed population as those living in the developing economies of Africa, Asia or Latin America where access to basic communication devices such as the phone or radio are denied to many. These areas make up Castells' "fourth world". The digitally deprived are divided from the digitally active in such a way that they are devalued as individuals, as collective groups and as workers. In rather dramatic style he dubs these regions of society as:

> ....black holes of informational capitalism....regions of society from which, statistically speaking, there is no escape from the pain and destruction inflicted on the human condition for those who, in one way or another, enter these social landscapes (1998:162)

It is clear from this characterisation of the digitally deprived that it is not only a deficit of technology which constrains the fortunes of this group. Rather it is the, implied, conditions of multiple deprivation which have shaped their lack of technological expertise and experience and which have contributed to their exclusion from the network culture. Castells' "black holes" are already bypassed regions of the world in which economic capital, opportunities for employment and education are severely limited. They are places of economic hardship, social and political marginalisation, cut-off from a wider layer of social networks which would allow them to prosper in the new information economy. The digitally deprived are therefore perceived to be starved of both the human and social capital (Bourdieu 1986) which would allow them to take advantage of the opportunities offered to them in the information society. They are represented as this society's underclass, lacking the human and social potential to thrive in an information economy, or as an excluded, side-lined population for which the information capitalists have little need. Digital deprivation has also been linked to social and cultural deprivation, especially by those techno-evangelists who advocate the benefits of electronic communication. Without access

to ICT, it is assumed, certain neighbourhoods will lack the opportunities afforded by electronic connectivity, they will be reduced to the formation of failing, door-to-door communities, to existing and inadequate means of political communication and remain unable to ensure that their neighbourhoods are adequately informed and prepared in a continuously changing economic environment.

Digital deprivation then, has come to be equated with material deprivation but also social and cultural deficiencies and to a culture of "information poverty". It has been assumed that those lacking access to advanced technologies suffer from being denied access to the economic opportunities which the network economy offers and it has also been assumed that the materially poor will be socially, politically and informationally poor. The solution to this multiple poverty has been placed in the use of ICT to promote economic, social and political inclusion, hence the many initiatives which have been announced over the last decade to broaden access in the information age. The link between the growing inter and intra-regional inequalities across the globe and unequal access to ICT is a recurring theme. However the equation of digital with material deprivation has been so strong that it is often now assumed that there is a technological solution to exclusion and deprivation itself, that somehow by providing a neighbourhood with the best technology through community ICT projects, supplies a community with the means that it needs to overcome deprivation and exclusion.[36] Under these circumstances, continued digital deprivation is a serious matter indeed. However, if use of communications technology does not prove as transformative as its proponents assume then the digitally deprived have less to fear.

Gender and technology

It would be a mistake, in this discussion of the digitally deprived to omit any reference

[36] See for example the North West Social Inclusion and ICT Forum (1999) *Economic and Social Regeneration in the North West of England: The Double Bottom Line*

to the relationship between gender and technology. Following an established tradition of study which questions women's access to, and subsequent familiarity with, new technologies so an exploration of women's relationship to computing and ICT has also emerged (Cockburn 1983, Spender 1995, Webster 1996, Adam and Green 1998). Two major approaches can be identified. The first of these focuses on gender divisions of labour, especially in employment related to information technology (see Spender 1995) and the second, on the relationship between gender and cyberculture (see Haraway 1985).

The first of these approaches is allied to a position which suggests that women are generally marginalised from technological developments through two related processes. Firstly, the heavily male-dominated occupational structure of the IT industry has been invoked to suggest that technology is likely to be developed from a particularly male perspective and without taking into consideration women's distinctive use of technology. Secondly, it is suggested that the designation of women's work as unskilled has meant that women have generally been located in occupations which have not required the use of technology, or that technology was not introduced into the workplaces where women predominated (Adam and Green 1998:85). In addition, women were seen as particularly vulnerable to loss of employment through the introduction of IT into the workplace (Werneke 1985:400-414). This has resulted in an identification of technology with the male, women have been perceived as marginalised from technology or technologically inept and "stepping out of role" (Cockburn 1983:151-190) should they find technology interesting or enjoyable to use.

The second of these approaches which explores the gendered nature of cyberculture is more ambivalent concerning the marginalisation of women from technology. It has been suggested that women have had less time to become enculturated into the use of technology - being deterred from studying related subjects at school and colleges, lacking the autonomy and choice at work to start experimenting with the use of technology and having less leisure time at home to play with computers. As many writers have highlighted:

> Women's access to or exclusion from Internet technologies takes place at more than one level. They must have access to the technological artefacts, which either means having professional employment or sufficient financial resources to supply the equipment at home. A second part of the access problem, one which is rarely discussed, involves having sufficient time to use and become proficient with the ICT. (Adam and Green 1998: 93)

This approach has also stressed "female resistance to new technology" (Morahan-Martin 1998:1) and quoted the gender imbalance in use of ICT around the world to justify this stance. However another strand, which has been dubbed "cyber-feminism" (Squires 1996 in Adam and Green 1998), has also developed to account for the growing numbers of women who are going "online" in the western world at least. This approach sees the connectivity and alternative culture of the internet as well suited to the organisation of women (Barthol and Ring 1998, Pollack and Sutton 1998, Harcourt 1999), allowing a non-heirarchical and democratic medium through which to access different communities of women, connecting local struggles across a global network "...defying definitions of women as simply the exploited victims of modern development" (Harcourt 1999:9).

However, it is generally accepted that although some women are learning to use ICT to benefit themselves and their communities (Harcourt 1999, plant 1997) that these are the "educated, political elite of their countries" (Harcourt 1999:6). In the poorest and most marginalised neighbourhoods across the globe it is often assumed that women will be less inclined towards use of technology, more likely to be excluded from its use and with less time or resources to enable them to take advantage of digital connections, than their male counterparts.

Chapter Three The research project

Aims and Objectives of the Research

As the previous chapters demonstrate, much of the discussion of information society and information and communication technologies has been highly generalised and debates around theories of the information society formulated at a high level of abstraction (Ducatel and Halfpenny 1993). It is impossible in a work of this size, to comment on all the aspects of the information society which have been raised to date. My focus is on the relevance of these discussions to people who live in socially and economically disadvantaged areas. These individuals have certainly been affected by many of the transformations which have occurred in society as a result of the supposed move into an information age. Their economic landscape has changed, traditional industries have declined and the need for many old skills has withered away, employment opportunities have altered substantially and the technological landscape in which they operate has also changed greatly over the last thirty to forty years and in ways too numerous to explore here.[37]

As we see later in this work the ideology of the information society has infiltrated the research areas. That we live in a society in which engagement with new technologies is seen as an essential requirement of modern life, is deeply held. From the late 1980s onwards the convergence of telecommunications and computing technology presented an added dimension to this discussion. It has become a common-sense maxim that to be outside of this new technological landscape is to be deprived, disadvantaged and divided from mainstream society. The emergence of information and communication technologies was seen to usher in a myriad of new possibilities for connections and communication across the globe. As outlined in Chapter Two the

[37] But see Robins and Webster (1999) for a wide-ranging discussion of the changing technoscape

claims made as to the transformative capacities of ICT have been many and varied, however, running through the discussion has been the notion that traditional forms of communication are set to be replaced by these new media. Furthermore it is suggested that knowledge of these technologies is becoming essential to engagement, not only in new social networks but also in the world of work, economic opportunity and democratic participation. As a result there has emerged a concern to ensure that all social groups find themselves included in the new age of information and communication. As will be outlined later in this work, this call has been taken up by policy-makers and practitioners concerned to improve the opportunities available to all citizens and to ensure their inclusion in a digital world. This ideology has been absorbed by many individuals who are keen to do whatever they can to ensure that they escape the effects of such exclusion. Personal action to stave off this exclusion can take many forms, from subscribing to the latest digital television channels so as not to miss out on the latest entertainment opportunities, to the purchase of state-of-the-art computing technologies to improve employment skills and to enhance the domestic environment. The message appears to have been received and understood - to ignore these technologies is to be left behind, to be marginalised and excluded from the possibilities which the information age opens up. Inclusion within the information society then, is seen as beneficial, indeed essential. If these technologies benefit already powerful global elites, it is asserted, then they should also be available to more marginalised groups in society. Indeed it is claimed that to do nothing to address the inequalities which exist in access to computing technologies would be to compound existing economic and political marginalisation and social exclusion.

There is a need to test these claims in the empirical world. As Castells has acknowledged, much of the debate surrounding community and cyberspace remains "sterile and limited" (2001:117) because many of the ideas on which it depends were formulated before the widespread use of the internet and the opportunity for empirical research which could investigate these ideas in practice. The research reported here is an attempt to begin to redress this balance. It takes as its subject two economically and socially marginalised neighbourhoods within the city of Salford, situated in the north-west region of England. The research focuses on the experiences of the residents of areas seen as neighbourhoods with an information and technology deficit,

with the "information poor" and economically deprived, where access to ICT is constrained by financial, educational and informational barriers. This research explores the nature and ramifications of an inequality of access to computing technology and the effects which this may have on interest in and possible future use of ICT within these areas. It asks whether there *is* a technological deficit in these areas and whether this has led to a lack of interest in ICT or helped to create a "digital underclass". Although the research is situated in two areas in one city these areas are typical of many across the UK and some findings will prove to be significant in similar neighbourhoods located elsewhere in the country and may have more general application. The research contributes to an understanding of:

i) how and to what extent notions of the information society have penetrated such neighbourhoods (Chapter Five)
ii) issues motivating access to and connection with ICT (Chapter Six)
iii) the extent and nature of those impediments which prevent access to and use of ICT (Chapter Seven)

In this research I have avoided speculation on the future nature of virtual communities, or as to whether MUDS (Multi-User Dimensions), E-mail, Bulletin Boards, Newsgroups and so on provide the best possibilities for the emergence of community in cyberspace. Suffice to say that I do believe there is evidence to suggest that social networks of people who might otherwise have never conversed and shared ideas and opinions have been formed over the Internet (Shields 1996). How important these networks are to the individuals, or will become to them, is yet to be fully and adequately researched as the emergence of these "spaces" is so novel that their potential cannot yet have been realised.

The development of the GEMISIS partnership

During much of the 1990s the city of Salford was attempting to position itself as a "wired city" and a place at the forefront in the use of cabling technologies. The city council was engaged in a partnership with the telecommunications company NYNEX (which later merged with Cable and Wireless) and the local university in an experiment to transform the communications infrastructure of the city. The then

NYNEX CableComms Ltd had placed a broadband fibre-optic ring of cable connections around Salford University and were busy extending this to other parts of the city. This partnership was given the name of GEMISIS (the acronym represents the following areas of interest for the partnership: Government, Educational, Medical, Industrial and Social Information Superhighway). GEMISIS was formally constituted in January 1995[38] and publicly launched in Salford in the following year.

Until the early 1990s the focus of cities wishing to enter the information age was mainly economic and local governments saw their role as facilitating the introduction of a modern telecommunications infrastructure and raising awareness of the economic developments which could arise from such a service (Ducatel and Halfpenny 1993). However, following the example of the electronic village hall movement, initially in Scandinavia, and the experience of community networks in the United States[39] regional and national governments began to see that new technologies opened up possibilities for community development. The claims as to the novel aspects of ICT fed into concerns to democratise, empower and regenerate the lives of people living in marginalised neighbourhoods. The GEMISIS partnership positioned itself within this particular discourse. It had among its stated aims a commitment to the use of ICT for the enhancement of civic society rather than for the benefit and profits of large-scale commercial enterprise.

According to the promotional literature[40] which was made available at their public launch, the GEMISIS project was concerned to identify and develop ways in which this fibre-optic network could be used to:

- develop information technologies which achieve the maximum benefit for the community
- promote economic regeneration, forge closer working relationships between the public and private sectors
- improve the quality of life for the community, to develop new, lower cost applications into fully viable commercial services

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[38] GEMISIS 2000 Briefing Pack

[39] See Chapter Four for a fuller exploration of both electronic village halls and community computing networks

[40] GEMISIS 2000 Mission Statement

- provide test-bed sites for UK and US multi-media initiatives
- develop the University of Salford as an international education, training and consultancy centre for the new telecommunications and cable industry
- develop joint applications between the University of Salford and NYNEX including a community television channel and distance learning via the information superhighway

The GEMISIS partnership hoped, through the "championing" of ICT projects across the city, to help form the "relevant social group" (Graham 1996:58)[41] which would shape the development of technology across the city and the wider region.[42] In keeping with the partnership's emphasis on serving the needs of the local community, it was envisaged that it would seek further partners and locate test-bed sites at a variety of civic locations such as schools, hospitals, the fire-service, local police headquarters, local authority sites and libraries as well as at the University of Salford and key business locations.[43] In a period characterised by a rapid rate of technological breakthroughs and improvements in computer technologies together with the development of increasingly user-friendly software, the GEMISIS partnership adopted a particular perspective, to allow people, rather than technology to drive the introduction of ICT into the city. In order to achieve this objective GEMISIS employed a number of full-time staff, each with responsibility for a particular "Topic Team" and the deployment of thirty doctoral researchers on different projects which would reflect the partnership's range of interests. This research arises out of the work for one of these doctoral scholarships and is located within their "Community" topic area.[44]

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[41] Graham (1996) utilises social constructivist and actor network theory to shed light on the extent to which such groups have shaped the development of telecommunications in Britain and France

[42] It is not within the scope of this work to comment on the extent to which the GEMISIS partnership succeeded in these aims, but see Vakola (1999) for an evaluation of the GEMISIS project.

[43] GEMISIS 2000 Mission Statement

[44] GEMISIS was initially divided into five Topic Teams. The other topic groups were Education, Health, Business and Crime Prevention.

Working with "community"

Meanings of "community" are many and varied (Crow and Allan 1994:3-7). Wilmott (1986) distinguishes three categories of community which he terms "territorial" or "place communities", "communities of interest" and "communities of attachment". Each of these community types is presaged on a commonality, in the first case this is a shared place of residence, in the second it is shared characteristics such as ethnic origin or occupation and in the third it is a shared agreement or compact which brings people together. The three types of community can coincide and in such circumstances, it is suggested, any community feeling would prove to be particularly strong (Crow and Allan 1994:5). The perfect community is therefore often portrayed as one in which individuals and groups naturally organise themselves to work together to actively shape their shared environment. Most groupings which are considered "communities" fall far short of this standard, yet this ideal type of community is accorded an almost mythic status and is seen as the perfect model of neighbourly relations and a state to which neighbourhoods should aspire. Those areas which fall short of this ideal are thereby considered as lacking in some respect (Suttles 1972:9) and may be seen as in need of some support or intervention. As outlined earlier, ICT have been considered as just such a medium for the support and the building of community. Schuler has viewed ICT as relevant for the strengthening of "place communities" whereas Wellman has largely disregarded this first type of "community" and proposed the building of "communities of interest" and of "attachment" in cyberspace which do not contain a geographical referent.

In all these conceptions, community is considered a positive state of relations to which people will generally aspire. Of course this formulation of community as ideal has been challenged. Sennett (1970:xv-xvi) has drawn attention to the claustrophobic and repressive nature of many small communities and Crow and Allan (1994:7-12) to the realities of exclusion from community life. Nevertheless "community" and "community work" invoke ideas of co-operation, lack of conflict and democratic

decision-making (Robson 2000:71), as well as citizenship, inclusion and contentment (Etzioni 1993:6).

Community as the site of social change

Robson (2000:68) has argued that in many areas of social policy the use of the term "community" has become a substitute for the economically disadvantaged. He identifies the source of this altered use of the term in a set of ideas which emerged in the mid-1970s. He argues that advocates of "community action" emerged from a re-aligned political left, which had become disillusioned with communism after the Hungarian and Czechoslovakian uprisings of 1956 and 1968 respectively, and which had also become frustrated with a "class struggle" which appeared demoralised and defeated. The "old left", he argues, clung onto the belief that issues of homelessness, unemployment and poverty could only be resolved through class action, while a realigned "new left" looked towards community activity as a tool of resistance and of social change (Robson 2000:67-71).[45] "Community action" therefore became synonymous with the activity of those poor and marginalised social groups which were involved in attempting to improve their local environment and services, and "community work" was the attempt to develop the motivations and skills of the residents of such areas to promote collective activity, and in the process, to empower individual residents and to work to improve local conditions.

During the mid-1970s to mid-1980s, "community development" work was considered by some to be a radicalising force, not least because it appeared diametrically opposed to the rising neo-liberal agenda of the period. This agenda was summed up in the then Prime Minister Margaret Thatcher's notorious assertion that "There is no such thing as society, only individuals and families" (Byrne 1999:19). The community development movement stood against this trend but also came under some criticism for abandoning traditional class struggle, denying the significance of class identity and

[45] This refocusing of interest away from class and towards community has also been associated with theories of post-industrialism which suggest that the the "informatization" of work results in increased social mobility and a weakening of class identity and of working class solidarity (Byrne 1999:66).

fracturing the working class movement by concentrating on local issues and campaigns (Robson 2000:70-1). This criticism was also based on the view that local communities have little real control over their economic and social conditions and that the problems of marginalised communities are essentially structural and a result of inequalities in wealth and power which are better challenged at the macro-level. Nevertheless, community action and the community development model were generally associated with a democratic, "bottom-up" solution to local problems.

The 1980s saw another, more conservative, approach to community emerge. The neo-liberal emphasis on the responsibility of the individual to take action to better their own living conditions was used to justify the withdrawal of state led service provision (Pratt 2001:38-9) and to blame the poor for their particular plight (Byrne 1999:15-22). Anyone who was not thriving in the market-led culture of this decade was assumed to be dysfunctional and wedded to a different and inferior set of values and behaviours (Novak 2001:187). This "underclass" (Murray 1990) had to be re-trained or coerced into a different way of life and an appreciation of an enterprise culture (Pratt:2001:46). This view held that the most disadvantaged communities across the UK had in some sense "broken-down" (Robson 2000:114), losing a sense of a shared identity and commonality, and that traditional community values such as neighbourliness and reciprocity needed to be re-asserted in order to rebuild strong and thriving communities (Crow and Allan 1994:37-44). Whether such strong and vibrant communities ever existed or whether they were creations of a nostalgia for the past has been questioned (Robson 2000:114-5) yet the belief in the ordered and stable communities of earlier periods led to a revival of interest in incorporating "community" into social policies. This agenda, which stressed the significance of individual action alongside a longing for the reassertion of community values, might appear contradictory, however both were based on an abrogation of state responsibility.

An emphasis on "community" can therefore conjure up very different images depending on the perspective adopted and the appeal to community has been taken up by both radical and conservative political agendas. Community development can be seen as a grass-roots and locally-based activity in which inspiration is taken from the

objectives and actions of neighbourhood activists but it can also take the form of a government inspired imperatives aimed at fostering dependence on local rather than state sponsored action for social change. Nor is it always clear which particular perspective is being supported by those who invoke community in their work.

The persistence of community

There is an underlying assumption to much of the discourse around community and cyberspace that social networks and support systems built electronically can be useful in the rebuilding of lost place-based community. This approach is evident in the work of Wellman, Schuler, Miller, Castells and others. Government and media rhetoric also bemoans the loss of community and the search for different forms of meaningful and relevant civic association. Crow and Allan have argued that this perspective has led to state attempts to "engineer" successful communities and that this has resulted in a "top-down" intervention which appeared very much like a form of essentially conservative and anti-modernist "social engineering" (1994:157-161). This agenda has been further extended and strengthened by the influence of communitarianism[46] which, following its re-emergence in the United States has been a major aspect of Labour party thinking (and government policy) since the middle of the 1990s (Robson 2000:114-124). These perspectives suggest that across Britain, and especially in impoverished urban areas, one should expect to encounter atomised and fractured communities with little trust and tenuous social bonds. However my experience of community association in the research areas was very different. Instead I found that ideas of neighbourhood support and friendship networks were key to survival in these difficult areas. Whilst the idea of "community" was not particularly articulated by the research participants, it became increasingly obvious that different forms of "community" were integral to people's lives. Community feeling was built, for example, around shared residential and organisational spaces, common interests and

[46] Communitarianism is a philosophy, imported from the United States, which counterposes the enduring significance of community to the "excessive individualism" (Etzioni 1995:x) which has characterised relations in the west in recent years. It suggests a rebuilding of community relations in order to combat some of the worst excesses of the recent past, to use shared norms and values to rebuild shattered communities characterised by fear, inaction and lack of political participation

experiences, kin relations and around age and gender. These community relationships involved the maintenance of systems of social support and interaction built around personal networks of family and friendship which were largely based around the residential community . Many of the women who participated in the research were constrained by lack of transport and finance to the maintenance of particularly local networks for companionship, practical and emotional support. As Wellman (1979) has noted "..in matters of minor need, people turn to neighbours, and in matters of great need they turn to intimates, wherever those people lived" (Fischer 1982:176). For many of the research participants both neighbours and intimates shared the same social and residential spaces. It is not surprising, therefore, that this led a certain pride in shared commitment to place to develop alongside a tendency to place a great deal of trust in those who shared similar experiences and to mistrust those people and organisations which did not.[47]

The GEMISIS Community Topic Team

As outlined above, the Community Topic Team of the GEMISIS project was engaged in promoting uses of ICT which would deliver maximum benefit to local communities. It was envisaged that GEMISIS researchers would develop, then "test" and "evaluate", different applications of ICT in each of the five topic areas.[48] Implicit in this approach then, was a "top-down" style to their particular intervention and an expectation that GEMISIS researchers and staff, as "experts", would play a part in nurturing an interest in ICT and assisting different organisations and groups to become literate in this field. The approach also implied that communities *would* find benefit from their engagement with these technologies. In keeping with many other organisations involved in work with communities, however, the Community Topic Team never clearly defined their concept of what constituted "community".[49] The

[47] I return to the importance of trust in the building and maintenance of social networks later in this work.

[48] This approach was demonstrated in the paper by Tracey, M. and Powell, J. (Undatedc) *GEMISIS Transactions, Number 1*, "Information and Communication Technologies (ICT) and the making of tomorrow" (pp.10-11)

[49] This problem was identified at a meeting of researchers and Professor Michael Tracy from the University of Colorado, visiting GEMISIS professor, on the 29th October 1997, although it generated subsequent e-mail correspondence, the issue was never really resolved

GEMISIS vision statement identified schools, public services and local authorities across the Greater Manchester region as their focus of interest in community, suggesting an engagement with "communities of interest" rather than with residential communities, but at the same time these were seen as operating within a geographically bounded regional entity. Furthermore, the projects which the GEMISIS Community Topic Team began to champion at an early stage were involved in delivering ICT projects within residential communities in some of the most disadvantaged neighbourhoods of Salford. My research project was set up to explore the extent to which these projects might begin to make an impact within community organisations in these areas.

The Research Methodology

The initial aim of my research was to observe the impact of ICT within some of the neighbourhoods in which GEMISIS was active. This meant an initial period of familiarisation with the aims of the GEMISIS partnership and with the different neighbourhoods in which the partnership intervened. This period of the research ran from September 1996 to June 1997. During this period I also collected data on existing ICT projects which had been set up across the UK and which designated themselves as community projects. Much of this research was web-based and involved using different search engines to locate relevant projects as well as joining the Co-Net electronic mailing list. This list brought together community networkers across the UK and Ireland as well as people from the voluntary and statutory sectors who were involved in setting up, or supporting, a variety of community ICT projects and proved a useful source of information on policy and practice throughout the entire period of the research.

After a number of meetings with key collaborators in the GEMISIS partnership, the community committee for Little Hulton (a monthly meeting between community groups, local organisations and representatives of the local authority) was chosen as the initial point of contact for my research. This area had been chosen as a test-bed

site for a number of community projects led by GEMISIS and by the start of the research it had already secured funding for the development of a number of such projects. After giving a presentation on my research interest at the area's Community Committee[50] I was approached by a number of individuals representing community organisations which were interested in participating in the research. I cultivated these contacts for the next two months, attending local meetings and explaining my research interest. After this time it became clear that those groups still expressing an interested in continuing to inform the research had a common connection with the Women of Little Hulton Unite Women's Centre. After an initial meeting with the staff member at this centre it was agreed that this should be the main point of contact for the research in Little Hulton. Since a second women's centre was also situated in the Seedley and Langworthy area of the city, this centre was also approached and agreed to help with the research and to act as a base from which a number of community groups would be invited to participate further. This centre provided the study with a second research site. It soon became clear that these community groups were organisations which might be said to have a "grass-roots" base, to have been set up by local residents in response to some perceived community need. At the time the research began, all the organisations included in the research worked only with women. This gave an added dimension to the research, which had not originally been intended. It meant that the research would focus on groups which had been characterised as some of the most "information poor" within information societies and allowed the research to reflect critically on the use of this term. It was hoped that these organisations would provide a full and sensitive account of the penetration of these technologies into the research areas through community channels and would yield results which had not been distorted by the inclusion of centrally negotiated and developed provision of ICT.

[50] This meeting took place on the 12th June 1997, twenty-five people were present and four community groups expressed an interest in taking part in the research, these were Brierley House, a local training centre, Urban Mission, a faith group active in the area, the Women's Centre in Little Hulton and Kenyon Way Residents Association. After two months following these contacts only the Women's Centre remained actively involved.

The research sites

The city of Salford has a population of 220,463 but is part of the much larger Greater Manchester conurbation with a combined population of around two million. 1991 census data shows Salford to be a predominantly white, predominantly working class city.[51] It is a city which, at the beginning of the twenty-first century, is still battling with the effects of years of de-industrialisation. A century of popular representations of the city - through Robert Robert's 'Classic Slum', Walter Greenwood's 'Love on the Dole', Shelagh Delaney's 'A Taste of Honey', to television's 'Coronation Street' - have emphasised its essentially working class culture. These too, have often portrayed its residents as living a marginalised existence characterised by poverty and poor work prospects. Yet at the same time these popular characterisations also portray Salford as an essentially conservative city in which mainstream values and norms are largely accepted.

The city can be shown to be multiply deprived on a number of indices. A report by the University of Bristol (1993) measuring urban deprivation using data from the 1991 census placed Salford as ninth in its index of deprivation out of the 366 urban districts of England (Walklate and Evans 1999:27). The 1991 census also shows the city having low rates of owner-occupation of housing (52.7%) and a high percentage of its residents living in local authority accommodation (35.6%). In 1980 the Black Report found that the city of Salford had the highest standardised mortality ratio in the country and although this improved during the 1980s this still stood at 111 compared to 100 for England and Wales in 1989 (Salford Community Health 1993). The social and economic deprivation suffered by many Salford residents takes its toll in many ways. The traditional industries of Salford have been mining, cotton, docks and engineering, which later developed into electrical engineering. Between 1959 and 1972, however, 100,000 jobs were lost to local people and local men were hit the hardest (86% of these jobs had been held by men). This rate of job loss represents an annual decline of 8% compared with an annual national job loss of one per cent and a regional loss of just over 6 % annually (GMC County Structure Plan, 1992). In 1995

[51] The proportion of the population who are not white was only 2.2% in 1991

Salford Careers Service estimated that 70% of companies in the city in 1994 actually employed less than ten people.[52] Nor were these companies employing local people at the cutting edge of change. The local labour force in the 1990s remained largely unskilled and the educational achievement of school leavers in the area covered by the Manchester Training and Enterprise Council remained low. In Salford in 1995, 11% of Salford school leavers left with no qualifications at all. In 1996 the whole of the city was given Objective 2 status for the purposes of European Regional Aid.

i) Little Hulton

Little Hulton was originally a mining village located to the north-west of the City of Salford, however, it expanded rapidly in the 1960s due to the construction of five overspill estates, with associated schools, industrial estates and shopping centres. It now has a largely modern housing stock with a high proportion of public sector rented housing (68.8%).[53] It is on the periphery of the Greater Manchester conurbation and, although it is a location which gives access to green belt open space and is close to a major motorway network, it is an isolated area which sits uneasily halfway between the centres of two cities, Bolton and Salford. Its isolation is compounded by the fact that while over half (57.7%) the households in the area do not own a car, there are no direct rail or bus facilities to any of the nearby cities. It covers an area of only four and a half square kilometres with a population of 11,635 in 4,789 households. Unemployment here is generally higher than the city average, which in turn is higher than the regional average. There are particular problems with rates of both youth and long-term unemployment. Just over 10% of the population is educated to diploma, and less that one per cent to degree, level. Fully 63% of the unemployed, and 37% of the employed have no qualifications.[54]

Within Salford the Little Hulton area was chosen early on as a test-bed site from which successful information society projects could be rolled out to the rest of the

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[52] Figures from Manchester TEC (1995) Labour Market Assessment summary 1994-5

[53] These figures are taken from 1991 census returns as reported in the Salford District and Ward Profile collated by the Greater Manchester Research Information and Planning Unit

[54] Figures taken from the GEMISIS Information Society proposal 1996

city. The area was chosen for a number of reasons and not least because it was in receipt of Single Regeneration Budget funds some of which could be used to promote the information society and to pump-prime community ICT projects. The secondary school in Little Hulton was already planned as the site of an ICT suite which was available for community use and the area had a functioning Community Committee through which the local authority, other statutory and voluntary organisations and the community could air ideas and form working groups to develop projects.

ii) Seedley and Langworthy

The Seedley and Langworthy area of the city is much more a traditional inner-city area. It is seen as the "real" Salford, its terraced streets and nearby tower blocks feature at the beginning of every episode of Coronation Street. The area is situated at the centre of the Greater Manchester conurbation and is only one mile from the prosperous centre of Manchester. The area gains little from this proximity to wealth however. Langworthy is a very unstable community with around 20% of its homes unoccupied. Seedley and Langworthy have a young, predominantly white population with lower than average education levels and higher than average proportions of people who are permanently sick and economically inactive. At the time of the 1991 census, 67% of the area's population was on some form of benefit (Hellawell and Mulquin 1999). Langworthy, particularly, is a very rundown area. It is part of a regeneration area, with Single Regeneration Budget money available for physical, economic and social regeneration. It has its own community organisation (SALI - the Seedley and Langworthy Initiative) which is an umbrella group incorporating two residents associations, a local business group, churches, the women's centre and a families project with 70% of this organisation's board being local residents (Hellawell and Mulquin 1999)

Four stages of fieldwork

The fieldwork for the research was developed in four key research stages, as represented in Table 3.1. The research took a qualitative approach, although a

questionnaire was also administered to users of both women's centres in November 1997. This questionnaire was designed to audit the extent to which users of these centres were already familiar with ICT. With this information I hoped to document existing interest in and access to ICT within these centres, to understand how far the research participants were already engaged with ICT and to gauge the extent to which interventions from outside bodies such as GEMISIS might impact on the perceptions and behaviour of the women involved. The questionnaire was completed by a small sample of fifty-one women. Its findings were presented at various community meetings and events[55] and served to inform the development of the city's "Information Strategy". The questionnaire also functioned as a tool to raise awareness of, and interest in, the research within the chosen neighbourhoods and, by feeding results back to the women involved at this early stage, to help maintain access to the research sites and interest in the research in order to move on to the next stage of the research process

Table 3.1

Outline of research fieldwork

Dates	*Stage*	*Purpose*	*Research methods*
July 1997 to November 1997	Audit of ICT use	To assess existing extent of use of ICT within the research sites	Observation and questionnaire
November 1997 to April 1998	The needs audit	Assessing information and communication needs within the research areas	Questionnaire and interviews
April 1998 to November 1999	Skills audit	Collating information on existing skills, familiarity with and knowledge and experience of computing and IT	Group discussions and observation
December 1999	Future use of ICT	Assessing the future interest in and the potential contribution of ICT to the research areas.	Exit interviews

[55] These findings were formally presented at a GEMISIS one-day conference on 16th March 1998, to the Little Hulton Information Development Group on 8th June 1998 and the City Council Community Topic Group on 14th July 1998. Written papers based on this data were prepared for the IRISS conference in Bristol 25th to 28th March 1998 and the 14th World Congress of Sociology in Montreal, 26th July to 1st August 1998. Copies of these presentations were passed to Salford's Information Service Manager.

The fieldwork for the research was carried out over a period of thirty months beginning in July 1997 and ending in December 1999. Much of the research involved observation. The first six months were spent on familiarisation with the research areas, attending the local community committees and establishing relationships of trust within both neighbourhoods. By July 1997 I had gained access to both women's centres and began observing the work of the centres and talking to centre users. After six months, in November of 1997, the questionnaire was placed in both centres and fifty-one women handed in completed returns, representing seven separate community groups (see Table 3.2). Six months after the questionnaires were administered within the centres I returned to conduct group discussions with each group involved in the research. These discussions were designed to build on the data which had been gathered as a result of the questionnaires. Discussants were asked to explore their attitudes to new technologies generally and ICT in particular. This gave the data from the questionnaires added context as participants talked of how they felt about using computers, expressing fear and anxiety as well as interest and enthusiasm for these technologies.

Throughout the period of the research I also spent many hours observing the work of the community centres and attending local meetings. Much of this observation took place after the group discussions had taken place. For a twelve month period between April 1998 and April 1999 I carried out weekly visits to the two women's centres, representing over one hundred hours of contact in each centre, and enjoyed numerous conversations with centre users and staff. In Seedley and Langworthy, in particular, I was often called upon to help staff with computer problems and found myself informally training them in the use of Microsoft's Windows 98 and helping them to resolve connection problems with their internet service provider. The fact that I was registered as a part-time doctoral student was particularly useful in giving me the time to develop relationships with the centres and to observe their activities over a lengthy time period. In December 1999 I conducted exit interviews at both centres to discuss how the groups believed they had fared over the period of research and how they had engaged with ICT over that time.

Table 3.2 **Community groups participating in the research**	
Centre	***Location***
Women of Little Hulton Unite Women's Centre	Little Hulton
Amblecote Residents Association, Women's Group	Little Hulton
The Attention Deficit/Hyperactivity Disorder Group	Little Hulton
Compassionate Friends	Little Hulton
Salford Women's Centre	Seedley and Langworthy
Creative Writing Group	Seedley and Langworthy
Compassionate Friends	Seedley and Langworthy

I had initially expected to observe the groups as they became more familiar with the use of email and the internet and to note which networks they became a part of and the sites which they visited on the world-wide web. I was interested to see whether the groups shaped their own networks and built their own websites and to explore which they considered to be relevant to groups such as their own. However, as will become clear in later chapters, the extent to which these groups became connected to these technologies varied widely and progress towards the adoption of the technologies was slow. As a result I was not able to gather this information from all the groups and for a long enough period of time for this to become a major part of the research. I have, instead, compared the extent to which connections were made with discourses if information society and commented, where appropriate, upon the uses to which the technology was put. I do not consider any groups to have either succeeded or failed in their endeavours, but do remark that different groups were ultimately satisfied with differing levels of connectivity. As a result of this change of focus I have been able to highlight the experiences of groups which are struggling not only with the technology but in making their voices heard in other ways. This has proved most useful in giving this research a particular perspective which is not featured in other literature on community uses of cyberspace. Over the period of the research a number of publications and websites have highlighted different "success" stories (Day and Harris 1998, Communities Online 1999, Castells 1997 and others) and sought to motivate other communities to use ICT by their example. These works present a self-

fulfilling prophecy, using the experiences of community groups which have found a use for ICT to argue that ICT is useful. However the particular case-studies presented here start with the experience of communities themselves and problems they encounter in many aspects of their work, without placing their experiences with technology at the forefront of their work. I believe that this allows a more accurate, and "messy", picture of the utility of ICT to emerge. In Chapter Six, I have tried to understand the information and communications infrastructure which existed in these communities prior to the introduction of ICT and explored how this effected the groups' efforts at connection to technology. This reverses the concerns of organisations such as Communities Online and INSINC, which have rather taken for granted the idea that technology will impact on community networks and relationships and that groups will enjoy a benefit from connecting electronically.

It is important to consider the social and community context into which the technologies were to be inserted. The next section looks at the history and development of both centres and presents important contextual information necessary for this particular perspective.

A discussion of the community organisations included as case-studies

Women of Little Hulton Unite Women's Centre

Little Hulton underwent a period of restructuring in the 1960s which has left this former village with a number of small local authority estates of low-rise housing which are interspersed among its more traditional terraced housing stock. This redevelopment furnished the area with a number of civic amenities in the form of a, now largely run-down, District Centre which includes a library and shops. This centre is situated opposite a secondary school designated the Little Hulton Community School and is home to the "Women of Little Hulton Unite Women's Centre". As the

centre users remembered it,[56] this centre had developed out of informal conversations and contacts which had been made at a course for Salford community workers which took place in 1992. From this meeting, a number of development workers decided to consult the community on future initiatives in their area. One of the options considered was a meeting place for women. This proved to be such a popular idea that the local community worker was prompted to look for a venue. A meeting place was found in some local community rooms and initially a number of women met there for one hour each week. Around twelve women attended regularly from young mothers to mature women whose families had left home and they used the time for arts and crafts and a number of talks were arranged by the development worker on various issues. Those women who were part of this group described these weekly meetings as "a life-line" for many women who had previously felt extremely isolated, but who looked forward to getting out of the house, meeting and talking out their problems in a safe and supportive environment. When, after the first twelve months, the meeting place was no longer available the women involved set out to find another venue. A series of meeting places were tried which for one reason or another did not prove successful. At an opportune moment, however, the local probation offices which occupied an empty shop in Little Hulton's shopping precinct moved to a four day week and allowed the women's group access to their office space on the fifth day. The women decided to begin a drop-in facility at the space in order to attract new members to the group and to offer support to a wider layer of the community. With this undertaking the group became more serious about raising funds to develop the scope of their work. The fact that they had a dedicated place in which to meet and work with local women spurred on their enthusiasm and enabled them to think more seriously about meeting a wider layer of needs in their neighbourhood. A few months later the probation offices decided to move out of the shop altogether and the women's group took over the lease. Funds were raised from money available locally in order to cover the annual rental costs. The women spoke of how the provision of a full-time, dedicated physical space meant that they could really start to organise and develop different uses for the centre, allowing services which they had previously only imagined, to become a reality.

[56] Interview with Management Committee member and five centre users 20.06.97

The newly developed Little Hulton Women's Centre became a place in which local groups could meet, training courses were located, and an informal drop-in session continued on Friday mornings. The meeting and cross-over of a series of groups in one physical space allowed a variety of connections between the groups to develop and further widened the horizons of the users. This time in the history of the Women's Centre was hugely productive as new connections, support groups and informal networks sparked off yet more activities. The new centre was fitted with a kitchen and volunteers provided inexpensive, but nutritious lunches every day the centre was open. A series of one-off events and courses (for example a series of self-defence classes run by the Salford Women's Area Network) were also hosted at the centre. Not only did this physical space therefore engender further connections within the local area, but these events brought the Little Hulton Women's Centre into contact with similar groups from a much wider geographical area. As the centre had now taken over the lease for the property and begun to manage an increasing amount of funding, a management committee of twelve women was formed to run the centre and its activities. A community worker who was new to the area suggested that the centre make a bid for funds from the National Lottery to pay for a dedicated centre worker and for some improvements to the interior of the building. This bid was successful and from the beginning of 1996 a full-time centre manager was employed to manage existing projects and to look to developing the work of the centre further. By the time the research in Little Hulton began the centre had settled down into a tried and tested groove.

In 1997, at the start of the project, the centre offered a shop front which opened directly into an informal space with sofas and coffee tables and one small table with a few chairs in the corner of the room where women could sit and fill out forms and paperwork with help from the centre staff or other users. The glass shop front was festooned with posters and signs which explained the purpose of the centre and which aimed to present a welcoming exterior to draw in new users. Inside the walls were covered with posters advertising the work and issues relating to the various groups using the space. Also displayed were the times which these groups met. Inside this first room was a display unit with information on a range of local events and support groups, not just those which took place in or utilised the centre's facilities. Behind

this first room was a small meeting area, and a smaller meeting room in which more private conversations could take place and where counselling sessions were arranged. Behind this was the kitchen and off this was a very small office which housed the centre files and computer. Rooms at the back which were to be developed into the creche and larger meeting area were largely unused because of a lack of funds to decorate and furnish them. The groups which made regular use of the centre were varied, from the Arts and Crafts Group which had been linked to the women's group from the start, to a number of groups which offered support around depression, women's health, children with attention deficit disorders, bereaved parents as well as an activity group for eleven to sixteen year old females and a toddlers group. A local woman who was studying to become a beautician had been given permission to offer beauty services during the drop-in session each Friday morning. This had been particularly successful in drawing new women into using the centre and many had become involved in more of the centre's activities as a result.

Salford Women's Centre

Salford Women's Centre is situated on the edge of an area which is dominated by high-rise local government owned and managed blocks of flats. These in turn have been built around a shopping precinct which attracts few prestigious national stores and is characterised by its market stalls and shops offering extended credit. This served an important function in providing easier access to consumer goods to a population which has little disposable income. Next to this area of local authority housing is an area of more mixed tenure where owner-occupiers and private and public rented housing exist side by side. The area is not particularly mixed in its social make-up - unemployment is high, the property market has collapsed and many properties lie empty. The area is centrally located, however, being in close proximity to Manchester city centre, the economic heart of the Greater Manchester conurbation.

This women's centre had a similar history and had developed similar functions to that at Little Hulton and had also had informal and community-based beginnings. The centre's Annual Report of 1996/7 described the centre as having been started in 1985

by a group of women living in the immediate area. These women had initially met in members' houses but the group had managed to increase in membership and expand its remit sufficiently to consider that it warranted a space of its own. Working under conditions of rising unemployment and the demise of much of the industrial infrastructure of the city during the early 1980s, this group metamorphosed into the Salford Women's Employment and Resource Group. Its main interest at the time was in promoting the economic well-being of women in the area, but at some time in the 1990s it had become less concerned with trade union and employment issues and had focused on a concern with the physical and mental well-being of its female users.[57] In 1997 the centre workers described the facility as a resource for women to use as they see fit and where local women link up with one another, but also as a physical space where different groups in the community which are concerned with similar issues could meet and network and as a venue for events and regular meetings. Again the centre relied on the support and input of a number of volunteers but it was in receipt of some funding from the City Council and a local housing association so that it was able to employ a number of staff - the centre manager, a development worker and a creche worker.

In 1997 the centre was housed in a dedicated building, somewhat removed from the city's central shopping area but near a main road with good transport links and close to densely occupied residential areas. It housed a community cafe, hosted a variety of courses and events such as the annual Halloween Party and alternative Therapies Day and also hosted International Women's and World Mental Health Weeks. There were various meeting rooms, a dedicated creche and a second-hand clothes store as well as a central dining area with seating around tables. The centre was well-used and staffing levels allowed it to function every day as an informal drop-in facility. Women would come and go throughout the day, swapping stories and gossip over a cup of tea or lunch, accessing support workers during dedicated sessions and gaining advice and support from the centre staff and volunteers on an informal basis. The centre staff explained that they saw their role as listening to women's needs and referring, where

[57] The 1996/7 Annual report published by the centre stated its aims "... to promote the well-being of women who live or work in Salford" adding "Every woman is welcome" (Women's Centre Annual Report 1996/7)

appropriate, on to more specialist agencies.[58] The regular groups which used the centre's space reflected its changed character, many were health related such as the Hysterectomy, Stress Management and Alcohol Support groups, others reflected the desire to build the confidence levels of women locally, for example the self defence classes, Assertiveness and Confidence Building groups and the regular counselling services. Others provided more recreational activities such as Line Dancing and Yoga sessions. There were also Welfare Rights advice sessions, an Arts Group and Salford Women Writers also met at the centre on a weekly basis. The centre was also used by other agencies such as Women's Aid, Social Services and by health workers as a site in which to contact women who might not feel comfortable accessing their services in more formal settings.

Researching Salford Women

Salford is a predominantly working class city in which levels of educational attainment and professional occupations are considered to be low. It is also, however, a city which is generally seen as proud of its history and its traditions of community (Walklate and Evans 1999:27-37). Prior to the start of this research I had lived and worked in Salford for ten years and had been involved in community politics and in conducting academic research within the city. From 1994 to 1996, I conducted research in two neighbourhoods of the city which concluded that the city embraces a number of distinct, predominantly white, working class neighbourhoods in which residents profess a strong sense of local attachment and solidarity (Walklate and Evans 1999:36). These "close-knit" communities can often be wary of outsiders and critical of any interventions which are considered to be imposed on the community. Despite this attitude, however, throughout my engagement with the city I have found it relatively easy to gain access to the city's residents, as a researcher. I have, however, come to adopt a particular approach in my work which has facilitated entry into the field. This involves using local contacts to gain access to the field and to

[58] Meeting with centre staff 23.01.97

make my connections to the city, and making my local knowledge apparent in order to build up a relationship of trust with any potential participants.

It was particularly important in this research project that I was able to establish a solid basis of trust between myself and the research participants. I needed to gain entry into the women's centres for observation of their work and I wanted to be able to routinely "drop-in" to the centre unannounced and talk to centre users without raising too much interest in my presence. As a female researcher I was aware that I could gain access to these female-only spaces, but I was also aware that the data I would obtain would be limited if I was not accepted as a legitimate user of the space. I decided to be open about my research and its focus from the beginning. It would have been unrealistic to expect that I would be accepted as a regular user of the centre. As explained earlier, many of the women used the centre as a source of support and to meet with people with whom they had spent some time building up close relationships of trust. The economic and social circumstances of these regular users of the centre were very different from my own and this would have been quite apparent from the outset. I decided instead to introduce myself a researcher from the University of Salford. This had two advantages. Firstly I was seen as a legitimately "attached" to the city through chosen workplace, and secondly I was considered as a neutral player. Throughout this research I did not encounter any hostility as a result of revealing my connections to the university and indeed found that this raised some interest in participating. The university was seen as a place of some status and the women I spoke to seemed happy that someone from the university was taking an interest in their work and would include their ideas in future publications. More often, however, I did encounter a certain negativity towards the city council, so that while I explained that I worked with GEMISIS and was open about the council's involvement in this partnership I stressed my connection to the university first.

There has been much written on the subject of women researching women and the benefits in gaining empathy and understanding which can be a feature of the female-to-female interview (Finch 1984, Oakley 1981). Additionally, I have found it important to be sensitive to the key issues which affect the lives of research participants. My local knowledge of the city helped in this respect as I could

participate in many of the conversations which were generated in the centres. As a result I felt that I was soon accepted as a regular contributor to the life of both centres. This was helped in Seedley and Langworthy by the fact that I had a number of friends living in the area and I was recognised as someone who used local facilities. This acceptance was a little more difficult to achieve in Little Hulton but this was helped by spending some time in the area before the fieldwork proper began, attending local meetings and getting to know some of the local activists in order that they could facilitate my entry into the centre. In Seedley and Langworthy a central issue was the regeneration of the area and the proposed wholesale demolition of some streets. This, together with high levels of crime, pre-occupied many of the women as they considered the benefits and disadvantages of these proposals. I was aware that, in Little Hulton, proposals for the excavation of an open-cast mine on the outskirts of the area had proved a source of some disquiet. Another important issue for the centre users was their plans to move to a larger site nearby. Apart from these particularly local issues, family and financial problems were often the source of conversations in the centres and it was essential that I remained a sensitive presence at these times. I would rarely involve myself in these conversations but remained at a respectful distance or started up a discussion with someone else. Since I wished to get the most out of my time at the centres I would often initiate discussions relevant to my research topic and it was soon accepted that I was there to talk around that particular topic of interest.

This approach to the research yielded a number of insights. It became apparent early on in the research that the significance of connections to locality and matters of trust were key, not only to gain access to the research areas, but that they featured prominently in shaping the research subjects' attitude to ICT. I will explore these issues in some detail in later chapters, but it became clear that the research participants privileged local knowledge, face-to-face encounters and lay understandings over distant and professional understandings. This observation became key to understanding the research participants' eventual reaction to attempts to develop community-based ICT projects. This also shaped the research design and choice of research tools which were adopted. I chose to use research methods which reflected the informal nature of the organisations themselves and which mirrored their

day-to-day activities. I decided to utilise a relatively unstructured approach to data collection, which although it included a questionnaire, was predominantly based on observation of the research groups in the setting of their community organisation and a number of group interviews. The questionnaire, while giving important contextual information on attitudes to and experience of technology in the research areas, was not designed as a precise, scientific tool of measurement but served to raise awareness of the research and to supply a pool of participants who could be invited to take part in in-depth interviews and group discussions. The group interviews which I organised were often expanded by two or three individuals who had been "recruited" by invited participants who had brought along a friend, or someone whom they thought might be interested in the discussion. The research, then, was not tightly controlled and allowed the participants themselves a degree of direction over the research situation. In this way the research followed the pattern of much feminist-inspired research developed in the 1970s and 1980s which considered "...how women know and the ways of knowing valued by women." (Oakley 2000:48). The resulting material, while lacking in hard, numerical data and sets of scientifically collected variables, is, I believe, richer as a result and more closely resembles the generation and collation of knowledge practised by the research participants themselves.

Research effects

It is important, in any study, to reflect on how the research itself impacts on its chosen research subjects. This research was inevitably going to impact on the research sites. It was introduced to possible participants as a piece of work sponsored by GEMISIS and this inevitably meant explaining the role of this partnership and its particular philosophy. From its initial introduction, therefore the research put the goal of community use of ICT at the forefront of people's minds and served to raise awareness of these issues. The subsequent questionnaires and group discussions were constructed to collect information about use and knowledge of new technologies and generated further interest in their use. I was often asked to explain what email and the internet were, and to respond to questions as to whether they would be useful to the work of the community groups involved in the research. I answered these questions

to the best of my ability and did point out ways in which I thought these groups might benefit from the take-up of ICT. This contact inevitably increased the sum of knowledge held within the community and may well have acted as a catalyst for change. However, at the time the research was taking place I was not the only person who was coming into these neighbourhoods to talk around these issues. In early 1998 the city council employed a Community Services Manager to promote uses of ICT across the city and various other organisations active in the research areas were being contacted by GEMISIS staff and other organisations interested in canvassing opinion around this area and developing projects which utilised new technologies. My own participation in the GEMISIS project meant that my findings were regularly reported back to the GEMISIS team, to the city council and to these organisations and my findings were openly discussed and acted upon, affecting the ways in which these organisations interacted with the community.

The first phase of the research set out to audit the current level of knowledge and interest in ICT in the chosen research sites through visits to the two women's centres and questionnaire returns. From the current literature on community and ICT it was assumed that many of the centre users might have a low level of interest in or knowledge of the emerging digital technologies. This was seen as a potential problem for the fieldwork and posed a dilemma which is all too familiar in the fields of research and community development - how to generate meaningful conversations and responses to questions around a subject about which people are not familiar. There are a number of problems which flow from this dilemma - will the subject mean so little to the respondents that they will not be interested in engaging in research in that area or will potential respondents feel embarrassed by their lack of knowledge or intimidated by "the professional" coming into their midst who, however unwittingly, has exposed their ignorance in this area? For these reasons the research participants may well have constituted a self-selected group, in that they agreed to take part in the research because they were already interested in the issues raised by the project. The high levels of interest in technology which the research uncovered, therefore, might well be a product of this selection of participants. However I do not believe that this negates the validity of the research, I do not claim that the research participants are representative of their residential neighbourhood, but I do believe that they can be

taken to represent a layer of female, community activists who are attempting to engage with the problems of their areas. The hours of observation spent in both women centres allowed the experiences and voices of a wider layer of women to be heard. The women with whom I engaged during this stage of the research were similarly informed of my research interest and reason for my presence in their centre and our conversations will have turned to technology as a result. Again, I have not taken this as a signal of their level of interest in matters technological, but used these conversations to try to gauge the range of attitudes to technology and to listen to the stories which they have told about the difficulties or successes they have encountered in their experiences with this medium.

In this chapter I have attempted to explain the rationale behind the research project, its focus on community and the chosen research participants. I have also explained how the eventual research methodology arose from a concern to allow the voices and experiences of the research participants to be heard and to guide the ways in which the research was conducted and to illuminate community concerns. The following chapter examines the policy context in which community-based ICT projects have been explored and various models for connecting communities through ICT.

Chapter Four Communities and Cyberspace

We need to improve the access to information and communication technologies for people who live in poor neighbourhoods. This is not an end in itself, but a powerful means of delivering services, conquering isolation, empowering individuals and bringing people with like interests together. Knowing how to access and use information is one of the key skills for employment and involvement in the information age. The Government's determination to tackle social exclusion is integrally linked to its commitment to enhance our national competitiveness. Both need the widest possible skills base and involvement in economic activity. We cannot afford to ignore the contribution of those who live in our poorest neighbourhoods. Above all, however, this agenda is driven by our desire to give people, whatever their circumstances and backgrounds, real opportunities and choices in their lives

Michael Willis MP (1999) [59]

Unlike the railroads of the Industrial Age, the trade routes of the Information Age can run through every city, every town, every community. We can use new technology to extend opportunity to more Americans than ever before; we can truly move people out of poverty more rapidly than ever before. No-one has to be bypassed this time around.

President Bill Clinton (2000) [60]

Selling the dream - Using ICT to make a difference

The advent of ICT has fuelled much debate regarding their long and short-term impacts. These debates have not taken place in the academic world alone but have also been taken up through local, national and international forums, over the past decade in particular. The many policy and discussion papers which have emanated

[59] This quote is taken from the 1999 report Local Connections: Making the Net Work for Neighbourhood Renewal published by Communities On-Line in response to the Social Exclusion Unit's 1998 report Bringing Britain Together

[60] White House press release April 17th 2000

from national governments, let alone from local and regional sources, are too numerous to detail here - and this is not the purpose of this work. Nevertheless this chapter looks more generally at how the theoretical issues introduced and discussed in previous chapters have re-emerged in the policy arena.

While the internet was initially conceived and developed by the United States military and was soon transferred to the academy for the sharing of data and ideas (Clemente 1998), interest in this technology eventually passed to the commercial sector. Telecommunications corporations spread cable and satellite links across the world, concentrating their efforts on "multiplying layers of technological media.....diffusing to undergrid and interlace cities and urban systems" (Graham and Aurigi 1997:18). As with other technological advances which necessitated the building of a massive superstructure, such as the first railway systems (Hobsbawm 1962), it was private finance which took on the commercial risk, laying down the cabling and links which would eventually carry the "information superhighway" across the globe. Despite the global nature of this communications technology, however, the necessary construction took place in the context of existing nationally owned and regulated communication systems dominated by the use of the telephone and fax. The first governmental response to this rapidly developing telecommunications markets was to deregulate and sell these state monopolies to the private sector, opening up the communications industry to competition. This process, which began in the United States, Britain and Japan was soon copied elsewhere as different national governments initiated similar telecommunications policies in order to profit from the perceived benefits which this deregulation might bring in terms of employment and location of these highly profitable enterprises within their national boundaries (Graham and Marvin 1996:125-170).

Soon after this deregulation, national governments began to see that the development of information and communication technologies presented potential benefits to other industries enabling these to tap into global markets and to remain competitive and profitable. Following the American example, governments began to extol the virtues of the "information superhighway" and to implement policies through which they hoped to boost their industrial strength, trade links and hence their global economic

position (Graham and Marvin 1996:11-34). Paschal has located the growing political interest in promoting the information society firmly within a neo-liberal agenda (2001:241-250) and "...as part of a very specific approach to the political management of a particularly acute social and economic crisis" (2001:24). He outlines how, throughout the 1980s, the then Conservative British government heavily promoted IT (later ICT) as a solution to ailing industries, increasing unemployment and falling international competitiveness. In 1995, the government recommended the development of a National Information Infrastructure involving the laying of a fibre-optic cable network throughout the UK. In the mid 1990s, the notion of a "European Information Space" was put forward in which European telecommunications would benefit from compatibility and connection across Europe (European Commission 1994). The discussion in this area has been focused on generating business to business connections and electronic marketplaces - generally referred to as e-commerce.

During the mid 1990s discussions on "electronic governance" also came to the fore as national and local government administrations sought to find ways to deliver services at maximum efficiency for the lowest cost (Graham and Marvin 1996: 338-374). In the UK a green paper issued in 1996, entitled "government direct", set out the government's vision for the electronic delivery of information and services to the public. It included proposals to improve communication between government departments, to make all government publications freely accessible through government operated web-sites and to develop ways of interacting with the public electronically. This raised the problem of ensuring universal access to ICT and possible solutions were aired, for example interactive television and the provision of "kiosks" or centres where the public could gain access to the requisite technology. The policy focus, whilst in no way turning away from the support for ICT for economic development, broadened to consider the social benefits of ICT and to address issues of unequal access to technology and the impact of inclusion and exclusion.

Policy debates have not only taken place at the level of national and international governments. Graham and Marvin (1996) outline the importance of ICT at the level

of local governance. For these authors, policies at the level of the city, where ICT are seen as an important growth sector, are crucial to understanding the potential impact of telecommunications. At this level ICT have been seen as "...a means for generating economic growth, employment and an enhanced quality of life... " (Carter 1997:137). Public-private partnerships, or "urban growth coalitions" (Logan and Molotch 1987), have involved themselves in a "fight for an improved nodal status" (Graham and Marvin 1996:42) in which they have entered into competition with other city partnerships to gain employment and enterprise opportunities. In the "information age" a workforce with expertise in the use of ICT has been seen as an important part of any strategy for economic regeneration or restructuring.

There has been some interest too, in using ICT to contribute to attempts to halt the deterioration of the global environment, although this has generated less discussion than debates around e-commerce, employment and e-democracy. In this area, connection through ICT - on-line meetings, video-conferencing and tele-working, internet shopping and voting from home - have been put forward as possible alternatives to travel involving pollution-inducing modes of transport. ICT have also been mooted as offering some solution to the problem of the ever increasing demands on urban spaces and the growth of the city which is seen as dominating and overwhelming the rural way of life. Yet even these environmental concerns are not immune from consideration of economic impact as cities push improvements to their environment as weapons in their fight to win further economic resources and skilled workers to their region (Graham and Marvin 1996:269-275).

Economic considerations underpin many of the policy statements of different government organisations. The perspective adopted in many policy documents, at all levels of governance, places a consideration of the economic benefits of ICT before attention to any possible social benefits. This tendency has been noted by Graham and Marvin at the level of city governance when they argue that:

> The overwhelming importance of the economic imperative in cities means that the increasing emphasis of urban governance is on public-private partnerships oriented towards an explicit economic development agenda rather than the social redistributional one that characterised the post-war period. (1996:42)

Indeed this perspective perceives social benefits as emanating from the economic, in some sort of "trickle-down" effect, where the greater employment opportunities which ICT bring are seen as key to regeneration at the level of city, neighbourhood and community. Certainly this can be seen in the publications and speeches which have been produced by government departments in the UK and this attitude is perfectly captured in the words of Gordon Brown, who, in a speech to the House of Commons in March 1999 opined "Anyone left out of the new knowledge revolution will be left behind in the new knowledge economy" (quoted in Shearman 1999:7). It is mirrored, also, in the response of the Policy Action Team, directed by the government's SEU to report on ways in which the poorest neighbourhoods in Britain might be encouraged to take an active interest in ICT (SEU 1998). The report's authors write under the sub-heading "Why ICT are important" that:

> When the government set out its vision for the Information Age it stated that the many must benefit, not just the few. Competitiveness depends on the skills of and creativity of the whole workforce. The social arguments for an inclusive society reinforce the economic ones and vice versa (Department of Trade and Industry 2000:2)

Residents of disadvantaged neighbourhoods are portrayed here as part of the potential workforce of Britain which can help to enhance the nation's industrial competitiveness in a global "Information Age" (Department of Trade and Industry 1998). There is little critical thinking displayed in this quote, or indeed elsewhere in the report. The term "information age" is accepted as unproblematic, and although the authors acknowledge that use of ICT can help people develop confidence and self-esteem, they continue to place this in the context of enabling enterprise and employment, reflecting the concern of national government to improve economic performance.

The private sector, through the world of business, transnational corporations and financial markets, has embraced the emerging information and communication technologies, building web sites, on-line services and using ICT to transform the ways it operates. National governments, institutions such as the European Union and the

governing bodies of cities are all looking to replicate successful uses of these technologies in their own arenas. It is therefore hardly surprising that the public sector is currently interested in investing time and money to bring the benefits of ICT to its own spheres of influence and work. Against this background public institutions portray themselves as enthusiasts for ICT. In the rhetoric of their policy documents the information age has arrived, is healthy and growing fast and it would ill behove any organisation to ignore the possibilities which these technologies present to them. Since the advantages of connection to and knowledge of ICT are generally accepted by public institutions there has been a wide scale interest in sharing the perceived benefits of technology with deprived and disadvantaged populations. This has taken the form of promises to put "a computer in every home", to the more measured response of ensuring that there is at least one community facility providing access to state-of-the-art computers and software in every disadvantaged neighbourhood. It is taken as read that deprived neighbourhoods and individuals will benefit from gaining access in these ways. The political message asserts that employment and enterprise opportunities will be enhanced, existing communities will be strengthened, new connectivities enabled and that individuals will be empowered by an introduction to the possibilities of the internet and cyberspace. Certainly there are plenty of interesting and thought-provoking examples of businesses, neighbourhoods and individuals putting these technologies to good use (see for example Day and Harris 1998). However, very often it is the technologies, rather than the participating neighbourhoods and individuals which are heralded as the success stories and which are advertised as showing a way forward to combat exclusion and disempowerment. My own research demonstrates that it is the motivation and determination of the communities and individuals which use the technology which are more important in ensuring "successful" outcomes and that the part attributed to the technology itself is overstated. Yet so many publications and reports promote ICT as though it were the technology itself which possessed the power to change people's lives. This approach has been apparent since the possible social impact of computing technology was first debated. Computers have been seen as machines which embody a form of intelligence and as uniquely invested with the ability to free the human mind and body from repetitive, monotonous tasks and physical drudgery, allowing their users to focus on higher concerns such as creativity, morality and understanding (Halton 1985:4).

Access to computers has therefore become associated with positive outcomes and innovation and this frame of reference has coloured many of the ideas associated with the adoption of technology, whether in business, government or neighbourhood.

The "civic model" of technology application [61]

Although the foundations of the internet and World Wide Web were laid down in the United States in the 1960s it was only in the early 1990s, that governments across the world began to widely speculate on the potential of the internet to transform methods of communication and delivery between government and citizens, and, in the words of the then President and CEO of Netscape Communications Corporation "...to reduce costs and increase services." (quoted in Barksdale 1996:1). Since this initial interest, progress has been rapid and there are now many different projects seeking to utilise the powers of ICT for governance in operation or under construction across the world. This application of ICT to the civic realm is generally believed to have been kick-started in the United States, and by the first Clinton administration in particular, but parallel developments also took place across Europe in the 1990s.[62] In Spain and the Netherlands, for example, multimedia kiosks in a number of cities allow widespread public access to many sources of government information (van Diemen 1998:1) and in south-east Asia, Singapore and Malaysia plan to transform their countries by providing their citizens with access to the most advanced communications infrastructure possible, linking government, schools, homes and businesses in "intelligent islands" and "multi-media super-corridors" (Graham and Aurigi 1997:22-24). During the 1990s the European Union launched a number of ICT research and development programmes to promote electronic access to public sector information as well as "...making Europe the best place in the world for e-commerce."(CITU 2000:74). Successive British governments have not been slow in

[61] The term was coined by Professor Michael Tracey of Colorado University, visiting Professor at GEMISIS, University of Salford, to distinguish the application of broadband to technology to service the particular needs of the local community rather than merely to entertain it (the circus model).
[62] See Day (2000: 6) for a brief outline of events in the United States and their parallel in Europe

attempting to harness ICT to raise the country's economic potential and standing in the world and to heavily promote its use.

Promoting the information society in Britain

As early as 1994 in the UK, the then Conservative government launched the Government Information Service, a website giving access to some public sector information. Following developments in the United States, the UK government began to consider the requirements for the construction of a UK National Information Infrastructure, reporting in 1995 on an assessment of the hardware and cabling which might be required to put this in place. At the same time, individual departments began to look to the private sector to provide systems for their growing IT requirements. 1995 also saw the Cabinet Office set up a Central Information Technology Unit (CITU) to look at ways in which the new technologies might meet the different needs of businesses and of citizens and also to identify cross-departmental IT initiatives. In November 1996 a Green Paper was issued which discussed the concept of "e-government", particularly the electronic delivery of services to the populace - an initiative which it was to dub "government direct" [63] and the launch of the Information Society Initiative which aimed, for the first time, to set out a national strategy in this area. The ensuing strategy was ambitious in its goals - to ensure that everyone who might potentially benefit from ICT should be confident in its use, that all businesses should be able to develop opportunities for e-commerce and that the UK should be at the cutting edge of technological developments. In 1996 the government also published its "IT for all" strategy document which focused on raising public awareness of ICT and improving access to the technologies (Department of Trade and Industry 1996).

The promotion of these ideals, and of electronic governance (e-government) more specifically, was taken up by the incoming Labour administration in 1997 which again looked to developments in the United States, such as e-mail contact with elected representatives, on-line information systems and various pieces of legislation which

[63] Labour Government website, May 1998

aimed to reduce the paperwork burden on government agencies. The IT Policy adopted by the new Labour government was informed by consultation following the Green Paper of November 1996 and focused on the organisation and delivery of services through computing systems, the publishing of government information on the internet, the extension of democracy through on-line discussion forums and also using "ICT to strengthen and build new communities".[64] In producing these priorities for "Information Age government"[65] the policy document made reference to the developments of the previous administration as well as to a number of relevant initiatives which had begun to be been formed by local authorities and non-governmental organisations across the UK. Much of the government's progress towards e-government has been driven by their goal to "modernise" local and national government. This strategy was set out in a White Paper which was published in March 1999 and which committed the government to the production of a corporate IT strategy by March 2000. There have been various strands to this progress towards e-government and they can grouped in the following categories; technology, economy, the labour market and communications.

1) Technology - A major part of the strategy for e-government has been that the government should lead by example and utilise technologies associated with the internet, digital television and telephone call centres to provide information and services. The government has announced that it is working alongside BT to provide a single website entry point to all government information and services - the UK Online Portal [66] - and with Cable and Wireless (now NTL) to develop a twenty four hour electronic "one stop shop" giving access to policy briefings and the facts and figures which could inform citizens on the background and progress of agreed policies. Developments such as NHS Direct On-line[67] also underline the importance to the UK government of the electronic delivery of a wide-range of services, with the

[64] The Labour government IT Policy on Labour Government website, May 1998

[65] By July 2000 the term e-government had become "Information Age Government" in the report from the government's Central IT Unit, part of the Cabinet Office - *Information Age Government. Benchmarking Electronic Service Delivery*

[66] Announced in April 2000

[67] NHS Direct was launched as a telephone service staffed by health professionals, in 2000. It was followed shortly by an on-line version of the service

expectation that all its services will be capable of being delivered electronically by the year 2005 (CITU 2000:17).

2) Economy - There has been a marked emphasis on developing the infrastructure and environment in which e-commerce can flourish. To this end the government appointed Patricia Hewitt as e-minister and established the office of "e-envoy" in January 2000,[68] specifically to "...drive forward the e-commerce agenda". The office of the e-envoy spent its first year considering an electronic interface between government and business whereby services such as vehicle licensing and tax returns could be obtained on-line. It has also been concerned to develop secure internet sites for businesses in which electronic signatures and customer authentication software are developed to ensure privacy and protection against fraud.

3) The labour market - As the major funder of education in Britain the government has obviously found itself in a position to influence the provision of education and to promote a curriculum in schools and further and higher education which foregrounds ICT skills. The National Grid for Learning was established in 1997 to provide schools and colleges with on-line materials and other educational services, and in May 2000 the so-called "University for Industry" was launched, complete with its "learndirect" website offering web-based delivery of a range of courses. In September 2000 the Prime Minister announced funding to ensure that each school can offer a computer for every five pupils by 2004 - an improvement on the one computer for every nine pupils which was reached in 1998. Funding has also been made available to train teachers in the use of ICT in the classroom following the introduction of an IT component in the national curriculum. The government has been keen to ensure that employment opportunities can be accessed via the internet and, as part of the developments in this area, the Department for Education and Employment launched its Worktrain website in March 2001 which gave on-line access to 800,000 jobs and training opportunities across Britain.

[68] Originally this was Alex Allen, he was replaced by Andrew Pinder in January 2001

4) Communications - The government has cited data which demonstrates that the proportion of people with access to the Internet in the UK increased from 2% of the population in 1997 to 27% by January 2000.[69] In March 2000, the Prime Minister announced an ambitious plan to ensure everyone in Britain would have some form of access to the internet by the year 2005.[70] Whether or not this goal will be realised, the government is clearly committed to extending use and access to ICT to all neighbourhoods and social groups, and as the report of the SEU Policy Action Team 15 has stated, to "Closing the Digital Divide"[71] between those who currently have access to ICT and those who do not. Their report (SEU:2000) uses examples of projects utilising ICT across the UK to demonstrate how access to and imaginative use of ICT can help to combat "social exclusion" and deprivation across Britain by harnessing the intellectual and creative capacities and energy of those who live in economically and socially marginalised neighbourhoods. ICT, the report states, can help these people to "...overcome some of the major obstacles they face." (SEU 2000:2) not only through increasing skills in using ICT and thereby aiding the search for employment, but also through self-development and "...helping communities work." (SEU 2000:2). In order to increase access to ICT the government opened more than 1200 UK Online Centres in March 2001, with plans for over one thousand more. Television advertising and press releases publicised their existence and suggested that the centres were developed to attract the techno-phobe or unskilled person without prior knowledge of the technologies on offer. According to one press story :

> The centres aim to attract people who may feel technology is not for them, such as people with basic skills needs, lone parents, people over 60, those with disabilities, people from minority ethnic groups and unemployed people.[72]

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[69] Nua Internet Surveys cited in CITU (2000:16)
[70] Office of the e-envoy website accessed 12.03.01
[71] The title of their report, published in May 2000
[72] From the National Inventory: News Stories at http://www.information-society.org.uk The story was run on 8th March 2001

Policy-makers as ICT-enthusiasts

The policy statements which surround these developments are enthusiastic about the possibilities which ICT offer. There is no critical engagement with the notion of the information society and no hint of possible drawbacks to the introduction of ICT. The application of new technology in all these areas of governance is seen as something which must be lauded and imitated throughout all sectors of the economy and in political and voluntary organisation. Whether discussing the advantages of e-commerce, e-government or electronic communities, there is little sense in these documents of how the expected benefits of ICT will be realised, there is only the recurring message that ICT will deliver change and that this change will be positive. This lack of critical distance and reflection can be understood, given the novelty of the technology itself and the fact that few of the possible projects which are championed in these documents have yet to be fully realised, let alone evaluated. Yet the role which the UK and other governments have played in promoting these technologies, given the lack of data on their utility, must be examined. The project to "modernise" the political and economic organisation of society has been accepted as a political goal[73] and this drives the take-up of new technologies with the notion that if society does not embrace these technologies and move forward with a technology-literate population and therefore workforce, it will lose its competitive edge (Spectrum 1998). It appears too that in national government at least, there has developed such a consensus around the benefits of adopting ICT that there is little room for dissent or criticism of this agenda to emerge.

There is an implied inevitability too, to the adoption of new technologies, as demonstrated in the submission of the North West Social Inclusion and ICT Forum[74] to the SEU in March 1999:

> The coming of the Information Age has implications for the way in which society organises itself and sets its strategic objectives. The Information Society implies a

[73] See, for example, the 1998 White Paper "Modernising Local Government" London:HMSO

[74] The Social Inclusion and ICT Forum in the North-West consisted of representatives of community and non-governmental organisations as well as academics and some local authority personnel

> social context in which people will find themselves facing continuous change, both in their working and home lives. These changes include increased leisure time for many, shorter working lives, the demise of lifetime careers, the need for continuous reskilling/upskilling and the casualisation of labour. ICTs provide opportunities to deliver information which can help people to adapt and deal with these changing circumstances. (1999:2)

According to this perspective then, the information age is somehow visited upon society, transforming the social structures of which we are all a part and it is imperative that we work with the technology, learning to adapt to and benefit from, its introduction. The above quote, however, betrays a certain ambivalence towards "the coming Information Age", which is not reflected in the policy documents of regional and national governments, as information society is credited with creating benefits for some but a fractured, casualised and deskilled working life for others. Yet the solution put forward to this fragmentation is to use technology to combat the effects of the introduction of technology. So government and other organisations, faced with a future which they consider largely unavoidable, look to the proposed benefits which ICT can bring in order to ameliorate the worst effects of those processes over which they appear to have little control.

Using ICT to help communities

It is in this context that the discussion of the introduction of ICT into neighbourhoods which are considered disadvantaged and excluded is interposed. There has been much speculation as to the possible effects of the new communication media on social relationships and the growth of new technologies has often been linked to the rebuilding or the strengthening of community. This connection has been made in popular writing, academic and policy discourses and refers both to community building in cyberspace (notably Rheingold 1994 and Wellman 1999), and to the capacity of ICT to aid in the transformation and regeneration of relationships based in physical spaces (Benedict 1991, Schuler 1996 and Communities-on-Line 1999). These two approaches are closely related in that they both begin with the belief that community is somehow under attack and that electronic communities can either substitute for community which has been lost in the physical realm or that it can help

to reinforce a sense of place-based community. In 1995 Nicholas Negroponte typified the first approach when he wrote:

> As we interconnect ourselves, many of the values of a nation-state will give way to those of both larger and smaller electronic communities. We will socialise in digital neighbourhoods (1995:7)

while Christina Odone, writing in The Guardian has suggested that:

> ...the disenfranchised are still seeking an alternative public arena that will afford them an opportunity to participate in that circulation of ideas that constitute society. Enter the Internet: a technological patchwork quilt that will provide the arena for public dialogues and gather together some of the most disparate social elements, generating solidarity amongst distinct and sometimes conflicting elements. The Net has already managed to promise a reordered world where the individual can sample a community life that has long been eroded by the rush for individual gains, the rending of the fabric of family life, the polarisation of an economic system that makes for haves and have nots. The net has been cast over that collective space once filled by the family hearth, the churchyard, the village marketplace (1995:10)

The emphasis here is on the notion that that those people who, for whatever reason, have been marginalised within their face-to-face, physically bounded environments may find their spaces to communicate and interrelate in a different realm which is unrelated to the physical.

Schuler articulates the second approach, explaining his vision of how communities can utilise technology to make a difference to their lives. He calls for the building of a particular type of "community network" based in the employment of ICT for community benefit:

> These *community networks* (sometimes called civic networks, Free-Nets, community computing centres, or public access networks), some with user populations in the tens of thousands, are generally intended to advance social goals, such as building community awareness, encouraging involvement in local decision-making, or developing economic opportunities in disadvantaged communities.(1996:25)

Schuler goes on to explain that:

> A community network accomplishes these goals by supporting smaller communities within the larger community and by facilitating the exchange of information between individuals and those smaller communities...[providing]...electronic "one-stop shopping" for community information and communication, by using discussion forums; question and answer forums; electronic access for government employees; information and access to social services, electronic mail; and in many cases, Internet services, including access to the World Wide Web (1996:25)

So Schuler's community networks are very much place-based. Although the interaction which he encourages takes place on-line, it is undertaken in order to rebuild locally based connections which have been lost in the atomised, fragmented, and often threatening world of many North American urban areas which he sees as experiencing growing violence, fear, alienation and a reduction in civic associations. For Schuler the internet can be used to reconnect people at a local level who have lost the day-to-day, physical, connections which formerly existed in place-based communities. Schuler's call for the building of "new community" is transparently based on what he terms "a meliorist stance" which furthermore calls for people to take action to ensure that technology is used as "..a tool to strengthen and re-invigorate community." (1996:x).

The call to develop electronic communities, where traditional communities have been shattered, has been emulated by many working within the voluntary and state sectors who have an interest in community development, as Graham and Aurigi explain:

> Such a context has encouraged a wide range of debates to emerge surrounding the potential of digital computer networks (or 'telematics') for supporting new types of public, social and cultural exchange. (1997:20).

These debates have been stimulated by a concern to include residents of socially and economically deprived neighbourhoods in the "digital revolution", a stance typified in the quote by Michael Willis MP with which this chapter begins and which prefaces the Communities On-Line report "Local Connections: Making the Net Work for

Neighbourhood Renewal"[75] This report was written to inform the UK government backed SEU Policy Action Team 15, set up "...to address the access and use of ICTs by people living in poorest neighbourhoods." (Department of Trade and Industry 2000:2). The report itself is peppered with comments emphasising the imperative for engagement with ICT, e.g. "ICTs open the door to the future." (Communities On-Line 1999:10) and suggesting that disengagement can only bring about disappointment and further decline in community life. This is reflected in the work of Schuler when he argues that:

> The most important aspect of community networks...is their immense potential for increasing participation in community affairs, a potential greater than that offered by traditional media such as newspapers, radio or television (Schuler 1996: 25)

The Communities On-Line report also asserts that these technologies can bring new economic opportunities to disadvantaged individuals and communities , as this quote from Horace Mitchell, the then acting chair of the organisation, which heads one of the report's chapters, demonstrates:

> We are at a stage where the whole internet thing is still a mystery to most of the population, the included as well as the excluded. People with no (old era) standing and competence can become experts in aspects of the new era, with the right help and encouragement and opportunities...The opportunity is there to help currently excluded people to be ahead of the herd for once instead of behind. (1999:10).

If these theories are correct then it would seem that an appropriation of cyberspace by the socially and economically marginalised in our society would indeed be of great benefit to these populations. However my research casts some doubt on these assumptions.

To begin with those who advocate the building of electronic community assume that the "disadvantaged", the poorest neighbourhoods in Britain, are wracked by a loss of

[75] This perspective assumes that other socio-economic groups *have* already become a part of the Information Age.

community and the search for alternative sources of comfort and security.[76] These observations were compounded with the publication of the first report of the SEU "Bringing Britain Together" which bore witness to the growing concentration of poverty in pockets across the UK. Together with the increasing inequalities across Britain which were measured in the report, a loss of local amenities and services in the worst affected neighbourhoods was also catalogued. These cities, and the poorest communities within them, have, over the last few decades, variously been described as disorganised, frightened or disintegrating (Hope 1994) and it is these areas which have been suggested as in need of immediate intervention to prevent the further demise of community and loss of social life. However, my research has not shown loss of community as a factor motivating interest in ICT. Despite the fact that both research areas shared many of the social problems highlighted by the SEU report, in both neighbourhoods strong and active community groups persisted. In fact it was the existence of these groups which often spurred individuals on to learn more about new technologies as they acted as vital support mechanisms for those who wished to take steps to learn more about ICT. Indeed interest in ICT was more likely to be motivated by the desire to improve on the work upon which these community groups were already engaged than to develop new connections and contacts. Furthermore, ICT were not regarded as particularly necessary for a community to function, the research participants had been able to provide much needed services for many years without the advantage of any more technology than telephones, typewriters and photocopiers.

In addition, my research has raised questions as to the nature and impact of exclusion from the information age. The writings of Mitchell, Willis and others, suggest that neighbourhoods in which the population lacks computer literacy are thereby disadvantaged and kept apart from mainstream society, lacking opportunity and choice. It is true that my research areas score highly on indices of social deprivation, however not every neighbourhood responds in a like manner to similar material conditions, nor do all individuals and social groups within a particular neighbourhood

[76] The equation, poverty=social disorganisation, leading to a lack of community is an enduring theme, introduced by the Chicago School of sociologists in the 1920s and 1930s

(Walklate and Evans 1999). Many of the women who participated in this research might agree that they were disadvantaged in the economic sector, lacking the education and confidence to apply for available employment, but they would not consider that they were outside of mainstream society, or indeed excluded from key social networks. The important connections for many of these women were local and familial and, although at some time in the future these connections might be forged electronically as well as face-to-face, electronic communities would never present a convincing substitute for them, and, with the low rate of connection to electronic networks across these areas during the period of research, neither could they act as an addition to traditional forms of person-to-person and place-based, communication. The research participants were not unaware of the rhetorics surrounding ICT but often chose other forms of communication as more relevant to their needs and activities.

It would appear that commentators on electronic communities are swayed by a consideration of the fantastic technological possibilities of ICT together with the massive growth of the Net into making claims about its nature and functions which cannot be substantiated and which remove their discussion from any social context. Later chapters in this work attempt to ground these debates in the reality of living in "disadvantaged" and "excluded" communities. They show that ICT have offered neither greater social cohesion nor inclusion for the research participants. In the next section, however, existing solutions to the problem of engaging these communities with ICT are presented and discussed.

Promoting community uses of ICT

The policies of many local and national governing bodies and cross-national institutions claim to promote the benefits of ICT for all layers of society. Underneath the broad policy statements of national and trans-national institutions lies a plethora of locally and regionally based strategies. In addition, organisations situated within

the voluntary, statutory and private sectors[77] have been involved in the planning and delivery of projects which aim to bring experience and awareness of ICT to diverse communities. Some such projects originated in the community activism of the 1970s and moved from delivering affordable typesetting and printing services to word-processing and desk-top publishing as technology developed,[78] their involvement pre-dating government interest in ensuring widespread access to such facilities. These organisations recognised that the ownership and day to day use of computing technologies was concentrated within professional and more affluent households across Britain and were interested in widening access to more disadvantaged areas and communities and in aiming to ensure that these populations were not excluded from engagement with new technologies. Many of the organisations concerned with widening access to ICT which are active across Britain today were born out of such a background in neighbourhood activism[79] and are non-profit-making groups and have continued to be largely motivated by a concern that the poorer and socially marginalised areas of Britain and Europe should not face further marginalisation and exclusion as a result of unequal access to those technologies which are seen to be shaping our global future.[80]

As a result of this interest and focus various models have been developed and introduced into communities identified as "excluded" or "disadvantaged" which purport to increase community members' awareness of and interest in the use of ICT.[81] However, due to the very recent nature of the explosion in use of ICT and the comparative novelty of the technologies employed, they have inevitably been introduced into an environment rife with speculation and uncertainty as to which model will work most effectively.

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[77] Currently the work of the Communities On Line network includes interesting examples of project development and partnership working within the voluntary and statutory sectors, and see ICL's "Cyberskills" project for an example of private sector interest.

[78] For example, the Manchester Area Resource Centre, which began as an accessible and inexpensive facility for printing which was used by many trade union and community groups and which trained individuals to typeset and produce leaflets, posters and badges

[79] See the Communities On-Line website at www.communities.org.uk for the history of Communities On-Line, Partnerships On-Line and many of the main players in the formation of community networking in Britain

[80] See archived discussions on the CommunitiesOn-Line website

[81] See Evans, K. (1998) "Populating the digital city - communities in cyberspace" on the IRISS website at http://www.sosig.ac.uk/iriss/papers/paper08.htm for a discussion of these models

There are a number of models for introduction of ICT for community benefit and I will argue that they have all largely reflected a supply-led push of computing into communities, rather than a demand-led pull. Much of the rhetoric behind these projects has emphasised the empowerment of individuals through the acquiring of, to use a term coined by the computer company ICL and the South Bristol Learning Network, "cyber-skills",[82] however, communities have, to a large extent, had computing facilities developed for them, rather than the communities identifying a need for the product and developing its shape and process themselves. This is not to deny that much relevant and interesting work has been undertaken in these fields and by community computing networks, but to a large extent the resulting projects still represent what the providers believe people want and may be missing important dimensions as a result - dimensions which, if recognised and realised might genuinely empower and inform. As outlined earlier, the introduction of community computing facilities has concentrated on a consideration of the communication and information needs of a neighbourhood or community. Four models may be distinguished, the digital city, the virtual community, the community computing facility and the information service. Each of these will now be sketched in turn.

The digital city

Many of the early projects which purported to link local communities to the world wide web could best be termed "digital cities".[83] Despite the global nature of the medium it has been argued that "The search capabilities of the Web makes (sic) it an obvious application for local content." (McElvogue 1997:32). Digital cities are essentially web-sites which give the user on-line links to various information sources which are relevant to, and probably generated in, a particular city. Most digital city sites are provided through a partnership of public bodies, such as local councils, together with private sector commercial sponsors and their content reflects this

[82] For example see ICLs Cyberskills Workshops marketing brochure "The skills for the future - a lifetime of learning"

[83] Indeed America On-Line bought the company Digital City Inc which pioneered much work in this area, in 1997

partnership. Digital city sites typically provide a range of information about a particular city or region, for example its main employers, higher educational establishments, entertainment listings, the services of its largest organisations including retail outlets and links to other sites which may refer to more local services oriented around the place-based community or neighbourhood. The number of these sites mushroomed in Britain in the mid 1990s although they had but existed in the United States a little earlier. A report published in 1995 by Alaina Kanfer and Christopher Kolar of the National Center for Supercomputing Applications reported that they found that by June 1994 only six cities in America had developed a site on the World Wide Web whereas just over a year later in September 1995 there were nearly six hundred. Not all these sites are a result of public/private collaboration, sometimes they are wholly commercial in origin and others are put together by amateurs who wish to share their own, individual "take" on the city in which they live with a potential global audience.

Digital city websites are commonly advertised as "community websites"[84] but their content more usually refers to city-wide services for the resident or tourist population and reflect a great deal of private sector input. Kanfer and Kolar surveyed all the active city sites which they found in the USACityLink Web directory in 1995 and found that, in the main, their content and external links were heavily weighted to information about locally sited businesses. Indeed while 80% of sites carried information on local businesses they found that:

> relatively few cities provide information about libraries, health care, or local community networks (1995:website)

Furthermore Kanfer and Kolar classified the majority of these sites as tourist rather than community-related and "...provided by an Internet business on a commercial server..."(1995:Slide 8). They were less often provided by public institutions such as universities or city governments. Those sites which were set up and maintained by individual residents were small in number, providing "idiosyncratic and incomplete information" (1995: Slide 8). In fact this profile of web-space they suggest,

[84] See for example the listings generated by Community World UK on www.community-world.co.uk

demonstrates that the main providers of information in physical space are also dominating cyberspace (1995 : Slide 9). The authors also suggest that many of these sites have been developed by commercial organisations involved in selling or developing technology, the "dot.coms", with the primary aim of attracting Internet users to their business, rather than to provide citizens with relevant information. There are other providers of local content in the United States, notably Digital City Inc and CitySearch, but these too have been noted for placing commercial content above community content, although CitySearch claims to have links to more "grassroots" sites (McElvogue: 1997:32).

Research at the Centre for Urban Technology into different types of digital cities in the European Union (EU) found a similar typology can be constructed from European city sites. These have been dubbed "grounded" virtual cities which:

> ...can be configured either as glossy advertising and promotional spaces, with little or no useful information for residents, or as civic services providing 'public' electronic spaces supporting political, social and cultural discourses about the city itself. (Graham and Aurigi: 1997:26)

Graham and Aurigi conclude, however, that despite the rhetoric, these sites "...are little more than urban databases..." and lack "...opportunity for genuine interaction and discourse." (1997:26). Time and again research has found that roughly 85-90% of "digital cities" fail to provide any interactive functions (Aurigi 2000 and Hale 1999). Day and Harris also concluded that digital cities were rather marginal, and quoted research to support this view:

> The best known digital city, in Amsterdam, has been the subject of some evaluation which suggests that for the majority of the digital citizens, the Digital City does not seem to be a part of their 'normal' activities (Day and Harris:1998: 5.4)

Digital city sites in Britain are no exception and many so-called "community sites" link to similar "digital cities", and although British sites are likely to be found on local government web-space rather than commercial, the content for the city is provided by city and town councils and businesses, rather than what might be termed local

community members. Digital cities, then, with few exceptions[85] seem to represent a top-down approach to the provision of community information in which the main players within a city develop provision which is more often related to their own, rather than the community's, interests.

The virtual community

As outlined earlier in this work, there have been calls to build electronic communities which are interest or place-based. Schuler (1996) has traced the development and scope of a particular type of community network which is based in a specified locality[86] and Rheingold (1994) of virtual communities which are of a more global nature, based as they are on communities of interest more than shared physical space. In the early 1990s, IBM sponsored the National Working Party on Social Inclusion which, reporting in 1995, stressed the importance of a grass-roots element to community-building through the internet:

> C-nets [community networks] come about because people, usually through representative agencies at local level, seek to exploit the new technologies to extend existing networks, so that they can communicate more readily, be more informed, and participate more effectively. The 'net result' is stronger communities. Thus...we refer to c-nets as initiatives which come about because people initiate a process: they get together locally, as well as communicating on-line, to learn about and develop electronic platforms, in order to increase their options for communication. This process is part of community development. (Day and Harris, 1998:5.8)

Community networks, therefore, are more likely to have been developed from a more grassroots community-base, rather than provided for the community from above.

Community network sites are much less in evidence on the Internet than commercially-sponsored city-sites and because of their local, "grassroots" nature may be difficult for the casual internet browser to locate and explore. At the start of my

[85] Graham and Aurigi (1997) and van Diemen (1998) point to De Digitale Stad in Amsterdam as an exception to the rule

[86] However, still other physically based communities have sought to make use of the internet but without affiliation to the community networks of which Schuler is an advocate

research I "visited" a number of community network websites based around neighbourhoods in the United States. At the time community networks were far more advanced in the United States than elsewhere and I was interested in assessing their integration into and support of, actually existing physically based localities.[87] Such virtual communities can often be developed as closed networks for reasons related to commercial considerations (the user must pay to join) or for community privacy.[88] However I was able to access five networks which were based around geographical locations, rather than particular interest groups.[89] All these networks gave access to information about local events and community activities, businesses, health and government services and to an e-mail service for local subscribers. Bulletin Boards had also been set up to host local debates, allowing users to be information providers as well as consumers. The networks were run by both staff and volunteers, often having an office where users could drop-in, use the Internet and be trained in its use as well as public access points in libraries and other public buildings across the area covered by the network. They were all supported by various telecommunications companies and government grants.

These community networks have been hailed as examples of how to build community on the internet (Schuler 1996) and each has signed up to a philosophy which aims to foster control by their local user-base. However, the networks covered quite large geographical areas, Silicon Valley Public Access Link, for example, covered the "southern portion of the San Francisco Bay area" (SV-PAL Website: 09.04.01) and NapaNet was initiated to "Ensure that all public and private school students in Napa County have free access while in class to the worldwide information resources of the

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[87] The first tranche of visits was carried out in early 1997, and the sites were later revisited in March 2001. Interestingly, in October 1997 the Infoseek search engine listed sixty-seven URL addresses under the search term "community network", yet only forty-five in 2001. However, in 1997 only eight of these referred to actual on-line communities, and three could not be contacted after two attempts over one week apart. In 2001 more of these sites related to virtual community sites, either locality or interest-based.

[88] In 1995 the Blacksburg Electronic Village (BEV) closed its chat-lines to web-users outside their own network to protect BEV users from intimidating postings. In 2001 the chat-line link had been contracted out to a commercial organisation which could "police" all postings and was open to all visitors once more.

[89] The five networks were Buffalo free-net - serving eight counties of Western New York, NapaNet - "a dream of the educational community of Napa County", Silicon Valley Public Access Link, Community Network - Boulder County and Blacksburg Electronic Village

Internet and the World Wide Web" (Napanet Website: 17.09.97). These are not, then, small tightly knit local communities based in neighbourhoods, but provide resources for much wider networks of people. Day and Harris (1998) warn against the danger of community networks growing too large. Their research led them to conclude that there is a tendency for community networks to become dominated by the more powerful interests in an area, particularly if the networks are hosted on the websites of colleges, local authorities or large voluntary organisations. The tendency, they argue, is for large networks to emerge because a critical mass of users is needed before costs can be driven down low enough to make the network affordable to as wide a group as possible.[90] Day and Harris, however, favour community networks based on small, "neighbourhood areas" which are "genuinely local and representative" (Day and Harris 1997:5.17) while acknowledging that this is difficult to achieve.

In the UK, by April 2001, the Community Networking Project Database listed 143 registered projects and the Directory of Community Networks and Information Gateways listed 110. A ten per cent sample of these sites showed that they ranged from sites based on single-issue campaigns, such as Bullying On-Line and Headway,[91] through to support networks for voluntary sector organisations with information on training and internet connection, to a radio service for "much discriminated against" rock music aficionados (Alice's Restaurant Rock Radio), to support for e-commerce and economic regeneration (Stocksbridge Training and Enterprise Partnership). Just under half of the sample could be said to represent grass-roots community networks in the sense that Schuler has outlined as key to the community network movement and still less would meet the requirements of Day and Harris. Perhaps closest to their ideal network were the projects "redbricks.org", a small, locality-based (in fact it is one block of social housing in Hulme, Manchester) community intranet[92] and world-wide-web space, which has been developed by the residents themselves with "Not a penny of public money..."(CoNet 2001), and Brixton On-Line, a sophisticated site

[90] There was also some concern expressed that funding for these networks, which was often through sponsorship with private businesses, was less than secure; see Miller (1995) Chapter 11 for a discussion of this problem

[91] These campaigns offered information, advice and counselling to victims or their carers, on bullying in schools and head injuries respectively.

[92] An internal website that uses the same protocols as the internet but which is shielded from external Internet users

catering for a larger user-base but which includes a web-based gateway to information on local entertainment, services and businesses, as well as a community intranet and internet service for members only. So, although the movement appears to be expanding in Britain, the term community network still encompasses a wide-range of community-based activities, some of which are more "grassroots" than others.

The community computing facility

Community computing facilities typically provide a venue stocked with computers and associated hardware and software where individuals can access ICT equipment and services. These places are commonly found within cities and in areas where economic disadvantage is believed to prevent the purchase and use of ICT by individuals. Visitors to the facilities access the machines and services for word-processing, internet access and the education and training which helps them to build the skills to work with these technologies in a subsidised and supported environment, the assumption being that larger businesses and more affluent areas have little need of this particular type of ICT provision. Centres across the UK vary considerably, some have drop-in facilities, in others space must be booked in advance; some are purpose-built, others make use of existing community facilities; some are free to use, in others a payment has to be made for use of each of the facilities on offer. There is some suggestion that these centres will not only contribute to addressing the training and personal needs of the individual user, but will also contribute to the economic regeneration of an area, developing and sustaining a critical mass of ICT use locally but also strengthening community cohesion as centre users begin to access the communication capabilities of ICT to develop local community networks and information systems.

Community computing facilities have been developed in the UK since the early 1980s. Hulme Community Computing, based in south Manchester since 1982 "...claims to be the oldest continuous community computing facility in Britain..." and began its association with computing with the purchase of a number of Amstrads for word processing (Kearon and Smith 1998:17). Community computing facilities also owe much to the much emulated "electronic village halls" which were set up in isolated

rural communities across Scandinavia in the mid 1980s to provide computers, telecommunications and training and support to their users (Ducatel and Halfpenny 1993). In order to improve access to ICT the British government made £270 million available in 1998 to place networked computers in libraries, and in 1999 the Department for Education and Employment stated its intention to establish ICT learning centres in socially deprived areas across England (Day 2000:5).

Despite their aim to provide ICT for all social groups, the providers of many community computing facilities acknowledge that their ICT equipment seems to be used by the more confident and better educated community members.[93] They also observe particular patterns of use emerging; women with young children will tend to visit only in the hours when their children are at school and rarely in the evenings or weekends when their focus is on domestic duties; older women may visit during the evenings, especially in the light summer months, and weekends whilst at other times they seem to be dominated by male use (postings on CoNet newsgroup). As highlighted in a report by Kearon and Smith (1998) the providers of these community computing facilities can maximise use of the centres when they are embedded in the local community, are aware of patterns of use locally and structure their opening hours and events accordingly. Those facilities which do not adapt to this important aspect of provision - or those which are run by organisations which do not have the flexibility to tailor their service to community patterns of use fail to provide for particular sections of their user-base.

Day and Harris (1998) stress the importance of establishing community computing facilities in more general resource centres which can engage local people in interesting projects which they find relevant to their lives, where local issues are highlighted and where people feel that they can contribute an area of expertise or knowledge outside of the use of technology. They stress too the importance of local ownership and management of these spaces, so that potential users from the community feel that the facility is a community resource to be supported and maintained.

[93]See for example CO-Net newsgroup posting 25.06.98 from J. Zielstra and replies

The information point

A whole range of public service providers, from local authorities to government departments place information in the public domain and the possibilities afforded by intranets and the World Wide Web allow another vehicle for the dissemination of this information to be explored. Many local authorities now have their own websites as do many higher and further educational establishments. These sites tend to have a dual purpose - to promote the organisation and to provide some information to web-users about government services. Some of these organisations, such as the Home Office in England and Wales will post documents for information and consultation, others, such as the Washington Library in the US allow some access to internal databases and files. The provider of the information point for communities will typically place links to information sites which they consider relevant to community interests. These facilities have been developed in order to bridge the gap between the public citizen and government or to provide easy access to quite specific services for a targeted user-group. They can be open access, for example the Public Internet Terminals in Amsterdam or closed facilities, such as the GEMISIS Virtual Chamber of Commerce which provides services on a subscription basis to small businesses. These information points can also be envisaged as information districts where the principal is stretched to entire localities which are "...supported by a whole suite of ICT infrastructures and services..." (Graham and Marvin 1998:26). Both small and large enterprises using and providing ICT services will be encouraged to cluster in designated "quarters" and benefit from physical proximity, building networks of users all of whom are expected to benefit from shared interests and in some cases, specially designed telecommunications networks with high capacity links to outside industries and networks.

Providers of public information points and booths have sometimes acknowledged that these facilities are not as widely used as they had hoped. They will often admit that they are working "in the dark" without the knowledge which they need to ensure these facilities are placed in the sites which will encourage the most use. Furthermore, providers acknowledge that, while they can find funding to develop the hardware, there is much less funding to enable them to conduct the research and

development with the communities, which will ensure that the information placed within these information bases is what people actually want to access. In addition, the technology which has developed to enable these sites to be placed in specially constructed booths and public spaces often relies on touch-screen technology rather than keyboards. While this allows the user easy access to the information placed within the information-point it works against the user actually putting in their own details and information. The interactivity of these facilities is therefore limited and they typically allow only a one-way flow of information from provider to user (Kearon and Smith 1998)

In one example a number of Magic Touch public information kiosks, serving access to the Manchester Community Information Network (MCIN) were placed in public areas such as community resource centres, a library and a supermarket in order that they be made available to "socially excluded groups" (Kearon and Smith 1998: 15). It was argued that these facilities should be provided free to the public at the point of access, and utilised touch-screen technology which was thought to be less intimidating than computer terminals. The kiosks not only allowed access to MCIN, but in some cases, to email services as well. The pilot project showed a number of problems which the developers of the scheme had not foreseen. On occasion the kiosks broke down but staff at the host facility did not report the breakages because they did not "own" the kiosks. After the initial installation there was no ongoing support to demonstrate the uses of the kiosks to either staff at the host facility or prospective community users who were often unsure as to why or how they should access the equipment.

ICT for All?

The civic model for the introduction of technology foregrounds the provision of services to communities rather than the provision of entertainment or leisure opportunities. "Disadvantaged" communities are seen as in much need of the services which the internet can offer, but as reluctant to engage with them and this is perceived

as a deficiency on the part of these communities. As one marketing company, interested in the take-up of internet TV has complained :

> ...potential users are failing, in their millions, to grab hold of these opportunities for personal development. A recent ITC paper...concluded that the uptake of cable, although steadily growing, is still only about a quarter of homes passed. It is hampered by "...the British apathy, or at times hostility, to multiple channels and paying for television." Fifty-five per cent of viewers in this study were 'not at all interested' in getting cable. This was attributed in part to a lack of understanding of what cable can offer. It can provide, for example, home shopping, rock music, Worldnet (a US information service) and CNN, plus local channels and text information...and as market researchers, we know better than most that wholesale attitude change is going to be necessary before a 'new way of life' can be widely adopted. (Gormley R. undated:10)

This attitude typically suggests that it is the public who are failing to notice and engage with the benefits of new technologies, it does not question the content of the sites provided and whether these key into local concerns and interests. The failure is seen to be located with the consumer rather than the provider. In the context of public service provision this attitude can also be discerned. It is taken for granted that everyone can find something in ICT which will improve their lives and that failure to "modernise" and engage with ICT demonstrates apathy or resistance to change. It is suggested, nevertheless, that this resistance can be overcome and it is increasingly recognised that people will come to use ICT when they see for themselves that they are relevant to their lives. Carter, however,[94] writes:

> The ability of small-scale initiatives in cities and regions to use the advantages of the technologies, to use cyberspace, to create communication and activity networks free from the usual spatial and temporal constraints is a crucial element in providing a democratic counter-balance to other technological and global trends. The essential starting for this must, however, be a commitment to creating services and applications that are easy (and cheap) to use, that grab people's interest and imagination so that they want to use them and that, having used them, they become part of their lives enough that they would fight to not take them away. (Carter 1997:151)

[94] Dave Carter, of Manchester City Council's Economic Initiative Group, is charged with promoting information initiatives across the city to ensure economic and urban regeneration takes place. His background is in community activism and linking business and community goals.

It is not at all certain that the models for introduction of ICT for community benefit which have been discussed above meet all these criteria. While low cost, accessibility and the relevance of service provision have been addressed as aspects of many projects, except in a few cases the provision of these facilities reflects a top-down insertion of technology into community locations rather than a bottom-up development of technologies for community use. These models, therefore, reflect, with few exceptions, much more of a supply-led push of computing into communities, than a demand-led pull. Ownership and provision of the facilities still largely rests with centralised providers such as local authorities and national governments These profiles of models for community provision suggest relationships of authority and exclusion present in actual public space being played out in cyberspace. Even in the realm of community sites and community networks there is found a domination and control of cyberspace by larger organisations and more powerful interests and a correspondingly marginal role played by small-scale community networks based in more representative local neighbourhoods. In the same vein, community computing facilities and information points still have some way to go before they can be said to offer affordable and relevant access to ICT for the most disadvantaged groups in society. This discussion suggest that cyberspace has not yet developed as a more inclusionary and democratic medium as the technology enthusiasts would have us believe.

The next three chapters turn to the case-studies of communities in Salford, exploring what motivates their use of the web, how they used ICT over the research period and finally what prompted and prevented their full engagement with these technologies. The following chapters suggest that a rather different approach should be taken to the development of community-based ICT projects. The data presented in these later chapters demonstrates the importance of a more grounded approach to policy initiatives, suggesting that they should be more sensitive to the needs of the communities in which they are applied, taking into account the aspirations, experiences and organisational requirements of each community in turn, rather than expecting that an "off-the-shelf" solution, which might have worked in one area can be applied unproblematically to another. These chapters also argue that communities

need to "champion" and lead ICT projects if they are to be developed as locally relevant and successful projects.

Chapter Five Engaging with the information age - questioning the notion of a 'digital underclass'

Linking community and computing across the UK

At the start of this research ideas on how to involve local communities in computing were not particularly well developed in the UK and champions of community involvement in ICT took a great deal of their inspiration from the community networking movement which was established in the United States. A major source of advice for anyone interested in developing community ICT projects in Britain was the organisation Communities Online. As their website[95] explains this body consisted of a network of individuals and organisations from across the UK involved in building on-line communities and encouraging internet connections within existing communities. This network came about a result of a "Communities On-Line" seminar hosted by the community affairs department of British Telecom in 1995. As a result, one of the organisations involved, Partnerships for Tomorrow (P4T), agreed to host a Communities Online website, with bulletin board and mailing list (using e-mail), to publish a guide to their work and to continue to host face-to-face meetings and events. This became the Communities Online Forum website which, while initially hosted on BT servers, later established itself as an independent site in its own right. Members of this forum focused on the development of place-based on-line communities, providing interested organisations with networks of people and resources which could help newly forming on-line communities. Throughout the period of the research Communities-On-Line resources, supplemented with word of mouth information gleaned from informal contacts, remained the main source of practical information on how to get a community network up and running.[96]

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[95]The Communities On-Line history can be found on the Partnerships Online website at http:// www.partnerships.org.uk

[96] See Co-Net archived discussion list for examples of how contacts were established and maintained.

Learning from their own experiences in helping to develop online communities, the Communities Online forum stressed from the beginning the need to motivate community interest in ICT. Many of the people involved in the organisation had backgrounds in community development (Walker 2000), rather than in information technology and the people-centred approach which this fostered was put forward as key to the development of a successful project. Various members of Communities Online have written articles and pages for their website which set out clearly what benefits ICT could potentially deliver to existing voluntary organisations and communities.[97] The site was supplemented in mid 1997 with the publication of a manual authored by Terry Grunwald, who has been influential in the community networking movement in the United States, entitled "Making the Net Work". This manual and the information posted on the Communities Online website concentrated on exploring effective use of tools such as email and the world wide web to encourage inexpensive forms of communication and research and also stressed the efficiency of asynchronous communication and group mailing lists. In addition, the philosophy adopted by Communities Online meant that these resources aimed to demonstrate how individuals, communities and organisations could become empowered through the mastery and use of ICT. To this end, the authors of the various pieces eschewed the use of technological jargon and advised low cost approaches to the introduction of technology rather than high cost, state of the art technological solutions. The majority of writers who contributed to the Communities Online website advised a period in which awareness of ICT was raised and information provided to communities on what ICT might help them to achieve, before the technology was introduced into the neighbourhood. This period, it was argued, would help communities to decide whether ICT had anything to offer and as crucial to developing interest and commitment to the idea of using ICT for community benefit. Day and Harris suggested that existing Community Networks (C-nets) should take on this role, providing information on what ways of working ICT make possible, what infrastructure must be adopted, and also pointed to the various electronic

[97] See for example Michael Mulquin's 1997 article posted on the Partnerships Online website entitled "What are the benefits of getting online?" and Mark Walker's "What does IT all cost?".

information sources which might initially benefit the community or generate enthusiasm in using the technology:

> C-nets have a role in demonstrating and explaining the nature and potential of IT applications. This may call for a variety of approaches such as drop-in sessions, awareness days, and outreach. We have even been told of the use of community drama to help people explore the issues involved. (2001:5.13).

On publication of Grunwald's book, the four main benefits of ICT which she promoted - access to information, low cost communication, increasing the potential for collaboration across the world and increased visibility for small organisations - became the mainstay of the Communities Online approach. In order to achieve their goal the community net workers argued for universal on-line access, relevant community-based and community-driven content, appropriate skills in using computer hardware and software and high-speed connections to the internet, working on the belief that "If we build it, they will come" (Walker 2000:16). This approach has been influential. The writings of Grunwald, Day and Harris are much quoted in the literature and the report of the Social Exclusion Unit's Policy Action Team 15 on the introduction of information technology to deprived areas, closely follows the model which they set out. As a result, many government policy-makers have had recourse to their ideas.

Constructing the "digital underclass"

Much of the work which promotes universal access to ICT and training in its use, is driven by a concern that there exists an inequality in the possession of information across society. It is further believed that an imbalance in possession of information feeds into larger inequalities of wealth and opportunity as the more successful groups in society which have access to a wider range of information than is usual, also possess the means through which they can convert this information into knowledge. As has been outlined in previous chapters, theorists of the information society have placed information and knowledge as key commodities suggesting that they are

another form of capital, a "set of actually usable resources and powers" (Bourdieu 1986:114), access to and possession of which confers particular economic and social advantages. This approach can be further stretched to encompass differential access to information technology, so that lack of access to computers and computing know-how is also seen as denoting a deficit of capital. This has been translated into a concern that those without access to technology are in danger of becoming a "digital underclass" (Longford and Crow 1998:10). Castells for example has articulated his concern that the ICT-illiterate will be denied access to a fast-growing area of employment opportunities. He further suggests that without access to and knowledge of ICT, this underclass will find it difficult to challenge the intellectual elite in society; those who remain the providers of information, controlling the media, production and the provision of services. Castells has argued that:

> Differential timing in access to the power of technology for people, countries and regions is a critical source of inequality in our society. (Castells 1996:34)

Castells' concerns are echoed in the work of Spender who has written:

> ...the computer is not a toy; it is the site of wealth, power and influence, now and in the future. Women - and indigenous people, and those with fewer resources - cannot afford to be marginalised or excluded from this new medium. To do so will risk becoming the information poor. It will be not to count; to be locked out of full participation in society in the same way that illiterate people have been disenfranchised in a print world. (Spender 1995: xvi)

These concerns also lie behind the work of Communities On-line[98] and others who have become involved in the provision of community internet sites, as Walker outlines:

> In the middle of the last decade, a number of community activists in the UK were converted to the belief that the technologies of the World Wide Web (WWW) could be harnessed to create new knowledge pools for community development. (2000:17)

[98] And see their 1999 report for the Social Action Research Project based in Salford "Networking the Community to Build Social Capital in East Salford

Exactly what these "knowledge pools" might have contained, however, has never been satisfactorily explored. Walker decries the current content of the world wide web which, he argues, remains "electronic dross" despite "...many of the attempts at community networking ...aimed at driving community-based knowledge" (2000:17). Neither does he set out to investigate what content local communities might find relevant to their needs nor what might constitute community-based knowledge.

Using ICT to Combat Social Exclusion

In 1998, the Day and Harris publication *The Net Result* received a great deal of attention. This report was written for the National Working Party on Social Inclusion in the Information Society (INSINC), a collaboration of IBM and the Community Development Foundation, focusing on the role which various different types of community IT resource centres had played in helping to promote interest in and use of ICT. It was later followed by "Down to Earth Vision", also by Day and Harris, and also published in 1998. These reports were written for a different readership, adopting a more academic style and tone, while many of their observations echoed those of Grunwald and Communities Online. Day and Harris stressed the potential of community networks to offer a route into social inclusion. They pointed to the potential benefits of ICT in helping to build social capital, suggesting that the technology would allow communities to extend and develop their existing networks and to exploit the possibilities of communication beyond their particular neighbourhood (for example by sharing experience with 'twin town' communities) and in using the world-wide web to search databases on relevant topics of interest. Day and Harris also discussed the potential of ICT to offer new ways for communities to participate in decision-making processes, through contact with relevant authorities and through online consultation (Day and Harris 1998:5.12). These writings have helped to fuel a policy concern that ICT should be harnessed to combat social exclusion. Again, in the late 1990s, this concern raised more questions than it answered with little evidence brought forward to demonstrate how this process might work in reality. A widely disseminated submission to the North West Regional Development Agency in March 1999 looked to the development of e-commerce as a

solution, arguing that "It is the raising of basic skill levels in this area [ICT] which is crucial in ensuring that social exclusion is not deepened "(North West Social Inclusion and ICT Forum 1999:13) and concluding that "...the citizen needs to develop appropriate skills and knowledge in order to contribute to this new age" (op.cit:17). This paper proposed community based ICT projects as a means by which communities would be inspired to learn such skills, seeing them as a means to an end, rather than as having an intrinsic worth. This attitude to community ICT projects is reflected in many government documents which foreground engagement in work and economy, rather than neighbourhood and community, as solutions to social exclusion.

Building community computing in Salford

The GEMISIS project in Salford was put together in this climate and with a goal to "...restore prosperity to communities in economic decline".[99] A major part of their intervention was to be focused on the economic sector, developing internet applications which would be useful to small and micro enterprises across the region. But GEMISIS also expressed a wider concern in "...supporting individuals and community groups so that they are able to participate in the information age, and the acquisition of skills and benefits that arise from it" (City of Salford/GEMISIS 1998:ii). This meant engaging with community uses of ICT, raising awareness of the technology and finding ways to introduce new technology to communities across the city. The Community Topic Team charged with taking these aims forward was led by a local authority officer, the then Strategy Co-ordinator for the City of Salford. Following the "civic model" for the application of ICT which GEMISIS set out to follow, the team met regularly from mid 1996 to 1999 with the aim of generating ideas and developing a number of pilot projects which could help different communities within Salford connect up to the broadband cable network which had been laid across the city in previous years. Although new projects were to be developed by members of this team, some initial ideas for community connection were already in place. This included the networking of all Salford's schools, its

[99] Professor M. Tracey, GEMISIS Academic Supervisor / Researcher Meeting, 11th June 1997

hospitals and emergency services, police headquarters, and a range of local authority and community facilities. There was also a plan to link four "jobshops" across the city to Department of Employment Job Centres and a range of employers across Greater Manchester, in order to ensure that users of the jobshops had access to as wide a range of potential employers as possible. As a "quick win" project two of the city's schools, one in Little Hulton and the other a few miles away in Swinton, were to be connected to the broadband network and loaned computers, video conferencing equipment and necessary software to allow them to link up to each other, the University of Salford and NYNEX offices in south Manchester and to give them full access to the internet. This project was to be led by the Education Topic Team within GEMISIS. The project was widely advertised locally and it was hoped that success in this area would generate interest in the technologies and encourage further organisations and individuals to connect to the NYNEX cable network. In addition a "Community Campus" was to be built in the Little Hulton area of the city. One wing of that area's school premises was given over to refurbishment and the provision of a number of computer suites. It was envisaged that this would be a site where the community could access computer training and facilities outside of school hours.

A report to the GEMISIS Community Topic Team in February 1997[100] prepared by the council's Chief Executive department, suggested that the city council was, very traditionally, at the centre of an information process whereby information was received by the council from a number of providers, (from government departments and the institutions of the European Union down to the city's public and its councillors) and that this was then compiled, analysed and distributed back to the same. According to this version of the processing of information in the city, council information services acted as the conduit through which all information flowed, and presumably was clarified and made comprehensible to its end users. This process saw the end users of information as initial providers of the raw material and then consumers of the final product. It was a model which provided little discussion of the end users as agents in the process and portrayed them, in many ways, as passive

[100] *The City of Salford and the Information Society. The Opportunity and the Challenge.* Report to the GEMISIS 2000 Community Topic Team - 21 February 1997

consumers of the council's information product. This model provided little acknowledgement of flows of information across the city or within neighbourhoods that did not travel through the council and thereby betrayed a rather one-sided view of information flows across the city. The document did acknowledge, however, that two challenges faced by the Community Topic Team would be "To unlock the power of information, not to create new inequalities between the information rich and the information poor" and "To place people in charge of the information and not let it be used to control them" (City of Salford 1997:2). The local authority was presented, therefore with a scenario whereby their organisation was to be charged with ensuring equality of access to information and to build the capacity of people to take charge of available information for themselves. The report warned that a cultural change was needed whereby council employees would initially have to embrace the technology themselves in order to understand how best to use it to deliver information into the public domain and further, that the local authority would have to find the funding to roll out new technology within the council and beyond. The document envisioned a process whereby the local authority and its employees would act as an exemplar to other organisations, as "early adopters" of the technology (Tracey and Powell undated:6) to guide and develop the move towards the development of an information society within the city. This, the report stated, would be achieved through the championing of three different types of projects;

i) addressing the information needs of the public and developing new information databases, provided electronically, which addressed the needs of local communities

ii) transforming the internal structures of the council encouraging departments to deliver an electronic interface with each other and with the wider public

iii) encouraging more open access to information already held by the council and making this available to be placed on public websites and community bulletin boards

It was envisaged that these moves would raise awareness of ICT throughout the city and stimulate interest among the city's residents and workforce[101] in ICT training. The local authority then, through its role as a provider of information services, as a champion of the use of ICT, and in its role to promote community ICT projects was seen as central force in the repositioning of the city in the information society. Progress towards adoption of the technology in the city, therefore would occur as a result of vertical connections between communities and organisations based in different neighbourhoods and the local authority.

This approach, while starting with inequalities in knowledge and social capital, ends by investing computers and ICT with the power to transform people's lives. It ultimately mistakes access to "information" for "knowledge" and conflates ICT-illiteracy with information poverty,[102] claims to which I return. This approach therefore suggests the proffered solutions - that take-up of these technologies should be encouraged as offering a range of possible benefits for their users. It further suggests that certain communities which have previously had little contact with ICT can be motivated to become ICT-literate as a result of seeing the technologies in action - and by implication - discovering the benefits for themselves. It implies, thereby, that all communities will function better through using ICT, and while not explicitly addressing the nature of the communities with which it is concerned, the sub-text of the digital underclass runs throughout these writings, suggesting that it is socially and economically disadvantaged areas which should be targeted for projects involving ICT and which may have most to gain from acquiring knowledge and expertise in this area. It does not explore why such communities are not thriving and

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[101] It was initially envisaged that the city would buy in the ICL CyberSkills Programme which was developed alongside the South Bristol Learning Network. This programme consisting of ICT workshops followed by discussion groups in which individuals were encouraged to discuss the impact of the information society and to find ways to tailor ICT to their personal requirements. This was regarded as a way to motivate users and to ensure continued interest in ICT. In this ICL model, workshops were led by former participants turned trainers in order to break down barriers between learners and teachers and all participants were encouraged to maintain active networks with co-learners after the event. Despite initial interest in this model the local authority did not ultimately choose to buy the ICL project

[102] This term was used by the United Nations' Administrative Committee on Co-ordination in the statement produced by the Inter-agency project on universal access to basic communication and information services *ACC Statement on Universal Access to Basic Communication and Information Services* which can be found on the website of the International Telecommunications Union at www.itu.int/acc-rep.htm Accessed 07.12.01

might be in need of support to enable them to "prosper". Yet without consideration of the factors which have led a particular neighbourhood into declining economic prosperity and which serve to hold them in a state of marginalisation and exclusion it is difficult to perceive how experience of ICT alone could serve to confer advantage on any such neighbourhood. A process of fetishisation has occurred here where technology is seen as having the power to transform the structural conditions, social networks and activities of the communities themselves. Yet the nature of these very conditions, networks and activities have not been entered into the equation. As the next section and subsequent chapters show, however, the assumptions lying behind much of this argument can be challenged. The experiences of the neighbourhoods chosen for this study first shed some doubt on the notion that a digital underclass, somehow separated off from, or uninspired by, the prospect of, engaging with technology is to be found in economically marginalised areas. Later chapters then question the idea that technology can transform these neighbourhoods or that ICT have the power to bring prosperity whether economic or social, in their wake.

The process outlined above, whereby technology is afforded the power to transform lives will invariably fail to connect with the idiosyncracies and individuality of the communities to which it is to be supplied. There is an assumption, instead, that communities will adapt to the requirements of the technology as they see the benefits of so doing. Existing networks and connections which do not fit into the ICT "model" proposed may be bypassed and downgraded as a result. In both research areas there were strong networks built around personal relationships, knowledge of organisations which shared similar ideas and enthusiasms and negotiated understandings of who could be trusted to act in the community's interests. Some of these were formal such as the Little Hulton Information Development Organisation (LIDO)[103] and others were informal and built around friendship and shared experiences. It was relatively easy for me to tap into these informal networks once I was accepted into the women's centres. While I witnessed a great deal of information being passed on from

[103] The Little Hulton Information Development Group (LIDO) predated GEMISIS intervention in the area, however the presence of GEMISIS brought an emphasis on ICT into their deliberations. The group was made up of various voluntary and statutory groups involved in service delivery in the area which had recognised that they had a common interest in sharing information. The most regular attenders represented social services, the library and the women's centre.

centre user to centre user, my research also greatly benefited from the participants' willingness to impart information to me as a researcher. However, as my research later explores, these networks were not taken seriously as potential deliverers of ICT projects or as potential transmitters of knowledge regarding the technology. Instead there was an emphasis on delivery by "experts", missing the reliance of these communities on informal networks and the importance of utilising non-professionals to spread ideas and enthusiasm for proposed projects.

The research in Salford - Exploring access to technology among centre users

The first phase of the research for this study was designed to discover how far women in the research areas had already begun to engage with new technologies. A questionnaire was placed in the women's centre in both areas for one week in November 1997 and visitors to the centres were encouraged to complete a questionnaire themselves and to take extra copies to any community meetings which they were to attend. At the end of the week 51 completed questionnaires were returned. These were followed a few months later by group discussions and interviews in each area which explored in more detail some of the issues raised by the questionnaires. Representatives from seven community groups, four in Little Hulton and three in the Langworthy area took part.

A number of questions raised in the survey were designed to uncover the extent of each participant's experience with new technology. One question presented respondents with a list of popular consumer products associated with digital technology, and asked them to state which they had access to, either in the home or at any other place. The results can be found in Table 1 below. The questionnaire returns showed individuals had access to quite a wide range of technology, both in their homes and elsewhere.

Table 5.1. *Centre Users and Access to Technology*			*(n=51)*
Technology	**Access in the home only**	**Access outside of the home only**	**Total with access**
Telephone	48	1	49
Television	47	--	47
Television with teletext	33	2	35
Handheld computer games	25	2	27
Games played through the TV	25	2	27
Personal computer	18	6	24
Electric typewriter	14	4	18
Games played through a PC	14	2	16
Mobile phone	8	2	10
Fax machine	2	7	9
Manual typewriter	5	--	5
PC with internet/email	6	3	9
Pager	2	1	3
The women's centres survey - November 1997			

The returns showed that the most common product used was the telephone, which is unsurprising given that this has been a popular form of communication for many decades[104] and the next most used product was the television, also a product which has almost universally been brought into people's homes for a number of decades now. The television was not solely used for entertainment. Thirty-three women of the forty-seven with televisions at home, stated that their television had teletext facilities, and later conversations and group discussions revealed that this was used to retrieve information on a regular basis. Teletext technology was seen to be easy to use, and to include information which was interesting to many members of the household. It was used for a variety of different reasons, to find information on cheap flights, on horoscopes, sports updates and weather reports. This use of teletext technology demonstrated a demand for information services in the home, which as long as it is easily accessible and holds data which is seen to be relevant, proves popular and entertaining. It shows, too that these women had experience in searching for commercial and public service information from their own home, using technology with which they were familiar and felt at ease. Although teletext can be seen as an

[104] Machlup (1962:276) shows how the penetration of telephones into US households occurred from 1880 to 1958, by which time78% of households had a telephone service.

uninspiring medium, lacking the interactivity and both the visual and aural stimulation of the world wide web, it had nevertheless become a well used resource for many women.

The questionnaire also asked respondents to record their ownership of, and access to, other technology such as computer games. Just under half of the respondents recorded that they, or members of their household, had access to games technology in their homes, exactly the same numbers stating that they had handheld computer games as stated that they had computer games consoles which were played through television sets. Just over one quarter recorded that they had games which they played through their computers. Group interviews revealed that the women were not particularly interested or adept at using computer games. Where these had been bought they were chiefly presents for children within the family and did not hold much interest to the female participants in this research. As for the more instrumental, and in some cases more office-based, technology, over one third had access to electric typewriters, one in five had access to a mobile phone but only three women had access to a pager.

The questionnaire returns revealed that just under one half of all respondents had access to a personal computer, of which the majority (just over one third of all respondents) had access in their own home and a further six, outside of their home.[105] The questionnaire did not ask respondents to give any information on the age of their computers, nor the speed or power of the computer's processor but it emerged in later group discussions that the standard of computers available to the respondents in their own home varied enormously. One group interview which took place at the Women's Centre in Pendleton was entirely made up of women who had access to some form of word-processing and who used this to produce work for their creative writing group. At least one of these women, however, was still using an old Amstrad

[105] The PAT 15 report acknowledges that it was difficult to gauge the take-up of computers in "deprived neighbourhoods". Its compilers "...found no comprehensive studies covering a number of neighbourhoods, or comparing deprived neighbourhoods with the national picture." However, the numbers shown in this table compare favourably with the small-scale surveys which PAT 15 chose to highlight. These had suggested that ten per cent of households in such areas would have their own computers. (DTI 2000:23)

word-processing machine and another had a computer with such low processing power that it could not power a Windows operating system. While both women had been considering updating to a newer computer for some time, they had not done so as they felt their current machines offered adequate power for their needs. Any interest they had in updating their computers was spurred on more by a feeling that they really should have more up-to-date and powerful equipment in order not to lookout-dated and old-fashioned, rather than through having located any particular need for improved processing power. However, during the group discussions they listened intently to other women's experiences of using more powerful computers and to the uses to which these could be applied. Although all in this group were familiar with word-processing, this discussion of the skills and experiences which others in the group applied in their computing appeared to be taking place for the first time. It appeared that this particular group of women, although they had been meeting together for some months had never before found it necessary, or interesting enough, to share their experiences in computing. These women had an instrumental relationship to computers. They were seen as tools which the women found enabled them to participate more fully in their chosen hobby of creative writing. They were not generally held up as objects which should be desirable in themselves, although many stated that they had developed a certain attachment to their machines, whether these were the old word-processors or newer machines which ran the latest software and were capable of connection to the internet. One woman in this group, for example had used her computer to write life-histories of members of her family. She also used her computer on a regular basis to send e-mails to friends and family overseas. She relished the close contact which this cheap and flexible communication medium had given her to those people about whom she cared deeply but who had moved away. She told the group how, through this use and the personal contacts it made possible, she had become extremely attached to her computer and now considered it to be "a real friend", she explained:

> I've had it for eight years now.....Sometimes I just walk past the room and see it in there and I sigh and think, that's my friend in there. You know, I really love it.[106]

[106] Group interview - Salford Women's Centre 10.06.98, p.5

It was personal stories such as these which seemed to fire the imagination and interest of the participants in both women's centres, where people that they knew had felt that their personal lives had been enriched through the use of computers and e-mail in particular. By chance, rather than research design, each group interview had one participant who had such stories to relate. In Amblecote women's group and in the women's centre in Little Hulton it was participants who used e-mail in their voluntary work with "Compassionate Friends", a support group for bereaved parents, which had recently moved into the provision of online support in addition to their more traditional face-to-face counselling.

The questionnaire returns also showed that of those who recorded having access to a personal computer, nine (just over one third) said that they had access to the internet or e-mail, and six of these (one quarter of all those with access to a computer), had internet connection on their home computer. Both the proportions of survey respondents who recorded that they owned a computer and those with access to the internet or e-mail were much higher than expected. The European IT Observatory survey of internet use for 1997 estimated that there were 22 personal computers per 100 of the UK population, and showed access to the internet at around 5% of all households, rising to just over 7% in 1998. The survey of women's centres, however, showed just under one half of all respondents had access to a computer, with just over one third having access in their own home, and more than one in ten having access to the internet and email. Given the socio-economic profile of Little Hulton and Pendleton, it might have been expected that actual ownership of computers and access to online connection would have been lower than average. It may be the case that these centre users were particularly interested in owning and using computers and that they were not particularly representative of the residents in their neighbourhood. However, this does not invalidate the data presented, it could instead suggest that, among people who were engaging with their community at this level, there was a high level of interest in ICT.

Just over half (27 women), did not have access to a computer but the majority of these (17) recorded on the questionnaire that they would like to have a computer.

Only 5 of the 51 respondents recorded that they were not interested in having a computer at all and another 5 had no plans to buy a computer in the next twelve months. All those who had no immediate plans to buy a computer reported that they were unsure as to whether they would actually find use for one in their domestic setting. Ten respondents recorded that they would like to buy a computer in the next twelve months but did not think they could afford it and five respondents recorded that they intended to buy a computer in the coming year. This would leave a clear majority of women with a computer by the end of the twelve-month period and others with plans to purchase.

As Table 5.2 shows, of all those women who said that they were interested in computers, it was the "serious aspects" of computing which were recorded as the most useful; the largest group (29 women) recorded that they would be most likely to use a home computer for their own or their family's education and for word-processing and 24 women recorded that they would be most likely to use a computer to organise information, for example, to help with financial planning. Rather less (10 women) recorded that they would be most likely to use a computer for playing games. Perhaps because of the financial commitment involved in their purchase, the computer was generally held up as a product which should be treated as an important and significant artefact, and as a tool for improving, rather than entertaining lives.

Table 5.2 ***Possible uses for a computer in the home***	***(n=51)***
For education of self or family	29
To write letters or other documents	29
To help organise information	24
To help financial planning	14
To use the internet or World Wide Web	10
To play games	10
To use e-mail	9
Don't know	2
	The women's centres survey - November 1997

This attitude to computing, and the sheer numbers interested in familiarising themselves with this medium, is far from what would be expected from a "digital underclass". It does, however, concur with Paschal's idea of "hegemonic hype" surrounding computing technology, suggesting that the rhetorics of information

society have penetrated very deeply indeed. It indicates a commitment to improving educational and employment opportunities, and a desire to engage with a world which is driving interest in computing forward - education, letter-writing, organising information and financial planning were uppermost in people's minds. These are mainstream values. They do not show a reluctance to engage with "the information age", but precisely the opposite, that these women were aware of the normative understandings surrounding ownership of computers, and of the advantages that becoming familiar with this technology supposedly brings.

Over-estimating computing power

While the availability of computers to those completing the survey was higher than anticipated, later group discussions raised a number of issues concerning the meaning of "access" to computers. Some women who had accurately recorded on their questionnaire that they had access to a computer at home revealed in the group discussions that having access was not the same as having use of the machine, or knowing how to make use of it. Those who had bought personal computers for their households were motivated by various concerns, not all of which actually prompted them to use the computers themselves. For reasons explored above, those with children often saw the purchase of a computer as a necessity rather than a luxury. One woman who was interviewed in a Jobshop near Langworthy[107] explained that a concern to see their children as "connected" and as provided with the best opportunities for self-advancement, motivated many women to buy computers. In turn, the desire to help their children develop key skills motivated many women to take computer training further for themselves. This motivation was apparent in a great many of the conversations in which I participated while observing the different women's groups. The women I met, however, often expressed an ignorance of the technology, and were eager to talk to someone who appeared to them to know something about computers. One of the main topics of interest revolved around the need to buy a computer for a child's education, but what computer to buy, where to

[107] Interview - 11.06.98 Salford Jobshop, p.3

buy it from and what software should be purchased, were many of the questions to which the women wanted answers.

Many women expressed a, misplaced, faith in the ability of computers to improve a wide range of their children's skills and their abilities. It was said on more than one occasion in both centres, that using a computer for school work would lead to a better standard of work and higher course marks, for example one woman believed:

> It's like our D..... - he's quite brainy...he can do a lot of his coursework on computer and get better marks, but if he's gone back to handwriting, he's lost marks, do you know what I mean?[108]

One woman based at Little Hulton Women's Centre believed that the most up-to-date computers would improve writing style and correct grammatical mistakes as their child wrote, so that it would not be possible for them to submit misspelled or badly constructed sentences if they used the most modern computer she could buy for them - almost as though it could correct for any error without the child's intervention and understanding.[109] This mother had made a common mistake in seeing a computer as a thing invested with some kind of intelligence rather than as a tool which is manipulated, and therefore limited by, the thinking and abilities of its human user. The rhetoric of the computer and of ICT as a force for change and saviour to the excluded struggling to overcome economic and social obstacles was certainly apparent here.

Parents also generally assumed that their children had a familiarity and ease with computers which they themselves did not possess. It was generally assumed that children would know what to do when faced with a problem that they were using computers to help resolve. On a number of occasions, for example, women talked of how their children would use the internet to help them in research for their school work, but they had little experience themselves which would help them to assess whether their children were getting the best out of these searches on the web. It was often said, too, that children would be at a disadvantage without a computer at home

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[108] Group interview at Amblecote Women's Group, 11.06.98, p.13

[109] Group interview at Little Hulton Women's centre 20.06.98, p.12

which they could access at any time. Parents and grandparents alike had picked up on this idea, but with little actual knowledge to back this up, they generally could not say how skilled their child/grandchild was in computer use, or what computer software would be appropriate for children of different ages. Nor could they articulate exactly how their child would use the technology to improve their skills, beyond a vague sense that possession of a computer would deliver an improvement in their child's work and ultimate educational and employment prospects.

Once the computer was purchased parents could again find themselves beset by problems, many of which resulted from erroneous assumptions they had made about their child's ability to either set up or use the computer. It was often assumed that children were comfortable and skilled in the use of computers and that use of this technology was second nature to a younger age-group. As a result, parents assumed that their children would be able to use the machine fully as soon as it was presented to them. If their child had difficulties then the parents themselves were very often unable to help. This was a problem for the parents in a number of ways. Firstly it might mean that they had paid a lot of money for a machine which was little used, or that they felt somehow that their child was under-using the computer, and in both circumstances they felt resentful, sometimes blaming the child for not being interested enough. On another level, they might feel impotent, powerless to help a struggling child to get what they wanted and needed from this piece of expensive equipment. Under these circumstances, the parents were eager to learn how to use the computer, but again, with little knowledge and advice as to where to go to find out themselves how computers worked or which skills they should develop first in order to best help their children out, they struggled to discover how to get the best out of any further education or training in computer use. This motivation behind the purchase of a computer then, could be somewhat double-edged, it could pay off and yield important results for the family and their child's ability to produce their school work to as high a standard as possible, or it could fuel frustration and resentment and adversely affect their child's and their own relationship to this technology.

Many women had bought personal computers for their household without any advice based on their computing needs, apart from that given out at the point of sale. Others

had bought computers without recourse even to this basic level of advice as they had chosen machines from household goods catalogues in order to take advantage of the repayment options which could stretch their payments over five years. Not surprisingly, therefore, women often expressed disappointment in their purchase and they were aware that the computers which they had thought to be "state-of the art" were being replaced by newer models on a regular basis. Nevertheless, if their child's education was thought to be suffering for lack of a computer, they would make these purchases despite their lack of information on the appropriate model to buy and would suffer the consequences of a bad buy if this was the result.

Other women revealed that they were more likely to be motivated to buy a computer for reasons of their own personal development. This motivation was often articulated together with a desire to keep up with the pace of technological and indeed of social change, as revealed by this fragment of the discussion at Amblecote women's group,[110] presented below. This exchange was prompted by the query as to whether any women present were *not* interested in computers. Only one participant in this group (the third participant) demonstrated an ambivalent attitude to computers and her views were immediately countered:

1st participant	Oh, I think they're [computers] here to stay though
2nd participant	Oh, I think they're very important to everybody
3rd participant	They don't bother me. Well I don't understand them. I would like to learn, but if I couldn't learn itwouldn't bother me at all.
4th participant	No, but the younger generation, what's coming up now, they have to use them, wherever they work!
5th participant	Yes, you have to know the lingo..... you have to know what's going on

These women went on to articulate a concern to stay in connection with the social world around them, indeed many were regular visitors to the women's group precisely because they did not want to become isolated in their own homes. Only one had a full-time job, and the majority were not working outside the home at all. They

[110] Group interview at Amblecote Community Centre 02.07.98, p9

expressed concern that they could easily lose touch with the world "outside" if they did not make an effort to engage, in different ways, with it. Computers were seen as a way of connecting into the contemporary world and its changing technological landscape but again this desire to keep up with social changes could only be vaguely sketched out. Very few women had the experience of ICT which would allow them to say with any confidence how technology would help them to remain connected and included. Again their emotional ties to children and grandchildren were used to try to make some sense of these feelings. Many of the women I spoke to expressed a concern that they would lose connection with younger generations whose lives were led quite differently from their own. They were particularly concerned to maintain an ability to hold conversations with a younger generation and that they would not be left out because they did not share their language, and some of their experiences. As one woman from this group[111] later suggested with some glee, when contemplating why she would like training in how to use computers:

> It'd shock the kids wouldn't it - to see Granny on the computer - taking it away - wouldn't they - they'd be well shocked - yes they would.

A fellow participant, also a grandmother and a pensioner, agreed adding that her grandchildren came to her for advice on all types of problems and that she would enjoy the opportunity to be able to advise in this area of their lives too. Part of this desire was a wish to help, but it was also about the self-esteem of a group that considered themselves easily marginalised in a changing world. Although no-one in the group used the specific terms, these comments could be seen as flowing from a desire to be included and connected within family, neighbourhood and community.

Group interviews and conversations with women's centre users also revealed that some women had been motivated to attend computer training sessions to aid them in their search for employment. Even if the women were not actively searching for a job, it was felt that the acquisition of computing skills and experience in using computers would make them much more employable when they *were* engaged in finding employment. A few women already used computers at work, and one told of how she

[111] Group interview at Amblecote Community Centre 02.07.98, p.7

had lied about computing experience to obtain a job, and when presented with the software that she had to use in the course of her employment had been relieved to see that it was a Windows based system which was "user-friendly" and which she could pick up as she went along. Many of the women who were interested in boosting their employment skills had taken advantage of IT training which was available in their local college. This was free of charge to people on benefits retraining for work. The main skills which had been learned at college training courses were word-processing and the use of spreadsheets. Those women who had attended formal training and who also had access to a computer were likely to continue to make use of these skills.

Confidence with computers

Access to a computer did not necessarily denote use so respondents to the survey were asked whether they did use a personal computer and where. The responses showed, that just over half of the respondents (28 respondents) were "familiar" with computers and had either used them in the past or still continued to use them. One quarter of all the respondents to the survey recorded that they continued to use computers on a regular basis and a further one in five of all respondents recorded that they used computers on an occasional basis. In addition, one in ten of all respondents recorded that they had used computers in the past. This left just under one half, however, recording that they had never used a computer (13 respondents) or not answering the question on computer use (9 respondents). Of those who were currently using computers, the largest group (9 women) accessed their computers solely from home, followed by seven who used computers only at work, and a smaller number (3 people) used computers solely at a community facility. The remaining computer users (a further 3 women) accessed computers in more than one place.

The thirty women who used computers on a regular or occasional basis had learned how to use computers from a variety of sources. One third of all the women who recorded that they were computer users (10 women) had attended a formal training course in computing and fewer (7 women) had learned through work. The remainder

had learned computing on a more informal basis, the majority of these considered themselves to be self taught and the remainder recorded that they had been taught how to use computers by a friend. The group interviews revealed that the majority of participants appeared highly motivated to learn computing skills, many had already accessed some training and had begun to use computers in community and college facilities. The location of training courses and computers however were often not ideal and the nearest community computing facilities for two groups were located a bus ride away. For the Amblecote residents buses to the area where community computing facilities could be found stopped running at around 6pm each evening, so this group were particularly interested in finding ways to fund the purchase of a computer for their own community. The lack of an internet ready computer which they could easily and regularly access in their own neighbourhood was holding back the acquisition of new computing skills and their existing skills were atrophying for lack of use.

The range of skills which had been picked up as a result of using computers was limited. Most of the women (four out of five) who used computers had used them for word processing, but only just over one third had used spreadsheets and the same proportion had used databases and desk-top publishing packages. Only one in five people with computers had used e-mail and the internet, whereas two-thirds had played computer games, the majority only occasionally. A few respondents (less than one in five) had used design packages and manipulated images using computers. These then, did not appear to be the empowered and highly skilled information workers discussed in Chapter One, who would form the backbone of a new information-rich society, yet they did try to use the more limited skills which they had developed in their domestic and community settings.

The survey and group interviews showed the respondents to have a generally limited view of how computers might help them in their own work. It appeared that the women surveyed expected computers to help them to perform tasks in which they were already engaged, to increase their speed and efficiency - but they did not expect computers to transform their interests, experiences and the way they worked, collated information or to change the way they organised their lives. A report for GEMISIS

investigating the use that community-based initiatives in Little Hulton were making of ICT some ten months after the community survey was completed, remarked on this very point. Kearon and Smith revealed that use of computers in this area "...seems dominated by Word Processing and related packages." (1998:25). They argue that this is unsurprising given the kind of work in which most community-based groups were involved and indeed a great many computer users might exhibit the same pattern of use. Kearon and Smith go onto reveal, however, that "...there is still a perception of the Internet on the part of potential users as being largely irrelevant." (1998:25). Their observation was partly supported by the findings of this research. As Table 5.3 shows, when questioned about interest in skills training, the most often cited skill was word-processing (by 43 women) and the least often cited was how to use e-mail (18 women).

Table 5.3 *Interest in Computer Training*	*(n=51)*
Writing documents and letters	43
How computers work	41
Storing information	39
Working with images, video and sound	37
Keeping financial records	35
Designing leaflets and newsletters	31
Using the internet/WWW	28
Using e-mail	18
The women's centres survey - November 1997	

It would, of course, be very difficult for the women who took part in the survey to accurately assess the usefulness of a technology which they had never used. Where awareness of a computer aided activity was highest - as with word processing - these women were keen to extend their skills. Word-processing, after all, can be seen as an extension of established skills - those of typewriting and typesetting of documents - both of which women particularly would have been exposed to and expected to excel in, given the female dominated nature of much secretarial and administrative work. It might simply be argued, then, that where women were less familiar with an activity and less likely to have engaged in work which involved this activity, that they would show less interest in learning how to carry it out using computers. After all, this would entail learning new skills, the worth of which remained unproven to them. The findings appeared contradictory. The survey recorded that four out of five of the

survey respondents were interested in learning how computers work, and that over thirty were interested in learning how to work with multi-media packages, including manipulating video and sound, in learning how to keep financial records and in using design packages to produce leaflets and newsletters, whereas training in the use of the internet and email remained the least popular possible courses.

The group discussions revealed, however, that in any discussion of computer training needs women's starting point began with what they already did and a desire to perform existing tasks better. Indeed the majority of women with whom I have spoken, unsurprisingly, revealed quite a mundane notion of how ICT might be introduced into their existing practices. They were motivated to know more about ICT by a notion that computers are somehow key to efficient working in an increasingly technologically-driven world but they had little real experience of how computer software might help them in their work. These women had picked up on the fact that computers can store information which they can then quickly access, acting in some way as their memory and filing system. They spoke, too, of the storage capacity of computers believing that they could act as space-saving devices in their homes and centres. They spoke of the computer removing the need to use Tippex and triplicate sheets thus enabling them to work in a more tidy and presentable manner. At the Women's Centre in Little Hulton one group discussed, in some detail, how they used the office computer. One person in this group was very experienced in the use of computer spreadsheets, databases and desk-top publishing which she used to run a small catalogue franchise from home. The rest of the group, however, were much more limited in the uses to which they could put the office computer, concentrating mainly on producing the occasional letter and funding application. They wanted, as a matter of some urgency, to learn how to produce more professional letters, minutes and reports, to put their accounts onto the computer and to learn how to use the computer system to file material appropriately. Although they had been shown how to use some of the word-processing functions on the machine they did not know how to manage files and to create their own folders and filing systems. These requirements were pressing and they felt that they should be able to learn how to carry out these tasks quite easily and quickly. However, they had been unable to find anyone who could explain these apparently simple procedures to them and they felt a deep sense

of frustration, and as though they were being held back all the time for lack of a little knowledge. Thus they had identified for themselves the need for some basic computer training before they went on to discover how to carry out some of the more complex tasks which they also wished to acquire.

Although initial deliberations on computer training revolved around improving the efficiency and effectiveness of activities in which the participants were already engaged, in only one group[112] did conversation soon turn to a discussion of how various community groups might transform their organisation and move into new forms of working, communicating and widening participation from within their community as well as increasing the profile of their work. A number of participants raised the idea of building a web-site in order to increase their profile outside of their immediate neighbourhood. However, the group discussants articulated that they would have to find out exactly what computers could do, what possibilities they could open up for them and how they themselves could begin to access those possibilities, and what was out there on the World Wide Web which might in any way be relevant to their needs before taking this idea further. As one woman[113] explained:

> I'd like to know what it's all about, because I haven't really got a clue. You see the internet advertised and all that, you know, the "www dot" after television programmes, and all that sort of thing, but I couldn't - I don't know what it is!

In this group the interest in finding out more about the internet and web was unanimous. Another woman in the group[114] had been to an Open Day at a local college and had been given the opportunity to "surf the web" for the first time. She enthused that:

> I had a look at it [the world wide web] last Wednesday - it was fascinating, and the two hours just went like that [clicking fingers]. I was still there when it was finishing - I didn't want to go home!

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[112] Group interview at Amblecote Community Centre 02.07.98
[113] Group interview at Amblecote Community Centre 02.07.98, p. 5
[114] Group interview at Amblecote Community Centre 02.07.98, p. 5

This group expressed an interest in awareness raising sessions, where someone could come into their centre and demonstrate to centre workers and users alike, the uses to which their group, and local people generally, might put computers. The participants of another interview group[115] were aware that there was a mobile internet training centre based in the city and that there had been some discussion of taking this facility to Little Hulton for one day so that local people could have "internet taster sessions". The suggestion had been unanimously supported at a local tenants meeting. It was stressed that these demonstrations should, however, be based around the interests and concerns of local people if they were to succeed in generating enthusiasm for the technology. Again the centre users themselves had identified that, in order to generate interest in use of ICT, it was necessary to raise interest in the medium by tapping into local concerns, to demonstrate how connection to the internet and the web could possibly enhance people's lives and help them to explore their own interests further.

Reaction to the idea that they could learn how to use e-mail was quite mixed. As outlined earlier, those women who did have access to e-mail were keen to make use of it to contact friends and relatives who lived some distance away. This topic was discussed at some length in the discussion group based at Salford Women's Centre. Here, participants were aware that this form of communication was cheaper than lengthy long-distance telephone calls or even overseas postage rates and one woman explained how she found it particularly convenient for contacting people in different time zones, who could access and reply to the mailing whenever it best suited them, rather than having to wait in at pre-arranged times for a phone call. There was also some interest from a few members of the creative writing group who realised that they could widen their readership and critical audience by connecting to other writing groups elsewhere. In Little Hulton one participant, a member of a support group for parents with children diagnosed with Attention Deficit Disorder (ADD), was particularly interested in using email to contact parents of ADD diagnosed children in other local authority areas, or even in the United States, where knowledge of ADD was thought to be more advanced. However, in the main, women were less interested in email either because they did not see the need to look outside of their

[115] Group discussion at Amblecote Community Centre 02.07.98

neighbourhood and community for any particular reason, or because they did not know anyone else who used email. As Kearon and Smith found in their research in Little Hulton, people, quite rightly, felt that there would be no point travelling to a particular venue in order to use email to contact someone who also had to travel to the same venue to pick up their email (1998:25), it would simply be easier to arrange to meet in person, or to pick up the phone. The discussions which took place in the women's centres for this research also revealed that, at the time of the research, their users were not able to identify any agencies or services which used email. Under these circumstances there was little incentive for the majority of women to learn how to use this resource. It seems that they would have to wait for a critical mass of email users to build up before they would see any benefit in connection themselves.

Constructing a "digital underclass"

A significant body of literature posits the existence of a technological underclass, an information illiterate section of society who are failing to benefit from the possibilities and connections afforded by ICT. The ramifications of this are said to be severe. It is precisely in such economically deprived areas as inner city Salford and the peripheral estates of Little Hulton that, it is suggested, such an "underclass" would be found. These are not areas which are rich in employment opportunities and local wealth and are not places which could be said to have been infiltrated by the jobs, businesses and technical infrastructure of the information society. Castells vividly describes how the needs of "informational capitalism" for "*individualization of work, over-exploitation of workers, social exclusion,* and *perverse integration*" serves to aid the formation of a "fourth world" characterised by lack of opportunity, inequality, poverty and an informal economy (Castells 1998:71 and passim). These deprived regions, are formed by the needs of a global capitalist economy but are also further disadvantaged by the refusal of global capitalism to engage with these areas, once they have been created, except as sources of cheap and dispensable labour. So, he goes on to argue, the information superhighway bypasses these regions and they become "*the black holes of informational capitalism*" (Castells 1998:162) which are:

> ...ultimately deprived of the basic technological infrastructure that allows us to communicate, innovate, produce, consume and even live, in today's world. (Castells 1998:74).

The lack of tangible products of the information age with which people can engage and which can become absorbed into their day to day lives is seen to contribute to an apathy towards technological change and a perceived lack of interest in future engagement with new technology in general and ICT in particular. This attitude infuses the literature on the digital divide, as Day writes of the report of the Social Exclusion Unit's Policy Action Team 15 - *Closing the Digital Divide*:

> In a review of existing local initiatives, PAT 15 suggests that local people often lack awareness of the potential of ICT and do not appreciate their benefits...Awareness raising exercises and training workshops are identified by PAT 15 as tools for raising the profile of ICT... (Day 2000: 9)

Day suggests that such statements betray "...a degree of the deterministic arrogance of the 'expert'..." and imply that ICT or community development professionals must play a role in enlightening such communities by demonstrating the benefits of internet and email connections to such populations, before they realise the utility of engagement. There is certainly some of this attitude displayed in the approach of the GEMISIS Community Topic Team, in the writings of Communities On-line and in various other literatures on community development and ICT.

Yet the first phase of this research, the survey of women's centre users and subsequent group interviews showed in their conversations a familiarity with many of the discourses of the information society. The research participants appeared to have heard and absorbed much of the rhetoric surrounding the power of computers and their ability to change their world - to the point at times of an overestimation of the possibilities which computers might open up to them. The majority of people who engaged with this phase of the research were won to the idea that "Computer competency is not an option any more...None of us can choose to stay outside the computer culture." (Spender 1995: xvi). The subjects of the research showed an interest in new technologies and a commitment to buy computers for their home or

community group, and in learning a range of new skills which, they believed, would allow them access to a changing labour market, whilst also showing an interest and willingness to use new technologies to improve existing working practices, to handle and retrieve information and, at some time in the future, to communicate with others. The women who participated in this research were acutely aware that they were considered unskilled and unversed in the use of ICT and they were looking for ways to overcome the perceived disadvantage which this caused to them as individuals and members of families and communities. They were not disinterested or disengaged but did feel excluded and separated from a fast changing and technologically sophisticated world which was eluding their grasp.

The phase of the research reported above, took place in late 1997 and early 1998, when the arguments for community computing and community networking were only just beginning to be made in the United Kingdom and the City of Salford itself was certainly only just being introduced to the technology,[116] and yet the participants in the research had identified, for themselves, many possible uses of ICT in which they wished to develop further interest. These neighbourhoods, while struggling with the absence of resources were much further forward in their thinking around ICT than would be expected from a reading of the literature. In the light of this, I would argue that talk of "black holes of informational capitalism", digital poverty and so forth may well be overstated. A lack of resources and access to technology should not be taken as evidence that there is little interest in the medium. These communities may not have been bristling with the most advanced computer equipment, and their residents may not have been particularly skilled at many of the functions of the new technologies, yet they did show an engagement with discourses around ICT and a willingness to take this interest further. To characterise the economically and socially marginal areas of our cities and regions as "black holes of informational capitalism" unconnected to those mainstream concerns which are articulated at a more global level, suggests that these are areas whose residents are devoid of interest in, and experience of, ICT. My research reveals a different picture. Certainly, these were

[116] Indeed the report *People not Technology* published by Salford City Council in 1999 acknowledges that at that time "Many staff are not 'on-line', a number are using equipment that is out of date, and many more do not even have access to a computer" (City of Salford 1999:9)

neighbourhoods which were being left behind in a number of ways, most notably as far as employment opportunities and economic activity linked to future worlds of work are concerned. However, this research does question the seemingly pessimistic perspective which Castells and others have adopted. The research in Salford uncovered a curiosity and interest in ICT within some of the most marginal areas of the city and a commitment from many individuals to some achievable level of entry to the information age. There is a real risk that, in not recognising and acknowledging the interest and commitment which can be found in such communities, we are in danger of creating technology deprivation by labelling these areas as peopled by a digital underclass. There will certainly be a number of dangers attached to the application of such a label, not least that it may well lead to the continuing exclusion of such neighbourhoods from any opportunities which membership of the information age could bring them.

The next chapter follows the progress of these community groups in the following eighteen months of the research and assesses how this stated interest in ICT was translated into extending skills in and use of ICT over that time period.

Chapter Six If we build it, will they come? The culture of information.

The last chapter looked at a snapshot of interest in and use of computers in the research areas over a six month period from November 1997 to June 1998. It also looked at the initial motivation which lay behind the input from the City Council and GEMISIS into the development of ICT in Salford communities. This chapter explores the take-up of ICT in both research areas and looks in some detail at the factors which motivated the involvement of some community groups.

The adoption of technology in the research areas

By the end of the two and a half year period of the research a number of the community groups using both women's centres had made some "progress" towards the adoption of ICT in their work, with Little Hulton groups showing a wider range of experience than in Seedley and Langworthy.

Little Hulton

In Little Hulton, the women's centre itself the change in attitude to computers was obvious from the moment one entered the building. Here, the first computer which had been purchased by the centre management committee had been taken out of the small back office where it was used exclusively by the centre's management committee and had been placed in a communal area just behind the main entrance room. This move, while significant in its own right - meaning that access to a computer was now open to all users of the centre, and was indeed regularly used as a result - was also symbolic of an attitude change which had taken place within the centre itself. The centre staff and volunteers were eager to talk about this change in outlook and to discuss the implications for future use of the centre.

In June 1998 the women's centre management committee had identified a need for computer training using the centre's own computer and training space. This was, in some part, due to the conversations which they had been engaged in as part of this research and their contact with the GEMISIS project A main topic of interest in the group interviews which took place at this centre had been the inadequacy of the existing computer training which centre users had accessed. Working with the city's Information Services Manager they had located funding which had been set aside for outreach training to disadvantaged groups in the Little Hulton area. The management committee worked with this funding body to develop a training course which would be relevant to their particular computing needs. The eight week course eventually took place in early 1999 under the name Project 99, and was completed by seven women. It covered familiarisation with computers, from very basic material such as manipulating a mouse and using a Windows Operating System to working with Windows 95, Microsoft's Word, Powerpoint and Excel, and setting up a simple database. Training space was extremely limited as the centre office could only hold two people plus the trainer, nevertheless seven out of an original fourteen centre users who expressed initial interest in the training were able to complete the course. Their experience generated wider interest as other centre users became aware that the training was taking place in their space and using the women's centre computer. The women who were trained by these means were very positive about the experience. They were particularly pleased that the training had taken place in their environment and using the very machine that they would be most likely to access. The fact that only two people could be trained at one time was also seen as a positive bonus and the ensuing trainer's report stressed the importance of small-scale, intensive training and a curriculum developed around specific and identified computing priorities. The report also flagged up the very particular needs of the women involved in the training, who were often called away from training sessions because of domestic problems, the ADD group members in particular had to be prepared to respond to calls from school if their children were misbehaving or being sent home for the day. The report stressed the need for any trainer to be flexible enough to organise sessions around these, often unpredictable, needs of the participants. The generally low literacy level of the group was also identified as a source for concern, but a problem which training in use of computers could begin to overcome. As the report noted:

> ...many are articulate speakers but suffer from literacy problems, particularly spelling. Computers have spellchecks and icons; the Internet has images and sounds. While it is difficult for someone to admit that they have literacy problems, it is OK to admit that they cannot use a computer. In this sense, ICTs were a great leveller." (Project 99 report: 1)

Subsequent to the success of Project 99 the committee had looked to address another problem which the centre users themselves had identified during the course of many of the conversations around ICT. They had identified the absence of technical support locally and as a result had applied to a local educational fund which promoted Life Long Learning in order to finance this support work for two years. It was hoped that the support worker would continue to train centre users in the centre itself, but that they would also be contracted to give support in different environments on the computers that they actually used in their home or their community organisation. In addition, the centre managment had secured funding to move into larger premises which had been vacated by the local branch of a bank. They had applied for European funding to provide a computer suite for this new centre, with a training room and five computers which would be fully accessible to centre users.

Over the course of the research it became apparent that the desire to improve the employment prospects of centre users was a major motivating factor behind interest in ICT in both areas. It was thought that the computers would mainly be used by adults who felt that they needed to retrain in order to get back to work, and by children who could use the computers to complete homework and to improve their chance of leaving school with relevant qualifications. The provision of the ICT suite in Little Hulton therefore signified a new emphasis in the work of the centre and, alongside this change in emphasis, the management committee had decided to open up the centre to adult male users. It was to become a Family Centre, rather than a women's centre. This move was made, it was explained, as the centre users had begun to acknowledge that many men, following long periods of unemployment, were also experiencing a lack of confidence and needed a supported environment in which to retrain and move back into the job market. The management committee hoped that the first floor of the new centre would be set aside for training purposes and using

computers, but envisaged that the other activities with which they were already engaged would take place on the ground floor of the centre. The centre would have two entrances and this would enable a women-only space to be maintained. These moves, to open up the use of the centre, to include the new dimension of work with men in the community and to promote proficiency in computer use for employment was seen as a challenging and necessary step forward. The management committee felt that these moves demonstrated an increase in their confidence, that many of the centre users had benefited from the support they had found in the women's centre and that they wished to extend this support to as many people as possible. As regards the promotion of computing skills, the management committee felt that this had come about as a result of the Project 99 training in which many had participated. This course had allowed the learners to overcome a great deal of their fear of computers so that they could begin to pass on their computing experience to others with some confidence. Prior to this course, they had felt unable to share their limited knowledge of computers with any centre users as they had been afraid of making mistakes in front of other people and had therefore protected themselves by hiding the computer away from sight and use of the centre users. However, as their confidence grew as a result of this bespoke training they became much more willing to show others how to gain computing skills and to help other users learn how to use the centre's own computing facilities.

While the users of this centre had become much more confident and proficient in using their computer to help to run the centre more efficiently they had not begun to use the computer as a communication tool or a device to collect information through the world wide web and as a result, their plans for the new computer suite only included one computer which was connected to the internet. This was justified in terms of saving money on running costs but more accurately reflected their lack of engagement with this part of the potential of the computer and a subsequent lack of expertise and knowledge in this area. The Project 99 training had not included training in use of the internet and email, and the lack of interest in this area of computer use might have resulted from a lack of knowledge of the uses and possible advantages of the medium, but it also reflected, as will be more fully discussed later in

the chapter, the focus of their work which was limited by locality and existing, trusted, networks of communication.

The expansion in the women's centre in Little Hulton was also reflected in the expansion of horizons of one of their larger user groups - the Attention Deficit/Hyperactivity Disorder (ADD) Group. This group had opened and begun to manage a dedicated centre from June 1999 a few months before the research ended. This development had meant that the group could act as a support and advice group for many more families than previously. As part of this expansion the ADD group had purchased a computer, to help store information on centre activities and users and to keep the financial information which they needed to manage the centre, but also to help them to keep in touch with a much enlarged network of contacts. The group had initially obtained £5,000 to help them to equip their office and had subsequently, reflecting the move to widen access to computers which had taken place in the women's centre, purchased a much cheaper machine for use by visitors to the centre. Within the office the level of computer skills was varied, one respondent reflected that she was "Quite a whizz on it now"[117] and that she was confident enough to experiment and play around with the computer's capabilities in order to learn new skills. Another office worker was learning to use spreadsheets but having some difficulties, while another was happy with word processing software but felt that she had reached her limit. All three staff had begun to use the computer, however, and all were happy downloading and filling in electronic forms when applying for funding or monitoring use of their existing funds.

The ADD group did go on to use their computer as a tool for the collection of information and for communication. When applying for funds to equip the new centre they had asked for additional funding for one year's running costs so that they could use email and the internet whenever they needed. The ADD group had begun to use the internet to locate and order literature which was relevant to their interest in ADD, much of which was not available in the UK. They had also begun to use email to contact publishers and support groups on ADD throughout the world. Indeed this

[117] Exit interview ADD group, 08.10.99

group were adamant that they wanted to "go global" and were contemplating funding a professional to design a web-site to advertise their success across the UK and to encourage other similar groups to become involved in a wider network of support. Through their use of the internet this group had gained experience of networks of support which functioned across the United States where schools, medical doctors and support groups liaised across electronic media and they had become interested in setting up similar networks which were based in the UK and which could address themselves to the UK experience and working within the National Health Service. The group went on to discuss their interest in using the information which they gleaned from contacts inside the US to update doctors in the UK on new drugs and treatment regimes.

After moving into their new premises the ADD group had moved very quickly from a passive use of the computer towards the adoption of an active and assertive presence on the Web, as well as in their physically present local community. This transformation had changed the group's relationship with their computer. The most technologically competent member of the ADD group used the web regularly to obtain up to the minute information on related disorders and to subscribe to a mailing list dedicated to a discussion of ADD. This group member had even tried chat rooms, although she admitted that she did not feel at ease using the "silly names" which most users adopted and she felt that chatrooms rarely addressed issues which she found of any interest. This user had, however, become interested in some of the educational software for hyperactive and attention deficit children which was being developed abroad and felt that this could be very helpful to many of the children using the centre. She had had some ambitions to link up children with similar disorders via e-mail and to form a discussion group for such children but had found few young people were making use of on-line communications when they did have a computer and many others did not have sufficient access to computing facilities to make this worthwhile.

The development of computing skills within the ADD group was more remarkable in that it had taken place over a short period of time. Two years previously, a representative of the ADD group had participated in a group discussion for this

research.[118] She told the group participants that she was the most computer literate of the ADD group and that, nevertheless, she had only ever used a computer for word-processing and that she had never learned how to insert a floppy disk into a computer and that she did not know what was meant by the term email. She was quite open about her lack of knowledge of computers, explaining "You're talking to someone who knows nothing". She had gone on to explain that she had felt disempowered in front of a computer, saying "...I feel that it's the boss, not me" and later added "I'm intimidated by them though, I'm intimidated by the machines." Little had happened to change her perception of computers over the ensuing time period until a few weeks before the new ADD centre opened. At that point she had attended a meeting where the Information Services Manager for the city had conducted a demonstration of the Internet. Since that demonstration her enthusiasm and interest in learning new skills had grown at a rapid pace and she had persuaded the ADD group that the adoption of new technology would be a major benefit to their work and approximately two months later new computers with internet connection had been installed in the centre. Talking to the members of this group it appeared that success had built upon success. The excitement and sense of achievement which the group members had experienced as a result of their plans for a dedicated centre coming to fruition seemed to have spurred them on in different, yet complementary, directions. If they were to have their centre, they wanted to make the most of all the opportunities which it made possible, and serendipitously their involvement in research and conversations around the possibilities afforded by ICT had taken place at this most exhilarating of times for them, the result offering a mindset open to change as well as the finances and physical space which could make these opportunities a reality.

Seedley and Langworthy

The end of 1999 in the Seedley and Langworthy area saw a different level of engagement and interest in computing technology. Inside the Women's Centre in this area the computer stayed firmly within the office. Salford Women's Centre had only

[118] Group interview , Little Hulton Women's Centre, 12.06.98

purchased a computer powerful enough to connect to the internet in late 1998 and by the end of 1999 it was still mainly used for word processing. At the time of its purchase the centre staff acknowledged that they knew little about computing and how to access ICT and that they were in need of further training. Work commitments, however, meant that the centre staff did not find the time to attend a computer training course and the company which supplied the computer was only able to offer limited technical support over the telephone. The centre staff did not know many people in the area whom they could turn to for help and, perhaps unsurprisingly, my observation time at the centre was often interrupted by requests for advice, given that I was the nearest contact they had to a computer "expert".

The centre staff and users were not lacking in confidence with technology per se, they had become very involved in using video to film part of their work for a project for International Women's Week in 1998, had expressed an interest in contributing to an electronic database of community groups in the area, and had purchased a new computer precisely because they were interested in linking up, via email, to other women's groups with which they already worked. They also spoke of their interest in accessing websites to search for possible funding opportunities. The centre staff felt that different user groups would be interested in learning about ICT. They identified the Salford Young Women's group, in particular, as one which could gain benefit from computer training, especially as skills in this area would improve their members' future employment prospects. The Creative Writing Group too spoke of the benefit of having a computer, this group had produced a booklet of their work and realised that a computer would help them produce further editions more efficiently. The centre was also keen to buy more computing equipment, such as a scanner, and to access sources of training for the centre users but felt that they should become more proficient with their existing equipment before they moved on. However, despite this level of interest this centre struggled to find help with their computing needs, and despite having a computing facility nearby[119], they had no contact with this resource and so did not think to turn to it for support. Indeed the centre staff used a more established facility, the Manchester Area Resource Centre for all their printing and

[119] Techtrain information leaflet, July 98

desk-top publishing, despite the fact that this was based in another city and some miles away from the centre. Throughout the period of the research the centre staff showed a lack of confidence with computers. The email and internet connections they did have did not always work and the centre staff were often at a loss as to what to do. This was one reason why the computer stayed in the office and was not made openly accessible to centre users, the staff admitted that they would not know how to help someone who was having difficulty and as a result, acted as gatekeepers, inadvertently giving out the message that the computer, and ICT generally, would not be of interest to, or would be beyond the capabilities of, the casual centre user.

Outside of this centre a small number of local groups had involved themselves in proposals to create a network of community web-pages across the city. This proposal was put forward as a result of a project "Imagining Salford" which was funded by the Health Education Authority, with Salford City Council and Salford University as partners, and with the aim to "tackle social inequalities by strengthening communities through initiatives aiming to support the development of social capital" (Hellawell and Mulquin 1999:2). As part of this project Communities Online were contracted to support virtual community networking in the city. The Communities Online ethos therefore suffused the project and it was envisaged that a number of linked web-sites representing the work of community groups across the city would be placed on the world-wide web and that all groups would also have access to a community bulletin board. Students from the local university were engaged in working with particular groups to help them to realise this goal, but at the end of this research, these conversations were just beginning and it was difficult to assess whether these plans would come to fruition. In addition, a great deal of the neighbourhood's residents were occupied with extremely stressful neighbourhood changes which had been announced after the start of the research. During the course of the research, the Langworthy area was regularly featured on the BBC2 current affairs programme, Newsnight. Newsnight followed the planned redevelopment of the Langworthy and Ordsall areas of the city in order to comment on the government's progress in this field subsequent to the publication of the Social Exclusion Unit report on neighbourhood renewal (1998). Much of the Langworthy area was under consideration for a massive restructuring programme with many streets earmarked for

demolition, similar to the slum clearances of the 1960s and 1970s in other areas of the city and this would entail a subsequent wholesale movement of people around the area. Indeed, the neighbourhood was due to suffer a net loss of population and the break-up of many existing residential communities. Under these circumstances, there was a feeling that any form of community working would be extremely difficult to sustain until the area had begun to settle down again and that existing community organisations were involved in holding their groups together during difficult times rather than involved in expanding their physical or mental horizons.

What do communities want? An assessment of the centres' information and communication requirements.

As the above discussion has shown, the first few months of the research were inevitably a period which helped to generate interest in the development of ICT in the areas where the research was conducted. The fact that a researcher had come into these areas and was asking about interest in computers and computer mediated networks led to questions about the uses of new technologies, to discussions as to their benefits and disadvantages and generally to awaken an interest in the medium. The first six months from November 1997 to May 1998, which saw the questionnaires administered, group interviews arranged and a great deal of informal conversation take place with staff of the centres and individual community members certainly acted as just this form of catalyst. Without this research taking place, interest and knowledge of ICT within these neighbourhoods would probably have grown at a slower pace, but as I argue in an earlier chapter, such a research effect is impossible to measure. Nevertheless, interest *was* generated and the first six months saw conversations and ideas develop around the relevance of ICT in each neighbourhood.

In keeping with the overall perspective of the research to gain information about community desires, together with the advice of those organisations elsewhere which were helping to develop interest in ICT, the initial focus, in questionnaires and group

interviews, was to collect data concerning the community groups themselves and their particular interests and needs. As a further outcome of the research I was expected to begin to assess the different ways in which ICT might be able to add to the experiences and organisational practices of the groups concerned. In completing the initial part of the research, however, I was careful not to intervene too directly in the work of the groups or to add my own suggestions as to how ICT might be useful but reported these findings to the GEMISIS partners. My presence in these neighbourhoods, however, inevitably meant that I was seen (quite mistakenly) as some kind of expert in the field and questions around computers generally and ICT more specifically, were often turned my way. The following sections report on those conversations which were generated as a consequence of this initial research period.

Satisfying information "needs"- the importance of "situated knowledge"

A great deal of information passed hands inside the centres and within the groups which participated in the research. Participants talked of using the centres to access important information on social security benefit entitlements, available housing, cheap sources of goods and also about physical and mental health issues. The centres themselves were places where information from a wide variety of sources which was assessed as potentially useful to centre users, was collected. Many women attended the centres to pick up information, whether from the stacks of leaflets left there, the service providers and support groups which used the centre or from other users.

Members of Little Hulton's ADD support group, in particular, spoke of the advantages they had gained in bringing in professionals to give talks, to promote awareness of these disorders and to keep the group up-to-date with current information and knowledge about methods of coping with children with these and related disorders. On many other occasions women identified other sources of professional knowledge which they felt were unavailable to them but which they hoped might be accessed through the web. A number of women identified health issues as a subject on which they lacked professional expertise and where they wanted advice on managing specific medical conditions. This interest was often motivated by

personal interest, either they, or a family member or close friend had been diagnosed with a condition and needed more information to help them understand the condition or to look for available treatments. In many of these cases the individual diagnosed, or their carer, felt that they had not received enough attention from their existing health care professionals, either because they were given too little time to discuss the condition or that they had not known what questions to ask. On other occasions the women had not fully trusted the advice that had been given, or indeed the advice-givers, and were looking for alternative therapies or possible remedies. It was hoped that by searching on the web they could find the information which they required at their own pace and that they could access *alternative* sources of information on the condition or that they could find relevant support groups and tap into a different source of understanding, sharing their experiences with others who were learning to live with a particular condition. This finding confers with Roszak's emphasis on the selectivity with which people choose the information which they absorb, assimilating ideas and data which they find useful to their lives, rejecting and devaluing that which does not fit with their reality. The medical sites which I observed being accessed, for example, were quickly disregarded as not offering what most of the women required, being quite technical and difficult to understand. These were not sites which reflected the women's interest in non-technical language and patient-led support groups. The web was seen as a place in which to discover alternative debates and competing paradigms, suggesting that the model of the web as a site of oppositional cultures and critical perspectives had gained some currency. The women looking for help with medical conditions on the web were really interested in finding a source of less institutionalised perspectives such as user-led support groups and in sharing experiences and gaining understanding from people like themselves, rather than in gaining contact with another layer of professionals. It was, after all, the opportunity to discuss key matters with those with similar experiences which generated a great deal of the use of the centres. In order to formalise this relationship to some extent, a few women who used the centres had completed and gained certificates from approved counselling courses, but many more offered a sympathetic and understanding (if unqualified) ear to other members of the community, informally or as part of the numbers of support groups which the women's centres hosted.

Some of the information accessed through the centres, then, was held by the professionals using the centre spaces but it also became apparent through the course of the research that much of the information thus gained was passed on, more informally, from centre user to centre user. This informal sharing of information, gained either through first-hand immediate experience of an issue or second-hand and gained from experts or other lay members of the community, was a key area of activity in the communities researched. This information was valued precisely because of its lay source. The locally nuanced information which could be gained by these means was fully appreciated and sought out by many group members. This was perceived as more than information, but as "locally situated knowledge", information which had been filtered and interpreted by someone whose understanding of the issues could be trusted and which was thereby seen as fully relevant and worthy of careful consideration. So the primary source of information which these groups used was based in their neighbourhood and held by lay members of the community. Nevertheless, a number of additional sources of information and connections were suggested as having the potential to add to existing and more locally-based sources of information and support. Only if this information could be interpreted and understood by the community, however, could it be converted into knowledge which the community could utilise. So while the internet could provide community members with a great deal of professional expertise, this could not be so easily understood by the recipients and was less valued as a result.

Throughout the course of the research, as discussions around the internet and the world wide web became more frequent, a number of women began to develop an interest in using the internet to inform various community issues. In Little Hulton, interest was initially sparked by a campaign to prevent an open-cast mine opening up near their estate. Those involved were aware that there were similar campaigns across the country many in former deep level mining areas such as their own. They were interested in finding where these areas were and what other activists could teach them about how to conduct a campaign and to discover which had been the most successful tactics employed elsewhere. Once the promise of access to a networked computer was mooted they quickly identified the web as a possible source which

activists elsewhere would be likely to use to place relevant information. However, these campaigners had little idea as to how to go about conducting a web search to find out where similar groups might be located and their initial interest was short-lived. There was some interest in using the internet to tap into sources of information and interpretations which deviated from dominant discourses, although in practice the centre users found these alternative perspectives equally difficult to locate. Those groups which did begin to use the internet to search out sources of "expert" information, such as the ADD/ADHD support group, had already built up connections to these groups and had become accustomed to their style of writing and interpreting data.

Satisfying communication" needs" - thinking locally

As discussed in earlier chapters, the lack of a connection in the personal geographies of the users of ICT has been suggested as a particular strength of the computer based communication. It has often been assumed that ICT can help community groups to make and maintain relevant contacts outside of their immediate neighbourhood and that such extended networks will bring positive advantages to the community. There is concern that for many of those living in disadvantaged neighbourhoods "...there is a striking lack of connection with the rest of the world outside, which to many people seems far away, hostile and forbidding." (Social Exclusion Unit 1999:4) and that this erodes the capacity of community members to act on behalf of their own neighbourhoods. However, groups in both areas, and in Little Hulton in particular (with the exception of the ADD support group) appeared far more concerned with their work locally than with extending the scope of their interest further afield. There was little interest in sharing local experiences with a wider audience, while gaining local credibility and trust seemed more important. While nine people who completed questionnaires for the research in Little Hulton said that they were involved in their community in order to make friends outside of the area (as opposed to only one from the Salford Women's Centre), group interviews revealed that research participants from this area were, in reality, hard pressed to identify networks outside of the neighbourhood which would be relevant to their work. The Little Hulton centre was

affiliated to SIREN (the Salford Information Resource Exchange Network) and featured in their Women's Newsletter and one or two women mentioned that they knew of the women's centre in Salford and also of the Women's Electronic Village Hall situated some thirteen to fourteen miles away in Chorlton, south Manchester but it was clear that any contact with these groups was sporadic. The Salford centre, however, indicated in their 1996/7 Annual Report alone that they had maintained links across the North-West of England, with the Shankhill Women's Centre in Belfast and that in that year they had had visits from a group of Finnish students as well as maintaining close links with more local networks - indeed the centre operated as a meeting place for a network of local groups.

Two groups in Little Hulton were particularly interested in extending electronic networks. The Compassionate Friends group working in the area was linked to a website and a leading local member regularly used email to get in touch with new contacts who had been alerted to the existence of this local group through accessing this site. In the course of the interview in which this group member participated,[120] she displayed an impressive knowledge of computers, admitting that she and her husband had assembled a number of computers for family and friends and also during the course of the group discussion, advising other participants on the benefits of different internet service providers and of using various search engines. Yet despite this level of expertise and experience, she offered this information only toward the end of the first hour of the group and then only tentatively. It seemed that the other members of the group had not been aware of her interest in computers previously and that she had not thought to share her experiences with any other group members, or to try to win them over to using computers in this way despite her own palpable joy at learning and utilising these skills. The other group in Little Hulton whose members expressed an immediate and serious interest in using the internet to make more distant contacts and in using the world wide web to search for information relevant to their work, was the ADD support group discussed earlier.

[120] Group interview - Amblecote Residents Association, 02.07.98

Prior to taking part in the research, however, most groups had not sought to use computer mediated networks and had relied on the more traditional communication methods of the postal and telephone systems. In the course of one group interview,[121] the conversation turned quite early on to the benefits of using email. One of the members of this group was a regular user of email, which she utilised within her small cleaning business to order supplies. Other participants in the group picked up on this interest and discussed the possible advantages of email for their own community groups. This group involved the ADD member who had later become a enthusiast for ICT within the organisation. During the course of this initial group interview she had explained that research and policy-making around ADD and related syndromes was far more advanced in North America and that much of the literature which her group used to inform their work was posted to them, at some expense, from this continent. She suggested at this point that the internet might be used to order this literature and asked whether it might be possible to send documents electronically, saving money and time, and also expressed an interest in using the web to access the most up-to-date research in the area. As we have seen, however, it was more than a year before the ADD group had its own personal computer and connection to the internet.

For the most part, however, the concerns of the groups which participated in the research were closely connected to locality. This could create a barrier to use of ICT. If computer connections and email were not part of the local "technoscape" (Robins and Webster 1999:3) then their relevance to the work of the community groups was questioned, or at best thought of as a marginal activity. It emerged, for example, through informal conversations with users of the Little Hulton centre, that the centre already had a presence on the web. One woman remembered having worked on this for a few hours some time previously. She had no memory of what was on this web-page, however, or where on the web it could be found and had only seen it once when it was first prepared. It later transpired that the page was hosted through the Chorlton Electronic Village Hall web-site, and that it was they who had visited the centre and gathered information to put the page together. It had not been subsequently updated,

[121] Group interview - Little Hulton Women's Centre, 12.06.98, p.9-11

nor, it seems thought of much by the centre it advertised and no-one could remember whether it had generated any enquiries or further interest in their activities.

Despite their new and extended layer of contacts, even the Little Hulton ADD group remained firmly positioned within a local framework. This small, voluntary organisation, with three members of staff became concerned that they were generating interest from too far afield and that their membership was becoming too large to cope with. They were also adamant that they remained a "local service",[122] which would advocate for families in their area in their dealings with the National Health Service. Their remit and focus had not changed as a result of their contact overseas and indeed, the group were also finding that although their own particular sights as to what could be achieved with ADD children had been raised as a result of the information they received from North America, that they were experiencing great difficulties in persuading other support groups across Britain, and service providers, of the worth of focusing on the American experience.

The majority of community groups, then, were committed to supporting women in their *local* area and wanted to keep this focus to their work. It was their intimate knowledge of the locality, its problems and issues, which led the regular centre users to feel justified in setting themselves up as advocates for their area and its residents. It emerged through the course of the research that it was in this area that centre users felt that they were the "experts". The local knowledge which these women had gained through residing, working and bringing up their families in the neighbourhood was a source of respect from others and of self-esteem for individuals precisely because, through the centre, they had learned to value and use it to benefit and support others in similar circumstances to their own. The centre managers and committees were therefore keen to retain their focus on the locality and on meeting the needs of local people as these had been previously understood.

One of the concerns of the centres, for example, was to ensure that they were welcoming places which women would feel able to drop in to and discover useful

[122] Exit interview with ADD group, Little Hulton 08.10.99, p.11

services. Throughout the course of the fieldwork I heard many women tell their own stories of introduction to the centres. Merely to make the first visit to a women's centre was a big step for many women. They had generally heard about the centre through informal contacts and would often have visited first with a friend or family member. Furthermore, many centre users had had no notion as to what a women's centre was for and only discovered that their local centre had anything to offer them because they were introduced through an existing user. Many spoke of their initial suspicions as to the purpose of the centre, and their reluctance to venture inside. Some thought it might be a centre purely for victims of domestic violence and others were concerned that it would have an anti-male agenda driven by radical feminist ideas and were concerned that they would be labelled in some way if they were seen to be using the centre on a regular basis. This anxiety was compounded in Little Hulton because the plate-glass of the shop window frontage to the centre afforded little privacy and women were aware that they could easily be seen by anyone passing if they were using the communal space at the front of the centre. The centres relied on word of mouth, gaining a good reputation locally and winning the trust of users who would then pass on positive images of the centre to other local women. Under such circumstances, the centre organisers felt that it was appropriate to continue to concentrate on developing existing services and utilising what they considered to be tried and tested methods of attracting users and advertising the services offered in the centres, and to concentrate on local advertising rather than looking to attract any interest from further afield. Although ICT might have been used to advertise the centres more widely this was seen as an inappropriate advertising medium, in that computers lacked the personal touch which they considered so important to engendering trust in the centres and because it was thought that a primarily local service should advertise itself using locally-based media.

It became apparent from numerous discussions that any computer mediated connections which might be generated from within the women's centres would be perceived as an addition to already functioning systems which facilitated exchanges of information which were key to the groups. It could be argued that the "social capital" of these groups, the "...networks, norms and trust - that enable participants to act together more effectively to pursue shared objectives..." (Putnam 1996:56), were

generally tightly defined and located within neighbourhood, locality and kinship and would not easily transfer across regional, national or international connections or to work with untried or untested organisations or individuals.[123]

Key factors in the construction of information and communication requirements

It became apparent during the course of the research that a number of factors were important in the construction of the information and communication "needs" or "wants" of the groups involved in the research. Some important consequences of these factors have already been introduced, the privileging of situated and lay knowledge above professional or "expert systems" (1990:83-88) for example. Each of these factors is now explored in more detail; these being community, physical proximity and trust.

The importance of community

All the groups which took part in the research thought of themselves as grass-roots community organisations. Situated within the voluntary sector, they were independent of the statutory authorities and lived a financially precarious, and somewhat hand-to-mouth existence. Each was funded and sustained through a combination of grants, fund-raising and volunteer effort. Both centres had similar histories, had been initiated as a result of community concerns and had been developed largely through community effort. This resulted in a feeling of pride amongst all the centres' users that something very tangible and effective had been built by their efforts within their community, which potentially benefited a large part of that community's population. This identification with local community was an important part of each centre's identity, and was internalised by some of their more regular users who, as a result, identified themselves as community activists. In Little Hulton in

[123] The ADD group remained an exception to the norm, having built up existing relationships of trust with organisations advising on ADD/ADHD which were working from abroad.

particular, the women's centre users were likely to be involved in other areas of community organisation and were more likely to be involved in more than one neighbourhood group - one woman, for example, recorded that she was active in nine local groups but it was more usual to be involved in two to three. The most popular organisations were residents and tenants associations and the community committee which had been formed by the local council. The nature and level of this community involvement suggests that these women considered it important to be keyed into relevant organisations of civil society. Those women who completed questionnaire returns in this area were more likely than those using Salford Women's Centre, to say that they used other nearby facilities, such as the library and local college. Perhaps reflecting the isolated nature of this geographical locality, most of the respondents came from the Little Hulton area itself, and three were from the nearby town of Bolton. The users of the Salford Women's Centre, however, came from further afield to use the facilities on offer there and as a result were less wedded to the provision of services in the immediate neighbourhood of the centre or to local community groups.

Participants in Little Hulton were more likely to talk of the importance of neighbourhood and locality and reported in larger numbers that they were involved in the community to socialise with neighbours and to keep in touch with local matters. Use of the Salford Women's Centre, in contrast, could be motivated by more utilitarian considerations. One respondent, for example, drove from a south Manchester suburb to the centre in Salford in order to continue her membership of the Salford Creative Writer's Group. Yet this difference aside, volunteers and workers in both centres had worked hard to create a welcoming, friendly and above all, non-threatening, environment for their users, and in doing so had succeeded in attracting a wide group of visitors to their facilities as well as a core of regular users who had begun to base an important part of their social networks around their particular centre. For those women in both centres who had become regular visitors these spaces could be said to offer community in the sense that they demonstrated an affinity with the stated aims of the centre (a community of interest), they used the meeting spaces which the centres offered to maintain contacts and friendships (community as social networks), saw the building as the physical space in which many of their social, educational and support needs were met (community as place) and as

the place where they could most easily feel comfortable and part of a wider circle of contacts (community as belonging). Not everyone found, or indeed looked for, these qualities when using the centre, but in many ways could be said to benefit from the atmosphere which was created within the buildings by this core of users, and in the fact that the continued existence of these facilities was contingent on an active body of women who identified so strongly with the place that they worked to maintain its activities.

The importance of "locale"

The history and current activity of the community groups in both areas demonstrates the importance of providing an actual physical space in which the whole range of formal and informal activities and services could take place. Both women's groups had independently lobbied for and achieved a dedicated centre which they argued was crucial for their work in the community, offering the benefits of a physical space in which women could meet in an environment which they considered to be non-threatening and, they stressed, non-judgemental. The women found it difficult to reflect on why this physical space was so important to their activities except to talk of the difficulty for many of emerging from a closed, domestic environment in which the needs of their families were paramount into a less confined and more public base from which they could begin to look outwards to wider social networks and for some, the possibility of gaining paid employment.

In Little Hulton it was often suggested that the centre's aim was to try to get more women involved in the community and to help to bring women out of the limited environment of the domestic sphere. For those women whose confidence and self assurance had suffered from years cocooned within the limited sphere of contacts and activities offered by a home-based life, the centre or community organisation could provide a stepping stone between the private and the public spheres, a semi-private space in which they could relearn old social skills and perhaps go on to develop some new skills which would prepare them for a role in a fully public sphere. All this could be accessed at a pace which suited the individual woman, they encountered no

pressure within their groups to develop a particular range of skills with a preset rate of achievement and targets. Instead the women felt that they were supported to take further steps only when they had identified that they were ready to do so. This was often contrasted to the environment which women found in educational establishments, or the outreach training courses which were provided by local colleges. These experiences had often proved intimidating and pressured to many of the women involved, where timetables were seen as set and inflexible and the expectation that women would complete a specified number of tasks in a particular time-frame could sap confidence if their progress proved to be slower. As one woman, who had become a community development worker, explained of her early attempts to learn computing:

> I went on a computer course - I got told at the beginning I should have done word-processing first - which made me feel dead good, really, really positive about that tutor. But really I did feel that I was dead slow because I can't type or have any word-processing skills and I had nothing to practice on so.....that course was just, like, meaningless to me[124]

Working with a different approach, however, both centres were set up to encourage a more casual form of contact with drop-in sessions at each centre and events and meetings which would help to promote further contact and participation in community events. Once the casual visitor had gained more confidence they would be further encouraged to make connections with local educational establishments, perhaps volunteering to go on school outings or registering on training courses held locally. The benefits of more informal ways of working were articulated by many of the women who participated in the research. As one established member of a Little Hulton group explained:

> I think at the beginning it was just getting out. I'd been unemployed for some time and my confidence was knocked down to the ground. And I needed to get out, to talk to people - well to bring me back into the community really, instead of being stuck at home...Coming to the women's centre you can talk to other women who have had problems - to share everything - it just makes

[124] Conversation at Amblecote Residents Association, 1st July 1997

> you feel that you are free again, not stuck between four walls...I just feel a lot more confident[125]

These attitudes suggested the importance of providing an alternative space, which was less target-driven and more flexibly run to accommodate the pressures and strains of everyday life in an area such as Little Hulton or inner city Salford. Another advantage of these spaces was that they provided physical evidence of a very tangible achievement which had been created and sustained within a community framework. Young women's groups were encouraged to use these spaces - not only to provide safe meeting places and to occupy young people who might otherwise be at risk of offending or getting into any kind of trouble - but to provide role models for young women in the neighbourhood.

Indeed the advantages of a dedicated space were so accepted that within Little Hulton the ADD support group, learning from their positive experience as users of the centre space, went for and won funding for their own dedicated centre. This group had particularly stressed the importance of providing a supportive and accepting environment into which parents could bring their children, who were often extremely difficult to supervise and who could exhibit aggressive or withdrawn behaviour in equal measure. Towards the end of the research, as the management committee of the women's centre in Little Hulton made plans to move into much larger premises vacated when the local branch of a bank closed nearby, the centre manager spoke of how much had been learned over the previous three years of providing services in a dedicated space which afforded stability and continuity in their work. The management committee now felt that the lack of space in the existing centre was constraining their work and that local women were in need of a place where they could learn a wider range of skills but within the same supportive setting.

It seemed apparent that the benefits of this actually existing physical space could not be replaced by the provision of virtual computer-generated space. Although virtual space could imitate the meeting rooms, the informal atmosphere, provide a flexible and non-pressured learning environment and allow social and support networks to

[125] Group interview - Little Hulton Women's Centre 12.06.98, p.1

form and be maintained (if only with other computer users), it could not overcome the need for face-to-face human contact and proximity to others which these physical spaces provided. Nor could a computer-generated "space" supply the respite which a creche (especially accepting ADD children) or informal social contact over coffees and lunches could provide to women with the hectic lives which were a feature of parents of children diagnosed with such disorders. Furthermore, it is difficult to see how many of the research participants could have found the time to develop the relationship to a computer which would allow them to experiment with chatrooms, mailing lists and web-sites without first benefiting from the supportive environment of the centres which they saw as so crucial. Nevertheless, within the first year of the research a number of women who were regular centre users had started to explore these electronic spaces and were beginning to develop the skills which would allow them to benefit from computerised networks of communication, some taking the first steps into forming precisely these kinds of networks themselves.

This emphasis on physical place can be understood in terms of Giddens' concept of "locale" that "...which refers to the physical settings of social activity as situated geographically" (1990:18). For Giddens the individual's relationship to locale is disrupted by modern conditions which "...tears space away from place by fostering relations between "absent" others, locationally distant from any given situation of face-to-face interaction" (1990:18) yet it seems clear from the above discussion that physical space and identification with locale remained key to the formation and subsequent identity of those community groups utilising both women's centres.

The importance of trust

The neighbourhoods in which my research took place have been described as socially and economically disadvantaged areas. A key element of the interaction which took place in these areas was that it was between people who, by living in the same neighbourhood, experienced similar structural conditions and were similarly limited in opportunity as a result. Many would also have similar life-histories, to the extent that they may have gone to the same schools, lived on the same estate, used the same

shops and services and socialised in the same spaces for many years. The women's centres acted as places where various age groups could get together and discuss shared experiences and accumulated knowledge and a great deal of trust was demonstrated between centre users. As such, a bond was created between many of the centres' users which was based around mutuality and trust of one another. As Rutter outlines:

> Work in the sociology of everyday life since Goffman (1959), Blumer (1969) and Becker (1970) has repeatedly demonstrated that day-to-day interaction with people and agents does not just happen but it [sic] made and actively maintained (2001:4)

Whilst visiting the women's centres I observed the maintenance of relationships of mutuality and trust on a regular basis. The women showed great respect for one another's experiences and opinions and listened to others relating the day's events, offering support and advice wherever appropriate. Beck et al (1994) suggest that the winning of trust on a constant basis is necessary within "a risk society" and certainly it appeared that the everyday interactions of the research participants, in these spaces at least, were very much negotiated around trusted people. This trust appeared to be given to fellow group members because there was a tacit admission that other users shared the same "environment of risk" (Giddens 1990:35) These women shared similar histories and life trajectories, after all many of the group members may have been educated, or were educating their children in the same schools; they shared a common experience of living on the same estates, struggling with the same social problems and general anxieties. Their trust in each other was predicated on the assumption that these shared experiences would lead to a common set of norms and values, an empathetic understanding and mutual regard for each other's needs and desires. There was little trust exhibited, however, for "expert systems"[126] (Giddens 1990:21), those organisations and authorities which lay outside of this shared experience. In both centres these organisations were criticised. It was felt they had little in common with the residents of both areas, worked to different agendas and had

[126] Giddens defines "expert systems" as "systems of technical accomplishment or professional expertise that organise large areas of the material and social environments in which we live today" (1990:21), he cites architects and builders as examples of such professions.

little understanding of their very real problems. So politicians, both local and national, medical and social services and similar organisations were often subject to severe criticism from the centre users. The views and opinions of professionals working in these systems was valued less than the lay experiences which were discussed and which were articulated by people who were embedded in the neighbourhoods themselves. Indeed, this trust in local experiences and situated knowledge lay behind the formation of the centres in that they were valued because they had been founded and continued to be managed by local women working to local agendas.

Many of the services which were provided in the centres were those such as support groups which foregrounded lay experiences or were run by local women, such as the Creative Writing Group in Salford or the Young Women's Group in Little Hulton. Where "experts" and professional services were included in the centres their presence there had been negotiated through the centre management and these often played a facilitative role, liaising between lay and professional positions. Those professionals who were given space in the centres then, were often trusted individuals or supplied services which had been recommended to the centres by centre users or committee members who had direct experience of the individual running the service, or were acquainted with the service, often through direct experience, and felt at ease with its ethos and values.

Throughout the research, with the exception of the ADD group, the majority of centre users expressed an interest in using ICT to tap into lay sources of knowledge and much less interest in using the technologies to access expert sources of data. The latter were said to be readily available through mainstream channels whereas the former were perceived to be more thinly spread and therefore as more difficult to access through conventional means. It was apparent too, that certain professionals were more trusted than others. The Information Services Manager for the city council, for example, became a trusted professional whom the centre users would listen to on matters relating to ICT. This council officer was prepared to spend time at the centres listening to discussions on information and communication requirements and would then relate her own knowledge of the medium directly to the concerns expressed. She would admit ignorance of ICT at times but return with answers and

with ideas for projects which she felt would add to existing activities in the centres and which would not disrupt existing systems of work. She was therefore seen as someone who consulted and someone who would act on advice from the centres themselves. Her approach was respected and even when expected funding for ICT projects did not materialise her intentions were not questioned and she was not criticised for failing to deliver. In sharp contrast, a number of other professionals were derided and criticised for not taking the centre users' perspectives into account and for failing to deliver on promises.

Labelling the "information poor"

In *The Consequences of Modernity* Giddens links the concept of the information society with debates around postmodernism arguing that these:

> ...concentrate mainly upon institutional transformations, particularly those which propose that we are moving from a system based upon the manufacture of material goods to one concerned more centrally with information (1990:1)

The "collapse of the grand narrative" with which postmodernism has been associated, leads postmodern theorists to argue for the existence of "...a plurality of heterogenous claims to knowledge, in which science does not have a privileged place" (1990:2). Translating this into the situation found in the research areas would suggest that a belief system based on situated, lay knowledge is given precedence over one based on expert and professional systems. Under conditions of postmodernity, then, this predilection for one belief system over traditional sources of knowledge should be expected and unproblematic. However, this preference for the situated and local does not fit with the emphasis on globalisation and network cultures with which the information society is also closely associated. According to Robins:

> Globalization is about the dissolution of old structures and boundaries of national states and communities. It is about the increasing transnationalization of economic and cultural life, frequently imagined in terms of the creation of

> global space and community in which we shall all be global citizens and neighbours. (Robins 1997:2 quoted in Ferguson and Johnstone:2001:146)

Giddens refers to this as "...the "lifting out" of social relations from local contexts of interaction and their restructuring across indefinite spans of time-space" (1990:21) yet the women who have taken part in this research are firmly embedded within local communities and contexts and appear to find less of interest in globalised social relations. They live, of course, in areas which have been profoundly affected by global movements of capital, which have largely flowed away from their neighbourhoods leaving behind sparse economic opportunities, and they live too within a global cultural framework where multi-national corporations provide many of the consumer goods on which their disposable income is spent, yet as far as social relationships are concerned, these are shaped by local circumstances and built on networks of trust built around kinship and neighbourhood. This goes against the notion, articulated by Axford that "...globalization is making it more difficult for social actors like nation-states, localities and individuals to sustain identity without reference to more encompassing global structures and flows" (2000:43 in Ferguson and Johnstone:2001:147). These women lead social lives which are bounded by locality and geographical proximity and appear to be largely at ease building meaningful relationships at this level. However as Ferguson and Johnstone point out, and as the rhetorics of information society would have it, it is assumed that "Any nation-state, individual or community which attempts to remain outwith or against these [globalising] trends will be left behind..."(2001:147). These areas then, which insist on remaining attached to traditional social structures and geographical boundaries are seen as having rejected the "global community" and its "emancipatory possibilities" (Ferguson and Johnstone: 2001:146) and to lie in need of re-education and training in order that they can be made aware of the advantages of becoming part of a global, networked system. They are thus labelled as "information poor" neighbourhoods. These neighbourhoods may be rich in situated and lay knowledge, but this is not recognised as valid in the global, networked society of late modernity. Roszak's "cult of information" is writ large in this process, but the information which is valued and perceived as significant and progressive is that which is digitally transmitted, through the medium of computing technology. Face-to-face, locally trusted, lay understandings and experiences do not feature in this arena of interest. Instead these

communities are characterised, as exhibiting a "culture of *information* poverty",[127] rather than looking to a "poverty of information culture" for reasons as to why there is not a greater take-up of ICT in marginalised neighbourhoods.

[127]Oscar Lewis outlined his theory of "the culture of poverty" in *La Vida: a Puerto Rican Family in the Culture of Poverty - San Juan and New York.* As he recognises in this book "The phrase is a catchy one which has become widely used and misused" (1965:xxxix). Lewis recognised this subcultural adaptation as a dynamic process and the potential of "the poor" to move in and out of the "culture of poverty". However he also recognised the tendency of the professional classes, including academics, to concentrate on its negative aspects and to see it as a basically static phenomenon

Chapter Seven Bridging the digital divide? A discussion of barriers to access

Introducing communities to ICT - the textbook scenario

Such guides as are available suggest a planned and considered approach to developing ICT awareness and exploitation in which the organisations involved are taken step by step through a series of developmental stages, learning throughout the process and building knowledge incrementally in order to achieve their stated goals. Gamse and Grunwald (1998) suggest that there are seven stages to overcome in order to build communities which are connected to and getting the most out of electronic networks and are able to go beyond just using ICT technology for better communication and working within an organisation. These steps take the organisation:

- through the identification of networking requirements
- planning the scope of the network
- selecting the hardware and software which will allow the organisation to meet their networking needs
- building enthusiasm within the community and their contacts for electronic networking,
- training users in ways to access and use the technology
- managing and utilising online public forums to collaborate and solve problems
- using an electronic forum to engender community spirit and further networking

While undoubtedly this would present a best case scenario, the reality of the Salford groups' introduction to ICT was rather chaotic and poorly resourced. Throughout the three years in which the research was conducted the community groups involved moved more erratically towards a familiarity and confidence in using ICT, working with numerous, and often unformulated, objectives which could not be said to

constitute a set of defined outcomes or goals. Furthermore these objectives presume a group is starting from a clean slate from which technological requirements can be assessed and purchases of relevant equipment made which satisfy the needs of each group. In both research areas, however, the first tentative, and unguided, steps had already been made towards the purchase of IT and the groups had to learn to work with what they already had, rather than buying technology which was more precisely suited to their needs. Nor did the groups work in a vacuum, in which decisions as to their own computing needs were made without consideration as to what was happening outside of their particular group. Each was aware that decisions in relation to ICT were being made in their city and in their neighbourhoods and schools. The outcome of these decisions would affect those of each community group as they were forced to consider issues such as compatibility of systems and software and purchasing computing equipment powerful enough to handle data from a variety of sources, not only that which the community or organisation itself would generate. Under these, somewhat messier circumstances, the groups often put off making decisions for themselves while they waited for outside organisations to deliver. In addition, at no point were the groups able to focus on their ICT needs alone. Their move towards becoming computer literate and experienced ICT users happened incidentally to the delivery of services. Days were filled with other pressing concerns and issues such as ongoing funding and staffing problems and ensuring that the main functions with which the centres were identified continued to take place, often with extremely limited resources. Under these conditions developing ICT awareness and skills could take a back seat and was not seen as a particular priority.

At the end of 1999, as the period of fieldwork for the research came to an end, the move towards adoption of new technologies in general, and of ICT in particular, in the Little Hulton and Langworthy and Seedley areas of the city was decidedly uneven. While in each area, some of those women who had taken part in the research had reached more of an understanding of and accommodation to these technologies, as a result of their individual circumstances and motivations, others' relationship with ICT had hardly changed. While the last chapters have concentrated on the achievements of the groups which participated in the research, this chapter concentrates on some of the barriers which the groups faced. Despite the differences in experience these

impediments to the adoption of ICT were often shared between groups in both neighbourhoods.

The research identified a range of barriers to the adoption of ICT which fell into four main categories and were related to confidence, ownership, funding and support. Many of the isues which will be explored below were identified in the work of Policy Action Team 15 of the Social Exclusion Unit (PAT 15) as affecting many socially excluded groups across the UK. However, while their report discusses these barriers at a high level of generalisation, the following exploration is very much grounded in the experience of the Salford groups with the hope that this will illuminate some of the processes which worked at the micro-level to impede access to ICT. Although, for ease of presentation, the following observations have been divided into four distinct categories, some overlap is discernible.

Confidence

Many of the research participants openly acknowledged that their level of information about ICT was limited. A small number of women had never used a personal computer[128], and others were using very early computing technology for word-processing. A few were so unsure of the technology that they spoke of feeling quite intimidated in the presence of computers and were very unlikely to try to use one without considerable support. These women spoke of not even knowing where to turn a computer on and in two group interviews[129] a few older women spoke of how they had had trouble using a computer mouse, initially rolling it over the screen or waving it in different directions in the air around the computer imitating the way their grandchildren used the handsets on their computer games consoles. For these women personal computers were quite alien to their everyday lives. They were not used to seeing people using a personal computer and so they were unfamiliar with even the

[128] Approximately one quarter of those who returned questionnaires stated that they had never used a personal computer. It appeared that roughly the same proportion of women who attended group interviews were also inexperienced in their use.

[129] Amblecote Residents Association and Salford Women's Centre - 02.07.98 and 10.06.98

most basic aspects of the equipment.[130] However, as the questionnaire returns have shown, access to and use of computing technologies varied amongst friends and associates. In the informal and easygoing atmosphere of the group discussions, however, this wide variation in computing skills was aired. It also emerged that those who *did* have some experience of using computers had rarely passed their skills on to others, even though these women worked closely together and shared knowledge and experiences in many other aspects of their lives. Skills in using ICT were equally varied. Group interviews revealed the extent of the disparity between individuals with a considerable knowledge of the internet and email and those who knew very little. The latter, however, often expressed a genuine curiosity over the meaning of the web addresses which had begun to appear on their television screens at the end of a programme's credits as production companies started to build websites linked to their products. The discussion which took place in the group interviews for this research appeared to be the first occasion where such sharing of knowledge and experiences of computers and ICT had taken place for many participants. In later conversations, women spoke of their lack of confidence in their ability to instruct or to inform others in the use of technology, either because they felt that their own grasp of computing was at such a basic level that they had little to convey to others, or because they did not see themselves as educators, believing they did not have the skills necessary to teach others. Both computing and training skills were constructed as belonging to expert, rather than lay understandings and as therefore lying outside the realm of most women's centre users. Computing and training skills, it was believed, had to be "bought in" to rather than found within the community. This perception, whether accurate or mistakenly held, could have a paralysing effect on action. One group[131] discussed how their lack of experience of ICT hindered their attempts to learn more about the medium :

KE It doesn't seem like computers has a lot to do with what you do
Participant 1 It doesn't, but we want it to be, we *need* it to be
Participant 2 It only isn't because we don't know how to use one

[130] For those used to the modern office and work environment it can be easy to forget how recent an addition much of this technology has been and to overestimate its penetration into society generally.
[131] Group interview, Little Hulton Women's Centre, 12.06.98 p.7

This group had identified a lack of expertise with computers which they believed that they could not address as a group because their knowledge-base was so low. This dilemma was not specific to this group but was reflected in the discussions which took place with all the other groups. It became clear, however, from the group interviews that a pooling of skills might be possible and afford real benefits. Later in the discussion[132] quoted above, for example, it emerged that some women in the group had quite considerable experience in computing and ICT. One of the group spoke of using websites and email to advertise the support group which she ran and to keep in touch with people between meetings. Once the rest of the group heard this example, related by someone they knew and which clearly demonstrated an advantage to a group with which they were familiar, the mood became decidedly more optimistic:

KE	So do you think people in Little Hulton might start using computers?
Participant 2	I think once they become happy with them, what you said - literate - then they will

Admitting ignorance

Many of the women who took part in the research criticised the education they had received and believed that this had left them without many skills which they could utilise to find employment. Many were concerned that they had poor literacy skills and were interested in using computers to improve their writing style and to help with spelling and grammar. However, this also meant that many women lacked confidence in any training which resembled their past educational experiences. This reluctance to enter training meant that some were likely to try to disguise their lack of confidence in particular areas rather than to take steps to overcome it. Those who did move on successfully to further education and training were generally proud of their achievements and eager to spur others on to the same whilst recognising that this was a difficult first step for many to take. However, it was also suggested that women who had little or no experience of computers could be scared of admitting, even in

[132] Group interview, Little Hulton Women's Centre, 12.06.98 p.18

private or to themselves, that they knew nothing of the technology. These women, it was suggested, would feel as though they were missing out on an experience which was key to survival in the late twentieth century, without which they could feel hopeless and extremely challenged. This left many too scared to start to engage in the idea of learning. This could be further compounded, one resource centre worker explained[133], if people who felt this way had responsibility for children:

> It's difficult when your children know more about something than you do. Everyone wants to think that their children will do better than they did, but with computers - these parents simply cannot support their children

So discussion of computing and the need to learn new skills could mean people tackling some of their worst fears, and for many this evoked all manner of concerns and having to admit that they were unable to help their children into a better life than they themselves had lived. This area of concern arose in conversation after conversation in which women confided that they did not like to admit to their ignorance on many matters and would only do so when they felt that they were with people similar to themselves, who might be equally ignorant, or not too far ahead of them.

Fear of computers

Much of the fear of computers which I encountered during the course of the research was not a straightforward "technophobia" or fear or hostility towards the machines themselves. Where such fears were articulated, these reflected a lack of skills or experience in computing which could be quite easily remedied with training and practice. .Some groups, however, demonstrated concerns over using ICT which would be more difficult to address and which could limit their interest in the technology. These particular fears revolved around, often alarmist, stories which circulated around the use of the internet and of chatrooms in particular and the motivations of the people who used them. There was a general awareness that the web gave access to a great deal of pornographic material and there was concern that

[133] Interview at Salford Jobshop, 11.06.98, p.2

people might use community facilities in order to access this. Schools in particular were worried that their pupils might access unsuitable material. One teacher related how he had unintentionally accessed hardcore pornography when conducting a search for song lyrics, despite being assured that software installed on the computer would not allow access to such sites. Since this incident pupils' use of the internet in his school had been closely monitored and drop-in use of the computers when supervision could not be assured had been removed. Management staff working in a Jobshop in one of the research areas were concerned about misuse of the internet by adults and were also loathe to allow unsupervised access to their system. As software blocking access to sites becomes more sophisticated such concerns might be overcome, however, these concerns demonstrated, not only a distaste of some of the content of the web but also that there existed, in some organisations at least, a mistrust of the intentions of computer users which would not lend itself to technological solutions such as the installation of parental control software.

There was some wariness too that use of the internet might open the community up to unwanted attention of other users who might not have the interests of the community at heart. As has already been discussed, these groups were concerned to develop safe areas, free from intimidation and used their local knowledge and trusted networks to achieve this goal. Using the internet to advertise services or invite attention, however, was seen as potentially problematic. Social Services, for example, had identified a need for a database of child carers which was easily accessed and could be used by carers to identify child-care professionals. It was argued that this could not be developed as a web-based service due to the very real fear that it might be used to identify households where children could regularly be found.

These fears were often less extreme but related to a view of the internet and computing as the "preserve of perverts and nerds" (Kearon and Smith 1998:24). Computer experts were constructed as people who were somehow different to the residents of the research areas, hailing from different backgrounds, with different interests and part of a different cultural context. These women did not have any experience of computer enthusiasts who were like themselves. This view had been re-inforced for some by their experience of computer training, as one woman articulated:

"...many of the trainers just don't understand us, they're computer boffins, real anoraks".[134] So, although outright hostility towards computers was held by a minority of research participants, this view that computers and computing belonged to other cultures and social groups was more often expressed.

Language

Some of this marginalisation from computers was compounded by the language which many computer professionals used. Many women objected to the jargon which was often used and which they found was replicated in computer manuals and some training courses. As they explained[135] much of this was counter-intuitive and meant learning new terms which appeared to be part of some secret language or code:

Participant 1 It's understanding it and what it wants you to do to it, because it's a different language

Participant 2 Yes, because I know what "justify" means, but it means something very different when it's computers....it's important to know what different computer words mean - it's in the manual but it's too difficult to follow...it's taken for granted when you get the instructions that you know how to read the manual - but you don't...and you switch off.

During another group interview one woman said that she was immediately put off attending one course because she could not understand what people were talking about when they started referring to "bytes".[136] Many women stated that they wanted to learn about computers precisely in order that they could participate in conversations with younger relatives and friends who seemed to be more at ease with the technology and familiar with the language with which they are associated. One woman reflected on recent conversations with her grandchildren[137] in which she had tried hard to appear knowledgeable about their computer, confessing:

> Yes, but when they are talking to you, you don't really know what they are talking about

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[134] Group interview, Salford Women's Centre, 10.06.98, p.8

[135] Group interview, Salford Women's Centre, 10.06.98, p.6

[136] Of course, Bordieu has long discussed the implications of the scarcity of educational capital (Bourdieu 1979 and passim) and his arguments are well supported in this context.

[137] Group interview, Amblecote Women's Group, 02.07.98, p.5

This different use of language served to strengthen the view that somehow computing was the preserve of the better educated and was an elite activity which would be difficult to penetrate, to fully understand and to engage with.

Ownership

In order to make use of ICT, however, potential users have to believe that there is something in it for people like themselves. The issue of exactly which groups were best served by computers and ICT was complex and resurfaced in a number of different guises throughout the research.

A technology for the young

A recurring theme was that computing, and use of the internet in particular, was an activity which only the young could properly appreciate. This particular fiction has been expounded in many ways, even to the extent that writers like Dale Spender have commented "As we know full well, three year olds can manage the new technologies, often with much more facility than can their parents." (Spender 1995:xvi). However, this observation is fundamentally mistaken and although it may seem trite to suggest that a three year old can achieve more than an adult given access to a machine and some very basic information, this general perception was re-iterated by many women, especially those who had seen young children playing with computers, as shown in this exchange[138] between two women in their fifties:

Participant 1: How kids just do it! It's not for my generation
KE: So you're saying that computers are more for young people?
Participant 1: No - it's not just that, young people are more comfortable with them - they start really early on don't they, playing games etc. and then they progress up and they use them at school but when you come to it at our age it's completely new to you and you've not had *any* experience of it.

[138] Group interview, Salford Women's Centre, 10.06.98, p.8

This idea that somehow young people are "hotwired" to understand the new technology could put a brake on the aspirations of older members of the community. Some believed that there was a massive gulf between the abilities of young people and themselves and that command of computers meant mastering a completely novel set of skills. They might thereby excuse their lack of ability with computers by stating that their educational and life experiences had not furnished them with the requisite proficiencies and might equally believe that they were too old to take on new methods of thinking and working and therefore could not learn how to be computer literate.

There was another way in which the link between children and computers affected the perception of who owned computing technology. A common reason given for purchasing personal computers for the home was to furnish children with the best educational resources possible. As a result, however, computers were often seen as the property of the children in the family and a number of mothers admitted that they had access to a computer in their home, but did not use it because it was bought for their child and did not consider it a shared resource for the whole family. Even when the child was out of the home these mothers did not feel that they could switch on their child's machine and experiment by using it themselves. Some of this resistance was linked to the fear that by using the computer they might inadvertently wipe their child's work in some way, and partly it was also due to this notion that children know can make the most of these technologies and should therefore be given more rights over their use. So views around ownership of technology affected access even in the domestic setting. This was also articulated by one grandmother[139] who explained:

> Me grandkids have all got 'em but they're at *their* house, you know what I mean. There's not one stuck at my house where you could have a chance to go and play

However, as one resource centre worker argued, if young people are truly interested and at ease with the technology this can be used to motivate other groups and to bridge any gap in knowledge and confidence. She explained that a telecommunications company had recently set up a marquee in an area serviced by the centre in which she worked. This marquee was filled with the latest technology for

[139] Group interview, Amblecote Women's Group, 02.07.98, p.5

communication over the internet, with video-phones and video-conferencing facilities. She had watched children become familiar with using the equipment during the day and then, towards the end, their parents began to visit, enthused by the stories their children were telling them about the facilities there. She felt that it was almost as though the adults had allowed the children within their community to check the place out first before they felt confident enough to venture in themselves and to start to play, alongside their children, with the available equipment.

Everything in its place

Questions over who had claim to the technology were not only confined to ownership by particular social groups. Issues also arose depending on where the technology was sited within a neighbourhood The particular venues chosen for the placing of computing facilities proved to be highly significant. The placing of computing equipment in a community centre's office rather than public area sent out signals that the facilities were only available to a few users. Furthermore, staff could inadvertently act as "gatekeepers", further restricting access whether through a desire to protect the computer from misuse, or perhaps to protect themselves from appearing less than competent in a public setting. So some members of community groups, whilst having access to computers felt that they were shut out from their use. One tenants' association member[140] was interviewed sitting in their association's office with a computer next to them, but they complained that they had been told that only management committee members were allowed to use it, they complained of the lack of access to computers in their area, and mistaking me as someone who could put pressure on the council to make more provision available argued "Well you see, if you let us have one [a computer], we'd have a chance to learn.". In this circumstance the person interviewed had asked for access and it been denied but a number of other women confessed that they had never asked for access to the computers in the buildings which they used regularly because they had assumed that the computers were not available to them.

[140] Amblecote Resident's Association, 01.07.97

In Little Hulton an interesting discussion[141] arose as to whether the local school was a suitably accessible site for community computing facilities. One wing of the school had been put aside as a computer suite for the community, but this was not used by any of the research participants. Even though the proposed community computing facility was to have a separate entrance to that of the school, the idea that they would have to enter school grounds in order to use its facilities was a source of concern for many. This suggestion elicited various stories which functioned to outline the unsuitable nature of the local school - and of schools in general. As a result of these stories the women outlined a variety of reasons explaining why they would find it difficult to share the same spaces as schoolchildren.

To begin with many women felt that the atmosphere inside schools was not conducive to their visiting. They had fought hard to maintain places where they could feel comfortable and maintain a sense of confidence about themselves and their abilities. In their own spaces they had learned to feel valued for themselves and not stereotyped by the way they looked, their age or occupation. The women's centre users in particular valued the calm and accepting environment which they had constructed as an alternative to many other public spaces in which they felt out of place and they felt that the sense of ease and acceptance which they had worked hard to create could not be guaranteed in a space created for a completely different function. Women talked of feeling anxious in school spaces, they were not used to the often boisterous nature of encounters inside the school grounds where, they felt; they risked being physically or emotionally intimidated. The stories told, included those of women being hit by accident by children throwing tennis balls and fruit and worse being verbally abused inside the school by young people. One woman explained[142] that children would often look in through the classroom windows when community meetings were held in the school and make passing comments to women who were on the way to meetings, she told us:

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[141] Group interview, Little Hulton Women's Centre, 12.06.98 p19-22
[142] Group interview, Amblecote Women's Group, 02.07.98, p.21

> I've heard S- talk about being called abuse about her size, about things - we don't want that, we don't want to feel in any way threatened or abused when you use a building which is for the community.

One community worker felt that she should go along with any groups using the school, to act in, as she described it, "...a protection role...", monitoring the children's behaviour and bringing any incidents to the attention of the school staff. Without this support, she believed, the individuals participating in the group interview would not attend their meetings. Other participants supported this view, adding that they would only ever go into the school as a group and never on their own. Others, who had not had such bad experiences themselves articulated that they felt school spaces were generally inappropriate for adults, being designed around the needs of children.

In every group interview it was emphasised that, to be fully used, computer facilities should be placed in premises which meant something to the community, in which the community felt that they had some ownership. Where these venues would be would therefore depend on the particular neighbourhood in question. It was stressed that what worked in one neighbourhood might be deemed inappropriate in another - indeed none of the Seedley and Langworthy groups expressed such problems with using school premises. There was general agreement, however, that women would not be able to travel very far to use computer facilities because of time and cost constraints, and that they were best placed in or near venues which were well-used and visited for other, perhaps more mundane, purposes. Above all, the emphasis was on facilities which were seen to be for *everybody*, an requirement which more accurately meant that these women wanted to feel that the facilities were in venues which they found to be welcoming, whereas others in the community might be attracted to different sorts of places. Some women suggested their local libray might be an appropriate venue, however, Day and Harris have observed that public libraries are not always the best sites. "It is important" they say "to remember that, while libraries are 'based in the community', they are not "community-based" (Day and Harris 1998:5.25). Indeed libraries can be seen by the community as too institutional and as places which do not encourage interaction

Web content

Alongside the requirement that venues should be attractive to as many users as possible, was the concern that the content of computer facilities generally and of web-sites in particular should be equally appealing to a wide range of users. For many of the women who participated in this research this meant assuring relevance for local needs and interests. It has already been suggested that the Jobshops in these areas did not feel that there was enough of local relevance in employment sites found on the web, and that people felt that email would remain largely irrelevant until a critical mass of individuals and organisations were using this as a form of communication. Additionally, however, potential users were interested in how the internet would have relevance to their daily lives. If these were lived within a limited geographical area, involved in matters of local concern, then the internet needed to be seen to have content which would be immediately relevant in this context. Certain groups, of course, were looking to make contacts further afield, as the example of the ADD group shows, but the majority of groups worked within smaller circles and had constructed their boundaries of interest differently. It should be added that those groups which did begin to experiment with the internet did generally find sites which were relevant, often related to very particular interests, A local hockey club, for example, found some national and international hockey websites, however there was some feeling that their interest in these sites was exhausted quite quickly and that they were looking for something of more local relevance, such as information on local leagues which might hold their attention for longer. Interest in email remained low throughout the period of the research as some of the major services in the city had not developed access through this medium.

Toys for the boys?

Throughout the course of the research there was very little overt attention given to the relationship between gender and technology by the participants themselves. Indeed references were made to the fact that many men were equally, if not more, affected and intimidated by the general move to computerisation, particularly within

the sphere of employment. These conversations also demonstrated that if the research participants felt that computers "belonged" to any group at all, it was to the young, and few distinctions were made here between male and female children's ease with new technology. Nevertheless, numerous references were made to the individual males who appeared to be more confident with new technologies. This was said[143] to be true of computers, for example:

> P.....'s on it quite a lot, my husband, when he's not working. I sit there and I'm amazed at the things he can do on it, he can do graphs and things and I think to myself, and he's sat there moving his hand about [mimics the use of the mouse] and he'll say something and it just amazes me and I've often thought of saying - I wouldn't mind having a go at that - you know, but they'd probably laugh...

and other, newly introduced systems such as the Video Plus system for programming video recorders, which had left many women who tried to use it, completely nonplussed.

One community worker did introduce the relationship between gender and technology.[144] She believed that many of the women she worked with saw computers as "a male thing" and she went on to expound her view that women felt that men would almost instinctively know how to use a computer or would feel instantly more comfortable with the technology. She went on to argue that women were particularly loathe to show their ignorance in mixed company and claimed that she had experienced women turning down the opportunity for computer training when they learned that a man was going to be attending the same event. Her solution was for women-only training and that most women would prefer that it be delivered by a female tutor. However, she acknowledged too, that this generally held perception that men were happier with computer technology, was probably falsely held given that she had generally found it difficult to motivate men to learn about computers, even when they acknowledged that this was an important skill to master in order to maximise future employment opportunities. Ironically, she contended, these men

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[143] Group interview, Amblecote Women's Group, 02.07.98, p.10
[144] Interview at Salford Jobshop, 11.06.98, p.2

seemed to think that computing was more suitable for females, equating this technology with office jobs and typewriting skills.

The many responsibilities taken up by women, which so constrain their available time (as identiied by Adam and Green, 1998) were particularly well articulated by one community worker,[145] who explained why it was so difficult to get women to attend computer training classes:

> In the mornings women take their kids to school and many will have part-time jobs which begin after the schools have opened, then they have to finish in time to fetch their children from school and the schools all have different closing times, some 2.30, others 3.30. Then in the evenings many will have a few hours work at a supermarket, so it's very difficult for women to find the time to come in.

and time constraints were often mentioned as a reason why existing computer facilities were not accessed and justifying why many women really wanted a computer of their own at home.

And it should also be stressed that many of the issues raised as barriers to inclusion and acceptance of these technologies, while not overtly issues of gender are, in fact, closely related. The construction of the net as a space which is unsafe and fearful (Longford and Crow, 1998:12) and the desire to construct secure and unthreatening alternative physical spaces in which women can meet and develop confidence and contacts could be said to represent a particularly gendered outlook. So too, the fact that children's needs were given such primacy in discussions. So it could be argued that those conversations which have been recorded and reproduced for this research are infused with a particular, gendered outlook.

Funding

It is generally assumed that the cost of purchasing a personal computer will limit

[145] Group interview, Amblecote Women's Group, 02.07.98, p.17

access to ICT within communities in economically disadvantaged areas.[146] As Holderness has pointed out "A new computer with a modem costs about one year's unemployment benefit in the UK..." (1998:40). While the cost of personal computers has fallen over the last few years so that this calculation is no longer true, and in truth appears inflated even for the time it was published. There was some discussion in the research areas as to how much of a deterrent cost was, to the individual household.

Computers at any cost?

> I don't think that many of the people in households will [buy computers], because of the expense of them but I think that there's a lot of the associations - the community groups and places like that - I think *they* will start with computers

As the above extract from one group interview[147] shows, while the cost of computers clearly deterred some individuals from contemplating a purchase, others talked of the fact that many of their acquaintances had found a way to finance the purchase of a computer despite the high cost, because they felt that a computer would be of direct benefit to themselves or their family. One woman explained: [148]

> I know most people what've got one of them in the house, they've got it out of a catalogue somewhere, because they can't afford to pay cash for it. If you're on the dole what chance have you got of having a computer

So some people would go to great lengths to buy what they considered to be an essential item, and many, as a result, did pay high prices. One woman talked of her husband having just paid £1500 for a computer and another had paid £2000, even though he did not know how to use a computer - and presumably did not therefore know which specifications would be most suitable. The purchase was made because he was about to re-enter college and it was therefore deemed by the family as a necessary piece of equipment. It was generally agreed that people would go into considerable debt to buy goods which they felt were important for their family's

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[146] See for example the Department of Education Survey reported at http://www.information-society.org.uk/nip...ays+News/DEB98DB36152C553802569E5004007D3

[147] Group interview, Little Hulton Women's Centre, 12.06.98 p.19

[148] Group interview, Amblecote Women's Group, 02.07.98, p.11

progress in education or general well-being and that computers would be seen by many as one of those goods which it would be worth going into debt for. However, for the poorest households this might mean purchasing from catalogues (with high rates of interest) or buying from the companies offering the best credit terms or buy now, pay later schemes. People were also attracted by offers which included a full range of software preloaded on to the machine, in the main because they did not know what packages they needed and were therefore working under the assumption that such a full range would invariably include something of use. The result was that people were buying a specified range of machines from a small number of companies where these offers were available, and not necessarily from the companies that would offer them the best value, or advice on computing needs. The cost of personal computers to these households was therefore higher than it needed to be and individuals had probably bought machines which were more powerful than was necessary. The companies which individual households were using were also not likely to offer much in the way of ongoing support and maintenance. Added to this was the high cost of calling the helplines which were laid on by these companies, or the providers of free internet services.

Throughout the research it became obvious that individuals and organisations alike were poorly advised on computer purchases, if at all. In one interview, tenants association members contemplated the cost of purchase for their own group. They were told by one member:[149]

> It's not expensive to build a computer, J- built mine for four hundred and eighty-odd quid - they're less than five hundred pounds if you build them yourself - or you could get someone you know.

This price obviously surprised the others, who were working on the assumption that fifteen hundred pounds was a more likely price. Many had bought computer games consoles for their children at around one hundred pounds or more, and they agreed that it would have been better value to have put that money towards a computer - which, after all, could be loaded with games that the children would play. Once

[149] Group interview, Amblecote Women's Group, 02.07.98, p.10

bought, people obviously wanted to get the most out of their machines which had proved to take up a large part of their household budget. Many women were therefore using older machines, two were using Amstrad word processors purchased in the early 1980s, and software which had been superceded by much quicker and more user-friendly Windows operated systems. This caused further problems obtaining help and training as training courses would be tailored to the more recent versions of popular software packages.

Finding the running costs

Lack of resources was not just an issue at point of purchase, there were also ongoing running costs to meet. Those community organisations which had purchased computers were wary of connecting to an internet service provider because they were not sure if they could afford the costs of connection to the internet. Even the more well-funded and established organisations were worried about financing ongoing costs. The local libraries in both areas were concerned that they had no funding to finance training, computer support or to host "taster sessions" on computing for casual users; as a result access to the computers was limited to those who were already computer literate. This, it was pointed out, hardly helped to widen access. One woman[150] complained that the presence of a computer in a public place did not mean that it was accessible:

> But I think also just putting them [computers] in there [the library] isn't good enough, but having someone there with a friendly face to say "Now come on, you can use it, it's not going to bite you", because a lot of people are going to think "Oh no, I can't touch that". I mean I would, I'm going on what I would - I'd be a bit too embarrassed to ask, in case they didn't know that I don't know how to use it

Problems obtaining the funds for computers and their ongoing maintenance, then, could prove as big a problem for organisations as for individuals, however, both showed a willingness to find ways to meet the costs whenever they were convinced that they wanted, or needed, to make computers part of their daily or working lives.

[150] Group interview, Little Hulton Women's Centre, 12.06.98, p19

However, many had previously found a way to finance the purchase of technology which they considered expensive, when they felt that the sacrifice was worth it. Two women in one group discussion, for example,[151] had invested in digital television sets, showing a willingness to pay for technology which was familiar to them and which had become an accepted part of their domestic lives and thereby their household expenditure.

Support mechanisms

The last category of disincentive involved lack of support mechanisms for those who were wary of moving towards an assimilation of computers and crucially too for those who did take steps forward to become involved in "the digital age".

Training the trainers

The first area where people came across a need for support was that of computer training. With computers, many women were faced with learning skills on technology that was unfamiliar to them, and at the same time could often not envisage what the training experience would be like, as they had little information about the capacities of the technology. Add to that suggestions that they might learn how to use the internet and world wide web, which they had never seen, and it is hardly surprising that the idea of accessing training was a daunting one. Many stressed the importance of learning in a familiar and supportive environment, where they could overcome their, often deeply felt, lack of confidence. One woman conveyed[152] this need in the following way:

> I don't think I ... could go and sit in another group - but someone that we know, showing us, you know, even if it was just the basics, you know, that would be great.

Women wanted training which built on their existing skills, reminding them that they were working towards something which was achievable and breaking down the myth

[151] Amblecote Women's Group, 02.07.98
[152] Group interview, Amblecote Women's Group, 02.07.98, p.6

that computing was something which was completely alien to their previous experiences. For example, those who already had typing qualifications were eager that this should be recognised as a key computing skill. Women also emphasised the need for small group teaching which was very much practice-based. They realised that this was not the most cost-effective way of delivering training but felt that previous courses which they had attended, which seemed to be designed with cost in mind had been problematic. They talked of training at local colleges where three people had to share one computer and contrasted this to their ideal training situation and also spoke of how many trainers did not let them make their own mistakes. They were particularly critical of male trainers who would lean over them while they were working and press keys for them if they made a mistake or were not sure how to progress. One woman explained[153] of her tutor:

> He'd lean over you and say "No, you don't do it like this" and it was horrible and it put me off and I never touched a computer again for about another two years...He had no idea what it was like to be a small woman in front of a computer with a tall man hovering over me

This experience was raised in a number of groups and by a number of women and was re-iterated again by women in Little Hulton after their Project 99 training. The Project 99 course was seen as a model of good practice. The (female) tutor, it was said, hardly touched the keyboard of the computer herself when the women were practising their skills, only to occasionally demonstrate a procedure to the course attendees and that much of the teaching took place away from the computer screens.

When women were using computers regularly, in their own home or organisation they found that they were not using anything like the full extent of their computer's functions. This, they explained was due to the fact that many of them were self taught and only to a basic level. They had never had the opportunity to learn about their own computers and what their software was capable of in a supported environment. They were aware then that there were probably better commands and procedures for carrying out their work, but that these had never been demonstrated to

[153] Group interview, Salford Women's Centre, 10.06.98, p.7

them. Once they had had their machines for some time this problem was compounded as training courses moved on to later versions of the software that they were using and became of little use to them. These women felt as though they were working to less than their capacity, and this could have an effect on their willingness to add to their existing computer software. A number of women who took part in the research had been thinking about obtaining an internet service provider and moving into email and the internet but feared this would prove to be a waste of resources as they felt that their own knowledge of computers was limited and that they would in all probability not be able to obtain support to install modems or email onto their older systems.

Internet pioneers

Anyone using a computer at work will be well used to turning to work colleagues for initial training and ongoing advice and support. However an individual buying a computer in a neighbourhood which is largely computer illiterate has a much harder time gaining any real help. This problem came up in every group interview. People explained that they simply had no-one to turn to if they experienced problems. One woman could not get her computer to print and because she did not have anyone to help, had spent the last year putting her children's GCSE assignments onto disk to print off at her work-place, another had installed a free email system but could not work out how to check if she had mail. Support mechanisms within the community were lacking - not only were there few individuals within the community with any extensive knowledge of how computers worked and therefore how to troubleshoot problems, but there was also a lack of businesses or organisations with experience of computers which could be approached for help. The support mechanisms which these women had built up and which they used to gain support in other areas of their lives proved not to be of use to them in this respect. For computing purposes they realised they would have to build other networks of support, perhaps involving local authority officers they were in contact with or teachers who used computers. However these networks were not easily built, there were problems here of trust and, in the absence of a dedicated support worker, of merely finding those others who

could use computers and who would take time to pass on their skills for free. Wherever possible women did share their skills and help to train others, for example a worker in a resource centre close to Salford Women's Centre, trained volunteers to use a scanner and to set out newsletters but her ability to do this was severely limited, in a large part because of lack of time. The computer company ICL identified this problem and promoted their Cyberskills workshops which trained local people to pass on their skills and to give ongoing support in their community. The city council in Salford had even considered buying in this product but these plans had not come to fruition by the end of the research. So support was grasped wherever it was found and remained a very piecemeal affair, with women asking for help from any source they deemed appropriate.

A digital divide?

So women could face barriers to full inclusion in "the information society" at many stages from purchase to use, lacking information on where to go to buy computers, how to set them up correctly, how to upgrade software or hardware and what to do if they came across a problem. There were many practical lessons which could have been learned which would have helped overcome some of these problems. However, this exploration of the barriers to use reveals the complex and multi-layered nature of exclusion experienced by the women in these areas. This exclusion could not be reduced by a simple input of technology and reflects so much more than the shorthand of the phrase "the digital divide" can incorporate.

The Digital Divide Network defines the exclusion from ICT as "...this gap between those who can effectively use new information and communication tools, such as the internet, and those who cannot." (2001).[154] However, this definition is too far-reaching and could include individuals from all social groups and those who may not want or need to use technology. It could equally include the business manager who

[154] The Digital Divide Network website is hosted by the Benton Foundation at http://www.digitaldividenetwork. org/content/sections/index.cfm?key=2

has never used a computer but who has a whole computing department to search for and analyse information as well as the pensioner who relies on social networks which are forged through more well-established means such as the telephone and the luncheon club, but who has never identified lack of computing know-how as a barrier within their lives. It could also include Castells' "fourth world", sections of the population whose lives are characterised by increased inequality, polarisation, poverty and social misery (1998:70). The consequences of not knowing how to use ICT varies dramatically for such groups. It is not just a question of knowing how to use ICT but of the inequality in access to a range of resources which can help people to lead the lives that they would wish. Castells' fourth world has been "switched off" by a combination of factors including de-industrialisation and the changing needs of capital and where traditional skills, and the people and areas which possessed them, have become devalued and excluded (1996:34). Certainly the research areas could be said to have suffered in this way, however, this is not the "digital divide" in the sense in which that phrase is generally used, as denoting a deficit in technology and computing skills. The divide, as outlined by Castells is based on a combination of economic inequality, loss of employment, lack of education, and the withdrawal of services which has taken place over the last twenty to thirty years. It is this which has led to the marginalisation of particular social groups which are not considered economically productive and it is this which has lead to the lack of confidence, low rates of educational achievement and deficit in local resources which characterise the lives of many of the women who took part in this research and which affect many similar areas.

This chapter has discussed barriers to the use of technology. Very few of these are based in fear of the technology or in a lack of interest towards computers and ICT and although material deprivation plays a part in shaping the technoscape of these areas and is a limiting factor in people's use of technology, this is not played out in any straightforward way. The women with whom I have worked for almost three years have struggled to overcome many of the barriers which lie in their way. Some have bought computers for their families or their community organisations, others

have attended computer training courses but many of the barriers which remain and which have limited their use of these technologies are rooted in a deeper sense that familiarity and ease with computers are the preserve of other people. Thus older people believe that the young are computer-literate, men see computers as women's technology and women see men as more technologically minded. It is not a simple question of the technology "haves" and the technology "have-nots". It is much more complex than this. Some of these women have bought the technology which they desire but still see themselves as peripheral to the computer age. Their sense of exclusion is based on a lack of education, confidence and experience in using ICT which have limited their sense of what they can acheive. So policies which place technology as a solution to exclusion and marginalisation and which aim to increase access to technology but not to address other aspects of disadvantage and withdrawal of opportunity, may succeed in connecting people to ICT and give them a different, and more challenging, window onto their world but will have little chance of promoting real and sustained changes in their lives. The evidence presented above, however, further suggests that increasing access to technology will not necessarily promote further use.

Moving beyond the divide

Much of the advice which is available for community development workers and community groups who are interested in using, or helping others to develop ICT skills or networks, warns against purchasing ICT equipment without careful consideration of technology requirements and the needs of the organisation (see for example Wilcox 1998, Gamse and Grunwald 1998, Ticher 2001). These authors and practitioners, having learned from their experiences in community development work suggest that the ICT requirements of most community groups are actually quite simple and can be delivered at a low cost to the organisation. They further advise that an assessment of the needs of existing, place-based, communities which the organisations represent is essential in order that the ICT which are put in place are immediately relevant to the work and interests of those who will be involved in using the technology and demonstrating its effectiveness to others. The human element is seen as vitally

important, and it is stressed that certain individuals, whether inside the community organisation, or advisors to the group, must act as "champions" (Partnerships Online 1999:3) of the technology in order that use of ICT will spread to those who have been less inclined to become involved in its implementation. These "champions" can provide information about ICT and their uses, demonstrate the possible uses of the technology to others, and show, through their own use of ICT, how they can save time and effort or open up new ways of working.

This idea of "community champions" was first raised in the UK as a result of the CyberSkills programme developed by South Bristol Learning Network (SBLN).[155] The initial funding for this programme was provided by the Department of Employment in 1993 as part of the government's Information Society Initiative. SBLN set up their CyberSkills programme[156] in order to research and develop practical applications of ICT and to provide technology centres to build a local ICT skills-base in their area. The South Bristol Learning Network was part of a national initiative (The National Learning Network or NLN) designed to apply ICT to learning across the UK (Lloyd and Rushby 1994:9). The NLN proposed a system of Flexible Learning in which "...people are motivated to take responsibility for their own learning and are fully supported in the process." (Lloyd and Rushby 1994:10). Under Flexible Learning, organisations are enjoined to support "enquiry-led approaches to learning", the practice of learning in context and to develop "relevant support infrastructures" such as study groups, counselling and help-lines in order to empower the learner, alongside more traditional systems of tutoring and provision of learning materials (Lloyd and Rushby 1994:10). The CyberSkills programme in Bristol adopted this approach to bring ICT training to a number of economically marginal areas of the city and in doing so began to develop the idea that members of these communities should be skilled up as trainers themselves - people who would take their experiences back into their own communities, act as ambassadors for CyberSkills and who would be used to bring others into the programme. These

[155] Telephone conversation with Dick Willis, previous board member of the South Bristol Learning Network 20.12.01. Cyberskills has since become a trademarked product franchised via ICL

[156] As its website describes it, "The CyberSkills Association has become the first global Information Society development network, creating a platform of integrated Information Society activities at local, regional, national and international level."

community trainers could also present themselves as familiar and trusted personnel, who could allay any concerns that the technology was something to be afraid of and who would tutor at an appropriate level. These trainers, being familiar with local issues and concerns, would also be in the best position to demonstrate how ICT might be useful to the particular context in which that community operated.[157] As the Social Exclusion Unit's Policy Action Team on Skills was later to report:

> Engagement [in adult learning] is much more likely to be effective where those involved in it have some credibility with local people, so the greater the involvement of local people in the management and delivery of learning, the better. (1999:15)

Motivations and connections - a discussion of the ICT "champion"

It is illuminating to reflect on the more positive experiences of the community groups in these two areas over the period of the research. I have discussed some of the limitations of ICT for the groups involved in the research but also identified areas, suggested by the research participants themselves, where interest in ICT could be further developed. Certainly very few of the women involved in the research displayed no interest in pursuing these possibilities further and none were openly antagonistic to the idea of using ICT to aid the work of their group. However translating interest or even enthusiasm over these ideas into actual use of these technologies is not always a success and the process has been recognised to be a difficult transition period in which interested groups must be well supported and advised. Gamse and Grunwald, among others, indicate the need for ICT "champions" to help in this transitional period and the Community Topic Team were keen that the city council in Salford should take on this role. During the course of the research a number of possible areas from which such ICT champions might have emerged were identified. Firstly these champions might emerge from the community groups themselves or from elsewhere in the local neighbourhood, or they might be placed

[157] Visit to SLBN 12. 03.98

into the neighbourhoods by those outside organisations concerned with driving through change perhaps by GEMISIS or the local city council itself or a professional organisation such as Communities Online.

"Expert" champions

Throughout the period of the research a number of organisations expressed a willingness to aid these two areas in adopting and making full use of ICT. A variety of models were utilised to promote community use of ICT. First, Salford city council advertised its intention to become "the best connected town in Britain"[158] and developed as a "digital city" with its own city website. By 1997 both research areas had their own community computing facility - the community campus in Little Hulton and, in Seedley and Langworthy, the Techtrain project provided a similar service. By 1998 various information services had emerged, the libraries serving both areas had PCs connected to the internet which libary users could access through the staff and the Jobshops in both neighbourhoods hosted the SuperTaps system which gave access to a database of employment opportunities. Community networks were also proposed through the work of the Little Hulton Information Development Organisation (LIDO) in that area and Communities Online in Salford. Yet it was not these models which motivated community interest in ICT. The majority of research participants had little knowledge of Salford's website and most had never accessed it, relying on more traditional methods to find any information on their city, using the literature found in various sites around their locality and the local free newspapers. Nor were the computing centres well used. Indeed, during the initial fieldwork stage of the research (from November 1997 to April 1998) it became apparent that many community members in Little Hulton were not aware that the Community Campus functioned as a community resource believing that it was a facility for the sole use of the school. Kearon and Smith wrote "It appears that the computing equipment is primarily used by the school itself during school hours..." and that although the site ran a number of community related training events "...details of access to equipment

[158] For examples of the way Salford advertised its intentions during 1995 see the Gemisis 2000 promotional leaflet "We live on the cusp of fundamental change..."

at the community wing were often vague..." (1998:21). In the Langworthy and Seedley area, only one woman recorded on the questionnaire that she had used Techtrain's facilities, and this was after the centre had had a presence in the area for more than three years . There were problems too, with the information systems introduced in these areas. In March 1999, the library servicing the Seedley and Langworthy area remained the only library in the city to have a PC connected to the internet but there was no access for library users themselves and staff had to be asked to carry out the searches for library users. Library staff found this role very time-consuming adding that most people who asked them to carry out searches did not really know how to ask for information and would probably have very little success conducting searches themselves (Kearon and Smith 1998:20). In Little Hulton there were three computers situated in the library's community room. These computers were supposed to be available to be pre-booked by any library user but in practice there were no staff to supervise their use and they were only used by the Homework Club on the few evenings when staff were paid to be on hand to supervise their use by local school pupils. In practice, then, the machines stood idle for most of the week. Kearon and Smith (1998:19) remarked that a number of adult library users had expressed an interest in using the PCs but were told by the staff that they could not. The authors also reported similar problems with the SuperTaps system based in the Jobshop in Little Hulton. This system was mainly used to provided pre-loaded information and although it could be used as a word-processor or to connect with the internet Jobshop staff demonstrated some resistance to allowing the public to use these functions. The Jobshop in Little Hulton worked on a system of pre-booked interviews discouraging casual callers and some staff were reportedly unhappy with hosting the SuperTaps system which they felt would encourage people to call in to surf the internet without booking time with staff. There was concern that this unscheduled use might tie up the machine when staff needed to use it, that the system might be misused or that casual use might lead to possible infection by computer viruses. At the end of the research none of the community networking proposals had come to fruition, nor had any of the proposed community databases.

In Little Hulton the LIDO group came close to playing a part in championing community use of ICT. The group argued that immediate benefits of the technology

for the local community should be made apparent and suggested that the Community Campus should be made available as an ICT training resource for the community and opened up for community use, enabling the community to access email and internet facilities. Alongside this development the group proposed that a Community Information database should be put together as soon as possible and that this be placed on a website and regularly updated. They pointed to a current vacancy for an information officer at the local library and advised that this be upgraded to a web information officer so that the new staff member could be given responsibility for developing and updating this resource and promoting the use of ICT locally. All these proposals sought to put the community at the centre of the city's ICT strategy but they were never implemented. Tensions arose between the objectives of the local ICT strategy to "...concentrate on raising awareness and interest in telematics through informal training and presentations" with the second objective to undertake "...further work concentrating on developing the community campus infrastructure and information/training facilities" (City of Salford 1998:2). Due to inflexibility within identified finances, the LIDO group was unable to secure funding for the first objective, which they argued was fundamental to the successful implementation of the whole strategy and which would justify expenditure on the second. These possible "ICT champions", cut off from the funding which they needed to secure their objectives, found that interest in the LIDO group soon dwindled and meetings ground to a halt.

The work of the "expert champions" in the city, then, failed to connect within these communities and did not prove to be the foundation upon which interest in and enthusiasm for the technologies was built.

"Community" champions

No doubt all those groups attending the community website design days in central Salford were genuinely interested in helping their particular groups enter the "information age" and to gain whatever advantage they could from these connections and I have no reason to doubt the level of interest expressed in the questionnaires and

interviews in connecting to the internet and learning how to get the best out of computers. However, not all the individuals and groups participating in the research made the same progress towards realising their stated interest. Where connections to ICT did take place, these were the result of particular individuals and groups within the community having been won over to the possibilities of using ICT within their community work. Initial awareness of the technologies certainly did come from initiatives which were generated externally to the community, however, once the initial spark of interest was ignited, it was community members who capitalised on this interest and began to motivate and train those around them.

The community group members who participated in this research were motivated by a sense of community, shared experiences, relationships of trust and strong kinship and neighbourhood ties. As Chapter Five shows, many of these women were already interested in computers and internet technology before the research began. The questionnaires and interviews raised the issues again, but these were already being discussed in both communities, even if progress towards adopting ICT was somewhat slow and haphazard. The initial discussions which led up to the proposal which was to help launch Little Hulton into membership of the information society might be thought to have effected some impact on the area's "technoculture" (Robins and Webster 1999), but the community groups in this area had little knowledge of these conversations and had not participated in them directly. Indeed, once alerted to the general outline of the proposal, through their involvement in the research, these groups had to face the reality that anticipated resources were slow in coming into the area and that available funds had been earmarked for structural projects rather than awareness raising, training and ongoing support to computer users. Faced with new initiatives which were introduced by outside agencies, however, community groups in both areas demonstrated a keen interest in taking proposals forward, although this interest was often subsumed by the necessities of holding their personal lives and their community organisations together.

Neverthless the particular dynamics of these groups, their existing interconnections, the strong sense of communality which existed in both area and the particular motivating forces which drove their work in the community were harnessed in order

to drive progress towards the adoption of new technologies. These groups may not always have adopted the newest technologies available, nor utilised them in the most innovative of ways, yet they were able to construct their own relationship to technology and to find ways to use it to some effect. In the Seedley and Langworthy area, this research and the project led by Communities Online placed new computing technologies on the agenda of a number of key community organisations, and while moves towards accepting and utilising these technologies appeared to be somewhat slower than in the Little Hulton area, a number of local organisations, such as Techtrain, had already developed a significant technology capacity and were looking for ways to roll this out to involve more local groups. Meetings to plan community websites had raised a great deal of interest, although they remained talks about proposals which were "on the table", rather than realised, at the end of the research.

In Little Hulton two groups did develop an interest in using ICT in their work. After their disappointment that the LIDO group proposals were not taken further and funded through regeneration monies for the area these groups decided to make their own alliances to bring about change. The move towards adopting new technology was seen, by some activists, as further proof that the community must achieve for itself, without the help of the council and other outside bodies and this further strengthened their resolve. This did not mean a rejection of outside help but did mean that these groups only looked for support from particular individuals outside of their neighbourhood in whom they had built up a level of trust. The Community Services Manager, employed by the council was one such individual and they continued to work with her after the demise of the LIDO group. The women's centre and residents associations arranged their own internet awareness sessions with this council officer. These were held in their centres despite the fact that lack of funds meant that these were not as they had been envisaged by the LIDO group but were much less substantial key affairs. They consisted of someone, usually the Community Services Manager, setting up a laptop with a mobile phone in the midst of a group meeting and working within the limits of this technology, which did not always function adequately, to demonstrate relevant uses of the internet. Despite the fact that connections were slow and not particularly robust, enough interest was generated for some of the groups to take their interest further than they had before. However, it

was these low-tech and poorly resourced, half-hour sessions which did more to fire people's imaginations than any of the high-tech and expensive projects which paid for state-of-the-art computer equipment and outside consultants.

Hope (1994) has spoken of the need to consider both the vertical and horizontal dimensions of power within a neighbourhood when attempting to work with a community to initiate change. The ICT "experts" could be said to represent the vertical dimensions of power in the neighbourhood. They put forward a number of projects which they believed would be of benefit to the communities concerned but were not successful as ICT champions largely because they presented technological solutions to the problems which they saw as predominating in the communities. Loader et al guard against "...the temptation of providing top-down technical directives." (2000:7) yet in Salford there was little consultation and engagement with the community groups who would be able to push forward use of ICT in their neighbourhood until after the Community Services Manager came into post. So until mid 1998 those promoting the strategy for developing the information society in the city were unaware of the needs, desires and motivations of the communities for which they were working. After the LIDO report was circulated it appeared that these needs, desires and motivations were ignored in favour of more technical solutions.

Yet despite this experience many community groups did take an interest in the messages which were coming down to them concerning the benefits of ICT and some acquired their own computing equipment and build the connections which they felt to be relevant to their lives. Where the adoption of technology occurred this was the result of the work of "community" champions, armed with enthusiasm for aspects of the technology and little technical expertise, but tied into the strong horizontal connections which existed within the neighbourhood. Yet these horizontal connections were often bypassed by the "experts" in their rush to develop ICT projects delivering tangible outcomes.

Conclusion Putting people in front of technology

This research has been written at a time when there has been an explosion of interest in information and communication technologies. This occurred at the stage when the internet especially was rapidly growing and becoming an increasing part of the world of work for many and was also being introduced into a significant number of homes in Britain. Along with this interest, all sorts of claims were being made around the transformation of social relationships, work and play as this medium of communication became increasingly utilised in different social settings.

But alongside this enthusiasm for the possibilities which the newly emerging technologies had to offer was a marked tendency to hype up the medium and its transformative capacities. Of course there were many groups with an interest in playing up these possibilities - IT and telecommunications companies could make profits from sales of computers and the relevant software, e-business held out the possibility of direct sales to the public and a reduction in operating costs, and national and regional governments which saw the benefits which might flow from the exploitation of these technologies within their economies wanted to encourage their rapid take-up so as to gain a competitive edge. Whatever the reasons which lay behind the push for these new technologies, the resulting hyperbole and rhetoric which surrounded them seemed to be increasingly absorbed at a number of different levels. The result was an increasing imperative to engage with the technologies and with their many uses at national, regional and local levels - the price of not doing so was to be part of the "information poor", to be on the wrong side of what was later to be dubbed "the digital divide".

This research has taken as its subject a number of groups who would be labelled the "information poor" and has explored the ways in which they have engaged with notions of the information society and how this might impact on their lives. It has

followed the policy agendas which aim to push the use of information and communication technologies forward in disadvantaged and excluded neighbourhoods and the claims which these make to thereby advantage or include their residents as a result. By following the experiences of community groups associated with two women's centres situated within the city of Salford, which have been encouraged to access these technologies for their own benefit, it has sought to ground debates around the information society in the reality of living and of developing community activity in socially and economically deprived neighbourhoods. The research has witnessed many ways in which the research subjects were attracted by the potential of the medium but also bears testament to the difficulties which they have experienced in realising this potential and translating it into real benefits for themselves or their organisations. Their experiences have led me into a discussion of the potential of ICT to add capacity and experiences within such communities, through an exploration of how these women, perceived to be on the wrong side of the digital divide, organise within their community and struggle to access these technologies. It has led me into a discussion of terms such as "the digital underclass", to question the notion of "information poverty" itself and to a critique a delivery of community ICT projects which give precedence to the technology above the needs of community.

Throughout the work I have tried to show how debates around the information society have rarely been grounded in the realities of their use. As the material presented in the first two chapters has shown, speculation as to the social impact of computing technologies has resulted in opposing claims which suggest unrealised benefits will result from their use or which predict loss of control and social disaster. Much of this speculation has centred on qualities which are said to be inherent in the technologies themselves. This research, however, has started from a different perspective. It starts from the position that technology itself can have no inherent qualities but that the social circumstances into which it is introduced are key to understanding how it may be accepted and adopted.

Writers and practitioners often wish to inspire their audiences to adopt particular ideas and ways of working, presenting them with examples of considered successes, the best seeking to prove a commonality between audience and exemplar, and I do

not intend to imply any criticism of this activity per se. However there seems to be little point in making claims as to the benefits which can accrue from a particular aspect of a technology without an understanding of the motivations, capacities and constraints which affect the potential population of users. Without this comprehension theoretical speculation may simply prove to be inherently flawed and based on a misunderstanding of the social world to which it is applied. Certainly those engaged in encouraging use of the technology for social benefit need to gain some insight and understanding as to why their ideas are embraced by some groups and not others. From the perspective of the ICT enthusiast, not to take up these technologies can seem to signal a failure on the part of the particular social group concerned to engage with the technology and to recognise its inherent worth. This can lead to talk of a "digital underclass", groups of people who will not engage who place themselves outside of the benefits of the digital age, or of an "information poor", those who might engage but have not yet been convinced of the benefits which would accrue to them as a result. This research has attempted to explore the claims made of ICT by taking the perspective of those dubbed "information poor", contemplating their aspirations for their community and the forces driving and constraining community action and agendas. It has not, as with so many other evaluations of the medium, started with what the technology can do and, taking its benefits for granted, then looked to fit the experiences of communities into an existing model for widening access.

Despite the claims of many enthusiasts for computing and ICT, the introduction of computing technologies into the research areas has not lead to a transformation in their community life, nor to the ways in which the subjects of the research generally relate to one another and to the world around them. Life in these neighbourhoods continues much as before, and although a few more people and community groups are using new technologies this has not led to a wholesale shake-up of community activity or sent community organisations into new trajectories of development. The communication networks in the research areas, the relationships of trust and social relationships remain doggedly familiar. Of course, as this research shows, the introduction of new technologies into these areas was not ideal. Mistakes were made, advice ignored and the desires of the community were not always taken into

consideration. The areas' residents were not involved in widespread consultation and did not feel as though they owned the technology and that they had had a real say in the ways in which electronic networks and community facilities were set up. As shown in earlier chapters, this goes against the advice of organisations who have built up experience and expertise in promoting community use of ICT over many years. It would be easy to look at the evidence presented over the preceding chapters and to conclude that the process was the problem, that if the advice of community networkers and organisations such as Communities Online had been followed that the technological profile of these areas might look very different today. This may be true and yet my findings question this assumption.

Throughout the course of this research I have accessed dozens of websites and publications which give examples of community groups working with ICT, creating their own web-pages, developing and upgrading their content to suit minority tastes and cultures, setting up workshops to train fellow community members in computing skills and website design, creating community intranets and benefiting from shared provision of internet services, building cheap and affordable computers, motivating young and old to find out more about new technologies and so on. All these projects can bring obvious benefits to those who are involved in their development or in using the ensuing facilities and they should be recognised as considerable achievements. Such projects are held up as success stories with the implicit message that similar communities can, and indeed, should emulate them. Their capacity to transform neighbourhoods and communities, however, should not be overestimated. With these examples in mind, the outcome of the interventions in Salford between 1996 and 1999 could be put forward as an example of failure, demonstrating both the failure of the professional and experts in the area to fully engage and motivate the community to take advantage of the new technologies available to them and demonstrating the failure of the community to engage fully with the new possibilities for networking and community-building with which they were presented. I argue, however, that this perspective betrays both technological determinism and a naive view that ICT can present simple solutions to complex problems of exclusion.

Putting technology first

The early chapters of this work explore different contributions to the question of how technology impacts on society. Much of this speculation is conducted at an abstract level but the question remains, how does the introduction of a community network, a community computing facility, the internet or e-mail affect the ways that communities work? A great deal of the literature debating the promotion of ICT uses case-study material which demonstrates how technology has been used in the search for a solution to social problems. Technology is put at the centre of change and people's reactions to that technology are measured, evaluated and assessed. With new technology the medium itself is so often invested with the power to transform relationships and to ensure that networks of communication are thrown as wide as possible. The successful implementation of ICT projects is so often heralded as demonstrating the potential of that technology rather than having occurred as a result of the imagination, flair and commitment of the people who have used the technology to address an issue of concern. This attitude permeates much of the writing on this issue even when the authors state a different intention. In the introduction to her book *Nattering on the Ne*t, Dale Spender (1995) says she has written a book about humans not technology, Schuler exhorts us not to ".. think of technology as an end in itself or as an autonomous force; nor ... exalt the machine at the expense of the human and the humane" (1996:ix). Nevertheless, both writers suggest that people must embrace technological change or else be left behind, that individuals must act, take on the technology, shape it to their own demands, make it work for them. The role of the human, then, is to interact with the technology in order that the possibilities which it holds out will be demonstrated and recognised as valuable.

Technology alone does not have the power to change anything, it cannot open people's minds, nor rid them of prejudice and petty concerns and it certainly cannot free people from everyday constraints and inequalities which they face in their day to day lives. People can use technology to further their aims and ambitions, but they must have aim and ambition in the first place. Castells (1997) has used the example of

the Zapatistas creation of La Neta - a computer-mediated communications network linking insurgent Mexican groups to each other and to interested parties around the globe - and Robins (1999) has pointed to the existence of a virtual Kurdistan on the internet to argue that people use technology in order to confirm a sense of belonging and community and to construct political and social networks. The technology may have helped these groups advertise their existence and gain support for their cause but they had to exist first in real space and time, to experience the discrimination and marginalisation which has driven their collective action and inspired them to construct their virtual worlds. The causes to which they were committed have given them the motivation and inspiration to use technology to further their aims. These groups were not presented with the technology first, then decided to use it to create national and political identities. These networks function in cyberspace because there are pre-existing affinities and groupings which give meaning to those which are subsequently based upon electronic media. Yet the examples given of successful ICT projects often do not consider pre-existing connections and motivations and give the impression that they arose as a consequence of an application of technology rather than gave an electronic "face" to existing social networks. I would argue that this perspective suffuses works promoting the use of ICT in the community context and that as a consequence it limits understandings of the complex processes which shape the take-up of technology in different neighbourhoods. It is a perspective which gives rise to the notion of a "digital divide", which I have argued is so mistaken and offers technology up as the potential saviour of the excluded, thus offering a simple solution to complex problems of exclusion and material poverty. Of course there are examples emerging of communities which do exist purely in cyberspace as Wellman describes. This research has not been concerned with the formation and maintenance of such computer-mediated communications, however I would suggest that these are also built around topics of interest and concern which exist in the physical "real" world and which inspire the user to visit a particular website or bulletin board from which these virtual connections then arise.

Against the notion of a digital underclass

As this research has shown there are many very real barriers to the participation of groups such as those involved in the research in Salford in an information society. There are obvious barriers such as those provided by lack of wealth and opportunity, but there are other, equally entrenched barriers which militate, not only against increased use of ICT, but which work to hold these communities within a state of disadvantage and marginalisation. Castells speaks of the "the black holes of informational capitalism" (1997b:10) created and sustained by social exclusion. I believe his analogy is poorly constructed and holds out too little hope for those who are affected by such exclusion. Working within neighbourhoods and communities which have certainly been devastated, in many ways, by the consequences of loss of employment and the withdrawal of public provision, my research still uncovered a curiosity and interest in ICT which the research participants hoped could be exploited to their advantage. Despite the barriers to access, explored in some detail in Chapter Seven, the research has also demonstrated how a number of groups did gain access to ICT. There is also a continued commitment on behalf of policy-makers to make ICT accessible and inclusive. However, real inroads into ensuring equitable and accessible provision are still to be made. The providers of ICT for marginalised communities have still to acknowledge and fully engage with the complex process of exclusion in these marginalised neighbourhoods which must be addressed if digital cities and cyber-communities are not to act as yet another zone of exclusion.

However, to characterise these areas as peopled by a digital underclass is, as I hope my research has shown, too limited and narrow a characterisation. It may suit certain political perspectives to suggest that there has been a rejection of information society and its social and economic advantages but the interests and experiences of the women involved in this research tell a very different story. The rhetorics of information society suffused these neighbourhoods. Their residents felt "left behind", excluded from the digital economy and marginal to the technological advances which they saw on their television screens, read about in their newspapers and saw advertised on billboards around their cities. The women who took part in this research would probably have identified themselves as part of a digital underclass, had that

particular term been part of their vocabulary Indeed these women did not appear to question any information society discourses. They had keyed into an understanding of information society which promised better employment, more meaningful and wide-ranging communication and access to more relevant information for those who took part. They saw their friends and family in occupations which were poorly paid and disempowering, that their circle of contacts was based around locality and kin and felt that they were not privy to much expertise and knowledge which might help them to overcome many of the difficulties which they and their families faced in different arenas of their life. The ideology surrounding information society, however, encouraged by the telling of individual success stories, promised a transformation of experience and engagement as a result of the adoption of ICT. It is not surprising that under these circumstances the research participants aspired to extend their own and their family's access into the world of information and electronic communication.

This research then, questions the assumptions which have been made as to the existence of a "digital underclass" characterised by the Social Exclusion Unit and others as lacking awareness of ICT and its potential benefits. On the contrary, it suggests that the research participants were only too aware of these discourses suggesting positive advantages would flow from connection to ICT and that this coloured their perception of the possible advantages of becoming technologically literate. However, this also lead the research participants to set goals which were much more difficult to achieve than merely learning how to use different forms of software. Not only did they have to learn how to use the technology itself, but they felt that success depended on their ability to utilise these skills to improve their life-chances and those of their kin - a fundamentally different task which set unrealistically high expectations and placed a great deal of emphasis upon technical skills. This resulted in the construction of others as computer experts - those who were able to gain advantage from employment or networking in the information sector were presumed to be very skilled in the use of computers and ICT. As a result those who were becoming more familiar with technology believed that their level of skills must be inadequate and below that necessary to allow them to achieve their stated aims as technological competence was given precedence over such interpersonal skills as building social networks and motivation to succeed.

Misrepresenting the information poor

To many commentators on the information society, to be cut off from technology and ICT is to be chronically disadvantaged. Certainly, levels of educational achievement within these communities were a source of concern for local people and educational authorities alike and employment prospects were consequently limited. At the end of the research many of the groups had not incorporated ICT into their work and many of the participants remained technologically inexperienced. Given these circumstances the term "information poverty" might well seem to be applicable to these communities. However, this research suggests that the nature of information poverty and its consequences have been largely misrepresented. Furthermore, the association of material poverty with information poverty has suggested that a "culture of poverty" (Lewis 1965) suffuses materially and digitally deprived neighbourhoods. However, as Lewis has argued with respect to the materially deprived, this betrays a lack of understanding of the dynamics of such communities and of what motivates local activity and organisation.

I have argued that, rather than being seen as the "information poor" the majority of women with whom I have spoken in these two areas had access to a great deal of locally contextualised information, "situated knowledge", which was relevant to their day to day lives and to the strategies which they employed to enable them to live their lives as fully as possible. Women routinely shared their knowledge, giving advice and support on a whole range of issues on which they had a level of interest and expertise. On a more formal level both women's centres were meeting places for a variety of support groups from those tackling issues around depression and bereavement to creative writing and arts classes. A stated interest in national and international perspectives and sources of information was more rare, however. The women who have taken part in the research were mainly motivated by matters of local and individual relevance. Where women had knowledge of ICT they were initially interested in how this technology could promote better networking within their local

area and between already accessible facilities and groups with which they were familiar. As a result, although there was some speculation as to the increased network and contact possibilities the use of ICT might bring, and of how the internet could be used by the centres to gather information, or to promote their own work, there was no whole-scale adoption of these technologies. Rather than being seen as a rejection of these possibilities, however, this seems to make sense where a primary concern was improving networking within their local area and between the already accessible and familiar facilities and groups which had an existing local relevance.

Putting people first - the significance of community action

Throughout the research the importance to the participating communities of social networks built on trust and locality have resurfaced and have proved to be significant on a number of levels. First an emphasis on lay knowledge and shared experiences has shaped community organisations and networks and second, the research participants have shown a scepticism towards expert knowledge systems and professional interventions. The community organisations which have participated in this research have, more than any other connection, looked to make contact and alliances with people like themselves, who are seen to share common experiences and a common value system. Outside of this arena any organisations and individuals encountered are treated with a certain amount of scepticism until they are seen as prepared to listen to local grievances and concerns and to act upon this information. Interventions by individuals and organisations with which they feel they have little in common and over which they have little control are therefore treated with extreme caution. Furthermore, the research participants value the achievements which they have brought about through their community organisations and are keen to see that these are recognised by others and not devalued or downgraded.

Under these circumstances any interventions which aim to draw attention to practices which lie outside of existing, familiar activities must be introduced with sensitivity to local context and locally held concerns. They must also acknowledge the part which

local activists and community members play in shaping their environment and social groupings. Many existing ICT projects, however, using the discourses of information society, have presented technology as the transformative element rather than the creativity and commitment of an area's residents and community activists. The notion, suggested by Schuler (1996) amongst others that electronic networks can help build social capital, ignores the extent and range of social connections which are already in evidence, perhaps because these are not vested with the same significance as the sorts of global connections which ICT can make possible.

For Castells, however, the fourth world - the world of material and digital deprivation - is created by the needs of informational capitalism which, in the pursuit of profit leaves many unconnected and bypassed. His black holes of informational capitalism may be created and sustained, not by the presence of a digital underclass but by a limited need for an information workforce. The acquisition of computer skills may allow a few to escape but may not be able to regenerate the economy of entire neighbourhoods and regions. Acquiring technological competence, individuals investing in "human capital" (Fukuyama 1995:26), may not transfer economic and social advantage to more than a few.

Concluding remarks

This research does not set out to suggest that the communities to which it was applied have all the answers to the marginalisation and deprivation which they experience. Indeed the withdrawal of employment and services from these neighbourhoods has affected their residents sense of self-worth and confidence and severely restricted their ability to act to improve their individual and collective circumstances. Nor should the research be taken as suggesting that there is nothing to be gained for individuals and community organisations in a familiarisation with the use of technology to inform and communicate. On the contrary, and as the data has shown, a number of groups involved in the research found more efficient ways in which to collect information and communicate with others through electronic media. However, it does suggest that the imperative to "connect" can be overstated. The

enthusiasm with which technology has often been placed before such communities has been inspired by debates which have largely taken place in the abstract and have not been grounded and connected to the needs of the residents of "real world", physically based localities. The importance of locality, of "situated knowledge", of networks built around trust and shared experience have been largely disregarded and the global, the expert and disembodied community unconstrained by the limits imposed by place, have been perceived as the most significant relationships in contemporary western societies. This has distorted perceptions of more traditional and locally-based, face-to-face interaction which has been considered limiting, insular and in many ways as looking backward rather than forward. From these perceptions has arisen a terminology which places responsibility for success or failure on the individual and the community (the digital underclass) and which suggests a need for experts and professionals to enlighten and educate certain groups (the information poor) in order that they can be enabled and empowered in the new digital age. This terminology, and the assumptions which lie behind it, have infused policy agendas around widening access to technology and informed many models which aim to introduce these technologies into marginalised communities. The result has been an disproportionate interest in technology and its powers to transform and a concomitant disregard of the human potential and abilities which enable technology to work and the personal and social relationships which will inspire its use.

This research has focused on a collection of community activists who have been encouraged to use new technologies, and has explored their relationship to technology in a fully social context. In so doing, it has raised a number of key issues for policy-makers and service-providers in this area. It has not been the goal of this dissertation to explore the policy agenda in great detail and to make policy recommendations, instead it has concentrated on some, more theoretical, perspectives which have arisen from the research. Suffice to say that the research findings were fed back to community organisations, GEMISIS and Salford City Council and were used by the Community Services Manager, the LIDO group and various community organisations, as a result. However, while this research could be used to inform practice in the field, I would also argue that its findings have more widespread relevance. These case-studies of disadvantaged communities struggling to enter the

information age have also led me to develop a critique of current thinking around the meaning and significance of "community" in late-modern societies. Although aware of the realities of inequality and exclusion, it has been assumed by Castells, Wellman and others, that the "network society" has altered social relationships for ever, that local affiliations have been replaced in importance by global social formations. This work, however, casts considerable doubt upon these assumptions. For the subjects of this research, locality and local affinities remain truly significant. They are bound into close-knit networks which are, to a large extent, based around neighbourhood and kinship. These are not the fully chosen, elective social networks of which Wellman writes and which Castells endorses as having replaced place-based sociability. It may be that these areas, being as disadvantaged as they are, present a special case where the limitations imposed by poor employment prospects, poverty and inadequate service provision have particularly restricted the views and perspective of their residents. If this is so, then the practice of utilising interest in technology to expand horizons and to "connect" such neighbourhoods needs to fully take this into account. However, I hope I have shown through this research, that the interests and concerns of the residents of these areas do not differ to any great extent from "mainstream" concerns. While conducting this research I have utilised ICT to a great extent, researching communities in cyberspace, connecting to libraries and research material over the internet, using email to maintain connections across the globe with people working in similar areas to discuss ideas and disseminate my findings. I regularly use the web to contact students, friends and family abroad, to explore ideas and locate organisations and individuals with interests similar to my own. However, the women who have featured in this research have reminded me that, despite these global connections I too have based significant relationships around kinship and local connections. I have developed my ideas and interests as a result of my day-to-day activities and experiences and formed key contacts and friendships through face-to-face encounters. While maintaining significant long-distance relationships by whatever means are available and remaining interested and active around global issues, the importance of physical location, building networks of trust and support and maintaining sociability close to where I live and work remain essential elements constructing my identity and understanding of the world. I believe that this would hold true for most people and therefore I cannot agree with Castells and others that

these key connections play only a minor role in structuring relationships in a network society. There may well be a "technological elite" who forge their relationships differently but I must conclude by stating that I believe *these* are the minority in society and that they will remain so for some time to come.

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