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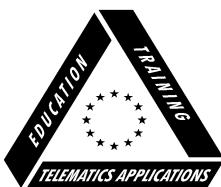


SCHEMA

Social Cohesion and On-Line Community

Sara Ferlander and Duncan Timms

**More information about the Schema project can be found under
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Executive Summary

This paper is an overview of the literature related to communities online, mainly locally based, and social cohesion.

The first chapter is an introduction to the paper dealing with its main ideas.

Chapter two is a discussion of the concepts of community and social networks. Social cohesion and social inclusion/exclusion are defined in the next chapter.

The fourth chapter deals with the decline of community, social cohesion and social capital.

The connection between community and computer mediated communication (CMC), and the relationship between CMC and a number of social phenomena, such as meaning, identity and interest groups, is discussed in chapter five.

The sixth chapter defines communities online, distinguishing two forms of communities: geographically based (computer supported local communities) and dispersed communities online.

Issues about social participation in the information society are discussed in the seventh chapter, primarily issues concerning access to C&IT and inclusion of marginal groups.

Chapter eight defines computer supported local networks in terms of their characteristics and goals. The last section in the chapter also outlines some of the previous research about computer supported local networks.

In chapter nine two examples of computer supported local networks in Sweden are described.

The last chapter introduces a number of research questions concerning social cohesion and on-line community which will be examined by SCHEMA.

Contents

1. INTRODUCTION.....	1
2. THE CONCEPT OF COMMUNITY	3
COMMUNITIES AND SOCIAL NETWORKS	4
3. SOCIAL COHESION	7
THE NOTION OF SOCIAL COHESION	7
SOCIAL INCLUSION AND EXCLUSION	7
4. THE DECLINE OF COMMUNITY	11
THE DECLINE OF SOCIAL COHESION	11
THE LOSS OF COMMUNITY	11
THE PRIVATIZATION OF COMMUNITY	12
SOCIAL CAPITAL	13
5. COMMUNITY AND COMPUTER MEDIATED COMMUNICATION.....	15
COMMUNITY AND COMMUNICATION	15
COMPUTER MEDIATED COMMUNICATION (CMC)	15
THE DEVELOPMENT OF ON-LINE COMMUNITY	15
MEANING AND CMC.....	16
IDENTITY AND CMC	17
COMPUTER-SUPPORTED SOCIAL NETWORKS.....	18
LOCAL COMMUNITIES AND INTEREST GROUPS ON-LINE.....	19
6. COMMUNITIES ON-LINE	21
THE REALITY OF ON-LINE COMMUNITY	21
GEOGRAPHICALLY BASED AND DISPERSED COMMUNITIES ON-LINE	22
COMMUNITY NETWORKS AND COMPUTER-SUPPORTED LOCAL COMMUNITIES	23
7. SOCIAL PARTICIPATION IN THE INFORMATION SOCIETY	25
THE INFORMATION RICH AND THE INFORMATION POOR	25
BARRIERS TO ACCESS.....	25
ON-LINE COMMUNITY AND MARGINAL GROUPS	27
ON-LINE COMMUNITIES AND SOCIAL CAPITAL	28
<i>Critical Voices</i>	28
<i>Positive Voices</i>	28
LOCAL OR WORLD-WIDE ACCESS?	29
CONCLUSION: LOCAL COMMUNITY NETWORKS AND SOCIAL COHESION	31
8. THE SOCIAL MISSION OF COMPUTER-SUPPORTED LOCAL NETWORKS.....	33
THE COMMUNITY NETWORKING MOVEMENT	33
DEFINITION	33
THE GOALS OF ON-LINE LOCAL COMMUNITY NETWORKS.....	34
RESEARCH ON THE SOCIAL IMPACT OF ON-LINE LOCAL COMMUNITIES	37
9. FÄLTBY AND BERGDAL.....	43
FÄLTBY	43
<i>The Community</i>	43
<i>Infrastructure</i>	43
<i>Local Issues</i>	44
<i>Social Inclusion</i>	45
BERGDAL	45
<i>The Community</i>	45
<i>Infrastructure</i>	46

<i>Local Issues</i>	46
<i>Social Inclusion</i>	46
SUMMARY	47
10. RESEARCH QUESTIONS	49
11. REFERENCES	51

1. Introduction

The convergence of communications and information technologies (C&IT) has been heralded as providing both a threat to existing forms of community and a means to providing a new basis for social cohesion. Commentators stressing the first point of view emphasise the potential of C&IT for the extension of existing divisions and for the creation of new forms of social exclusion and marginalisation, differentiating between the information-rich and the information-poor (e.g. King & Kraemer, 1995; Schiller, 1996). Commentators stressing the second perspective concentrate on the potential of C&IT to increase social inclusion through the ability of users to link up with others regardless of the barriers of time and place (e.g. Rheingold, 1993). The effect of C&IT on local communities provides a critical area for evaluating the relative validity of the two views.

The use of C&IT for social interaction provides the potential for new social formations. Bikson and Panis (1997: 410) point out that electronic “networks are not just information technologies but also serve as social technologies (or technologies for affiliation)...” Haythornthwaite *et al.* (1998: 219) note that the new technologies enable new structures, new relations and a ‘brave new world’ to come into existence. It follows that attempts to analyse the impact of C&IT need to escape the common tendency to look for the repetition on-line of behaviours which characterise off-line circumstances. On-line relationships and social structures may be expected to differ from their embodied counter-parts in a number of ways.

Wellman (1997: 179) points out that “When a computer network connects people, it is a social network.” The transformation of electronic networks into social networks provides the foundation for the development of on-line or virtual communities, communities which many commentators have suggested may be just as real, despite their virtual label, as ones based on embodied interaction. According to McLaughlin *et al.* (1995: 93) the question is not whether or not community exists on-line but, rather, it is “What constitutes virtual community?”

Jones (1995) suggests that the relationship between C&IT and local communities is salient for two reasons: first that new sources of community are required in post-industrial society and second that the convergence of the technologies enables new kinds of community to be created, free of the physical constraints which have helped to determine the nature of community in previous societies. Interest in the concept and reality of community is closely related to a concern with social cohesion and with beliefs about the impact of developments in communications technology on social inclusion and exclusion. To some writers (e.g. Doheny-Farina, 1996 in *The Wired Neighbourhood*) the on-line community will never be able to replace the local neighbourhood in meeting the needs of its members for conviviality and mutual support; to others (e.g. Rheingold, 1993) the on-line or virtual community can provide a rich basis for the development of meaningful social contacts which can overcome the alienating forces of modern existence.

2. The Concept of Community

The concept of community has been a major concern of sociological research and theory since the inception of the discipline and has acquired a plethora of meanings. Poplin (1979: 3) states: "As an element in the sociological vocabulary, this term has been used in so many ways that it has been described as an omnibus word.". The use of the term has been so varied that Freilich (1963: 118) cautions "since a requisite of science is specificity of terminology, we must conclude... that at this time 'community' is a non-scientific term unless separately defined in every paper which uses it."

At its most general level the concept of community refers to a set of social relationships based on something that the participants have in common— usually a common sense of identity or belonging. Attempts to provide a more specific meaning to community have generated a vast amount of literature but little agreement. In a much-quoted attempt to assess the extent of agreement on the meaning of the term in sociological research, Hillery (1955: 111) analyses the components of community used in 94 studies. He reports (*Ibid.*: 117) that the only concept which is universally present is that community is to do with a group of people. There are, however, a number of other attributes which are subscribed to by more than two-thirds of the studies analysed:

"of the 94 definitions, 69 are in accord that social institutions, area, and a common tie or ties are commonly found in community life." (*Ibid.*:118)

In general, two basic dimensions appear to underlie the use of the term community in both lay and academic discourse, one relating to commonality of location and the other to commonality of interest. Both dimensions are presented as forming a foundation for the development of webs of relationships, based either on propinquity or shared interest. Arising from these patterns of interaction is said to be a sense of identity and a feeling of belonging.

A concentration on propinquity as the basis for community relates the term to territorial locality or physical space. The reference is to collective networks of social relations, actual or hypothetical, between groups of individuals who exist within a given geographical area. Often it is the sole factor of common residence which is used as the defining characteristic, it simply being assumed that the other characteristics of common social relations will follow. According to Webber (1964: 108)

"The idea of community has... been tied to the idea of place. Although other conditions are associated with the community – including a 'sense of belonging', a body of shared values, a system of social organization, and interdependency – spatial proximity continues to be considered a necessary condition."

The emphasis on territoriality is particularly common in discussions of the "traditional community", whether these are seen as being urban neighbourhoods (*e.g.* Suttles, 1972) or folk villages (*e.g.* Redfield, 1941). Descriptions of traditional communities stress the active engagement of people living in the same area in a variety of shared economic, social and political activities. It may further be hypothesized that the group constitutes a more-or-less autonomous social unit possessing a number of common values and with its members experiencing feelings of belonging to one another. Individual identities, as perceived and constructed by

self and others, are closely entwined with those of place. Relationships within these kinds of communities are described as being characterised by a high degree of personal intimacy, emotional depth, moral commitment, social cohesion, and continuity in time. Some commentators have suggested that these are precisely the features that have disappeared in the transition from a rural to an urban-industrial society (e.g. Wirth 1938; Marshall, 1994).

The second meaning of the term community relates to the sharing of interests, defining a community through the possession and/or recognition of common interests which may themselves reflect social, professional, occupational, ethnic, or religious characteristics. In these terms one may speak of the 'academic', the 'Jewish' or the 'football' community. Attempts to develop *learning communities*, part of the strategy adopted by several European Governments and educational institutions in response to the perceived needs of the 'Information Society', represent a deliberate effort to build communities based on shared interests. In this use community does not rely upon conceptualizations of physical space, but, rather, on notions of social space. A person is a member of an interest community by virtue of his or her social relations (Guy, 1996). The concept has much in common with that of social networks, discussed below.

Communities and Social Networks

The emphasis on social interaction as the basis for the definition of community suggests that one way to examine communities is to concentrate on the patterning of the social relationships between people. This is the essence of the social network approach (Mitchell, 1969; Haythornthwaite & Wellman, 1998; Garton *et al.*, 1997; Rice, 1994; Wellman, 1997):

“The social network approach provides ways for analysts to think about social relationships that are neither groups nor isolated duets. Instead of an either/or distinction between group membership and social isolation, researchers can bring to bear in their analysis a set of structural variables, such as the density and clustering of a network, how tightly it is bounded, and whether it is diversified or constricted in its size and heterogeneity, how narrowly specialised or broadly multiplex are its relationships, and how indirect connections and positions in social networks affect behaviour.” (Wellman, 1997: 180)

The concepts of social network and community are inter-linked, but are not identical. Wellman has characterised the community as a 'network of networks', the intermeshing of individual's personal sets of relationships. In this perspective, a community is composed of individuals who are linked together by overlapping social relationships, thus forming a multiplex social network (Marshall, 1994).

Individual's networks can be formed and maintained on the basis of single interests or activities; for social networks, whether based on physical face-to-face contact or other forms of communication, to become a community, the links between their members require to be many stranded, extending beyond the original tasks which may have brought them into contact. A community will thus consist of many different kinds of social network (Abercrombie *et al.*, 1988). Individual's social relations, personal and intimate or impersonal and formal, can be thought of as strands in the webs of their networks. The networks radiate out from the individual to close associates and then to the community beyond. The community can be

conceived as the complex mesh of these personal social networks, forming what Fischer *et al.* (1977: 17) describe as an intricate latticework.

Castells (1996) believes that the networking of social relationships is a logical consequence of the application of C&IT. In the conclusion to *The Rise of the Network Society, Volume 1 of The Information Age: Economy, Society and Culture*, he states (1996: 469):

“Our exploration of emergent social structures across domains of human activity and experience leads to an overarching conclusion: as a historical trend, dominant functions and processes in the information age are increasingly organised around networks. Networks constitute the new social morphology of our societies...”

3. Social Cohesion

The Notion of Social Cohesion

Social cohesion has become one of the catch phrases of social policy, but has no generally agreed-upon meaning. The term is often used informally, usually in reference to situations in which individuals are bound to one another by common social and cultural commitments. The definition used in the current research relates to the following characteristics:

- Individual commitments to common norms and values.
- Interdependence arising from shared interest.
- Individual identification with the group (Mitchell, 1968:165).

Etzioni (1961) defines cohesion as “a positive expressive relationship between two or more actors.” This deliberately avoids the term group, since cohesion itself is often taken as one of the defining characteristic of groups. It also does not imply shared values or goals, but only common norms specifying the conditions of the relationships in question (Mitchell, 1968). It is the features of identification and membership which most closely relate social cohesion to the concept of community. The Australian Local Government Association (1998) makes the link between the two concepts explicit in a policy statement on the role of local government in the promotion of a cohesive society: social cohesion is described as “the process of looking after the community, establishing support mechanisms and networks, and living and working in an environment of trust.”

Social Inclusion and Exclusion

A number of other terms are closely related to social cohesion, including social inclusion / exclusion and social integration. Social inclusion is often treated in rather crude economic or employment terms, with inclusion being defined in terms of possession of minimum wealth or a job. Its opposite, social exclusion, is defined either by the absence of these characteristics or as the process by which specified targets are denied these attributes. Social integration has been used in a variety of forms, mainly relating to participation in societal structures.

As Room (1995) points out, the term social exclusion is relatively recent and seems to have been introduced into European policy statements largely as a way of overcoming the stigmatising and unidimensional features associated with the term poverty. The Joseph Rowntree Foundation (1998) report on poverty and exclusion in rural Britain makes the point that “it is important to make two conceptual distinctions, firstly between poverty and social exclusion, and secondly between process and outcome.” During the 1980s and 1990s the concern of policy makers has shifted from an emphasis on the distribution of resources between individuals and households to one stressing the multi-dimensional processes of social exclusion within the context of local communities.

Reflecting an earlier tradition, Townsend (1993) makes a specific and explicit link between poverty and social inclusion in his concept of relative deprivation:

“People are relatively deprived if they cannot obtain, at all or sufficiently, the conditions of life... which allow them to play the roles,

participate in the relationships and follow the customary behaviour which is expected of them by virtue of their membership of society.”

There are many other factors than poverty or lack of a job which may result in people being excluded. Bruto da Costa (1994: 4; quoted in Bergham, 1995)) points out in his presentation of the EC Programme to Foster Economic and Social Integration of the Least Privileged Groups (the Poverty 3 Programme), that social exclusion is about “much more than money”.

Bergham (1995: 19) outlines the definition of social exclusion used by the Poverty 3 team in terms of a number of processes reflecting

- “the failure of one or more of the following systems:
 - the democratic and legal system, which promotes *civic integration*
 - the labour market, which promotes *economic integration*
 - the welfare state system, promoting what may be called *social integration*
 - the family and community system, which promotes *interpersonal integration*.”
- (italics added).

An extensive quote from Commins (1993: 4), based on research into patterns of social exclusion in Ireland, provides further elaboration:

“One’s sense of belonging in society depends on all four systems. Civic integration means being an equal citizen in a democratic system. Economic integration means having a job, having a valued economic function, being able to pay your way. Social integration means being able to avail oneself of the social services provided by the state. Interpersonal integration means having family and friends, neighbours and social networks to provide care and companionship and moral support when these are needed. All four systems are... important.”

The definition of social integration in terms of welfare provision seems remarkably narrow and to give far too prominent a role to the activities of the formal welfare services. This aspect of integration might more appropriately be termed welfare integration, leaving the term social integration to refer to the wide range of social and community factors which are concerned with integration in social networks and which provide the basis for the development and maintenance of individual identity.

The UK Government established a *Social Exclusion Unit* in 1997 with the aim of clarifying the nature and causes of social exclusion in Britain and promoting policies to reduce the extent of social exclusion and to alleviate its effects. One of the first approaches to the new Scottish Cabinet, announced in May 1999, is of a Minister for Social Inclusion, Local Government and Housing.

Much emphasis has been placed on the development of co-ordinated strategies designed to fit the requirements of individual communities (“joined-up policies for joined-up problems”). An initial emphasis has been on the development of integrated and sustainable approaches designed to tackle the multifaceted problems of the “worst housing estates”. The focus has been on the development of local community strategies, involving collaboration between local residents, voluntary organisations and other agencies, businesses and local government. A prospectus

for a scheme designed to revitalise local communities was published in September 1998 (SEU: *New Deal for Communities*).

In a separate development the SEU has set-up a number of special action teams focussing on specific problems considered to be at the basis of social exclusion. Among the teams one, *Action Team 15*, is examining the role of C&IT in tackling social exclusion, including:

- the identification and dissemination of best practice in providing access to IT, and IT skills, for people living in deprived neighbourhoods
- lessons learnt about how effective shared access points are such as kiosks in community centres such as schools, Libraries and Post Offices; and greater access to the Internet
- models for strengthening community ties by better access to communication networks.

Action Team 2, on skills, is charged with examining:

- identifying key skills gaps for those in deprived neighbourhoods
- how well education and training institutions, schools and libraries are meeting these needs
- how well alternative methods– informal learning, outreach units, IT and distance learning– can help to re-engage adults in education and training, and how to spread good practice.

A strong link is recognised between social exclusion and education. According to the Secretary of State for Education (Blunkett, 1998) “ Knowledge and skills are now the most precious resource we have to secure future prosperity and social cohesion.” In an Information Society anything which prevents the individual from participating in the underlying network of information and support becomes a force for their exclusion.

From a sociological perspective social inclusion refers to participation in the encompassing community and society. It is important to reference the social context in which inclusion is being considered: in conditions of segregation, individuals may be well-integrated into their local community and yet isolated from the wider society. Social cohesion requires that participation extends across the confines of local communities, knitting them together into a wider whole. This is a function which developments in C&IT seem well-designed to facilitate, although it must also be acknowledged that the extent to which they alone can increase cohesion is severely constrained by wider political and economic considerations.

4. The Decline of Community

The Decline of Social Cohesion

It is a commonplace in both social theory and popular commentary that most people in Western societies today live in a faster-moving, larger-scale and more differentiated world than their ancestors and that, as a result, there has been a reduction in social cohesion. Macro-sociological theories of the development of industrial and post-industrial society are divided on the question of whether the increasing scale of society, mediated by increasing numbers and increasing forms of interaction, is simply reflected in a change in the bases of social cohesion— as for, instance, in the change from mechanical to organic solidarity postulated by Durkheim— or whether the impact of modernization has been to weaken the forces of cohesion (e.g. Sennett, 1978). The argument is closely related to the distinction made by Tönnies (1957) at the end of the nineteenth century between *Gemeinschaft* and *Gesellschaft*: in the former social cohesion is based on well-established social hierarchies bound together by language, consensus and cultural homogeneity often within bounded local areas; in the latter solidarity is replaced by a complex of individualistic, impersonal and contractual relations, often based on notions of rational self-interest and efficiency. Tönnies argued that the processes of industrialisation and urbanisation would result in the destruction of *Gemeinschaft*. In this perspective, the demise of the local community is a consequence of the increase in scale of social relations. The development of new media for the creation and maintenance of social relations over distance requires the argument to be reopened.

Commentators (e.g. Guy, 1996) emphasise the impact of urban settlement patterns and of new communications and transportation technologies, particularly the telephone, television, Internet and automobile, on the nature of communal relations. It has been argued that these changes and a commensurate focus on the creation of individualized private worlds and experiences have seriously undermined the traditional sense of community and belonging (e.g. Sennett, 1978; Foster, 1997). The claim is related to a concern about lack of cohesion and identity among large sections of the population (Mitchell, 1968:32) and to the phenomenon of the “loss of community”.

The Loss of Community

According to Sennett (1978), urbanization and the rise of industrialization has been accompanied by the development of mass society, in which people have become atomized and the social order is characterized by anomie. Public culture declines as individuals exhibit a nostalgic desire for a romanticized notion of community as “like-minded individuals”, rather than the detached notion of community as bounded, local territory. Sennett (1978: 255) writes:

“Myths of an absence of community, like those of the soulless or vicious crowd, serve the function of goading men to seek out community in terms of created common self. The more the myth of empty personality ... becomes the common sense of a society, the more will the populace feel morally justified in destroying the essence of urbanity, which is that men can act together, without the compulsion to be the same.”

Community identification and civic involvement have been cited as essential features for the maintenance of social cohesion (Putnam, 1993; Blanchard & Horan, 1998). Lack of citizen participation in the community, such as low levels of voter turnout or attendance at local meetings, has been taken as proof of decline in social cohesion and engagement. Efforts to overcome this decline are characterised by Broom and Selznick (1977: 151) as attempts to recreate social cohesion: “The quest for community is a countertrend to modern mass society.”

The Privatization of Community

Oldenberg (1997) conceptualizes the loss of community cohesion in terms of the decline of what he calls the “great good place”, the third place, after home and work, in which members of the community meet on neutral ground. Oldenberg describes these places as being “the core settings of informal public life”. In traditional communities he hypothesizes that such settings as the pub, the church, local workers’ clubs and cinemas provided public arenas for members of the community (or at least the adult male members) to meet, to celebrate ties and to make joint decisions. They may also be characterised as the sites for seeking informal social support and care. The growth of suburbs and the extension of electronic means of communication lead to a progressive diminution in the availability of these sites for free association.

Wellman points out that although there may well have been a reduction in the use of third places this does not necessarily mean that there has been a reduction in the extent of informal association. Rather the sites in which the association occurs have been transferred from the public to the private arena (Wellman, 1995:1):

“telephones, automobiles, airplanes and electronic mail have enabled people to maintain active relationships over long distances with friends and relatives. Yet these technologies are essentially privatising, with telephones and electronic mail usually being between two persons only... ”

According to Wellman (Ibid) this gives rise to a more personalised form of community, with people seeking companionship and support from others regardless of physical propinquity. Instead of relying on unplanned contact in physical third places members of communities seek out companions in personal spaces created through the use of new communications technologies:

“Privatisation means that people must actively contact community members to remain in touch rather than visiting public spaces and waiting for friends and acquaintances to pass by.”

Empirical analysis of the social networks of East Yorkers (part of Toronto) showed that a high proportion of meaningful contacts were with people outside the immediate neighbourhood:

“Hence it is cars, phones, planes and electronic mail that sustain community, and not people walking to their neighbours’ homes... the neighbourhood community in this sense is a myth, reflecting a nostalgic longing for the past. Indeed, it is a longing for a past that might never have existed, because some research suggests that there also were many long-distance ties in preindustrial times”

Social Capital

The privatisation of leisure and other forms of social interaction has been linked to a decline in what Putnam (1995a) terms *social capital*. He characterizes social capital (1995a, p. 66) as the

“features of social organisation such as networks, norms, and social trust that facilitate co-ordination and co-operation for mutual benefit.”

Social capital can take many forms, but Putnam has most intensely examined those forms that serve ends such as civic engagement: “people’s connections with the life of their community” (Putnam, 1995b: 665). This includes activities such as membership in neighbourhood associations, choral societies, or sports clubs. Putnam cites the privatization of leisure time caused by television viewing as the primary cause of the decreases in networks, norms, and trust which form the basis of social capital. He points out (1996) that

“a massive change in the way Americans spend their days and nights occurred precisely during the years of generational civic disengagement.”

There has been much speculation about whether C&IT can counteract the trend identified by Putnam. The question is whether CSSNs and on-line communities can re-create or enhance engagement and social cohesion in existing communities. Rheingold (1993: 418) argues that the development of on-line communities is “in part a response to the hunger for community that has followed the disintegration of traditional communities around the world.” We shall return to this question after considering the more general relationship between community and communication, including CMC.

5. Community and Computer Mediated Communication

Community and Communication

There is a close relationship between the concept of community and the process of communication. There can be no action to organize social relations without communication. As Fernback and Thompson (1995) point out, the words community and communications stem from the same Latin root word, *communis*, which means common or togetherness. Discourses about communication and community often consider issues of bringing people closer together or of exacerbating social divisions.

Communication can be defined as a process where people send messages to each other and exchange meanings. Classical analyses of the communication process, especially those concerned with the analysis of the mass media have concentrated on the trichotomy of sources, messages and receivers but, as Morris and Ogan (1996) point out:

“with new technologies, the line between the various contexts begins to blur and it is unclear that models based on mass media or face-to-face contexts are adequate... The Internet plays with the source-message-receiver features of the traditional mass communication model, sometimes putting them into traditional patterns, sometimes putting them into entirely new configurations.”

Computer Mediated Communication (CMC)

CMC involves the use of computers and electronic networks as means to enable communication between individuals, groups or organisations. Within the general category a variety of modalities can be distinguished, including text-based email, bulletin boards and newsgroups, text-based synchronous chat (IRC chat lines) and role-playing games (e.g. MUDs, MUSHs and MOOs), voice-based teleconferencing and voice-mail systems, desktop video-conferencing and video mail, and hypertext and multimedia systems (Haythornthwaite et al., 1998:200). The intent of these applications is to enhance the group communication environment; in the process they may radically affect spatial and temporal distances (Kiesler *et al.*, 1984; Kiesler & Sproull, 1992).

Many forms of CMC exist, but most attempts to-date to use the technology to foster social interaction have been based on the use of text-based systems such as email, bulletin boards and chatrooms. The technology on which these applications rest is relatively simple, common across computer platforms and makes few demands on network bandwidth. As a result they have achieved critical mass and widespread acceptance and seem destined to remain the dominant mode of Internet contact for some time to come.

The Development of On-Line Community

People who interact with each other via CMC provide the basis for the development of on-line or virtual communities. However, the development of such communities requires more than the mere act of connection itself.

“It seems that the key to a virtual community is the human interaction that computers, and the computer space allotted to the group, foster” (Lapachet, 1995).

An on-line community is held together by the feeling of togetherness and connectedness that confers a sense of belonging (Foster, 1997).

In some on-line communities, members may never meet face-to-face; despite this they may communicate extensively and come to know one another intimately. In the majority of cases which have been studied (*e.g.* Wellman & Gulia, 1995; Nickerson, 1994), this is achieved through the exchange of text, whether in real-time chat, email, or newsgroup posts.

Meaning and CMC

One of the defining characteristics of a community, on- or off-line, is that it involves the development and statement of a culture, “shared ways of thinking, believing, perceiving, and evaluating” (Broom and Selznick, 1977: 56). Etzioni (1998) captures the essence of this approach in his definition of communities as “webs of social relations that encompass shared meanings and above all shared values”. The development of such shared meanings demands communication among those who share membership in the community. People who fail to communicate cannot compose a common culture and are not, therefore, a community. If meaning is lost in transition from speaker to addressee, then community is lost –

“undirected by culture patterns– organised systems of significant symbols– man's behaviour would be virtually ungovernable, a mere chaos of pointless acts and exploding emotions, his experience virtually shapeless.” (Geertz, 1973)

In face-to-face communication there are a variety of mechanisms available to guide and reinforce the meaning conveyed in words and to provide a context for their interpretation (verbal tone, body language, facial expression, etc.). In text-based CMC, such as e-mails or IRC, means have to be found to overcome the lack of these ancillary channels of communication, as Reid (1996) puts it to verbalise physical conditions. Without some way of compensating for the lack of contextual cues in CMC, text-based forms of electronic communication would get no further than the deconstruction of conventional social boundaries. New types of cues have to be used which help to define the situation. The textual cues utilised

“provide the symbols of interpretation and discourse that the users of [CMC] have devised to meet specific problems posed by situations they face in common. Without these textual cues to substituting for non-verbal language, the users of [text-based CMC] would fail to constitute a community”– with them, they do (Reid, 1996: 400).

The availability of a wide range of non-textual social cues is something that is taken for granted in face-to-face interaction– yet the virtual environments of most on-line communities, including those that are the subject of the studies to be reported in SCHEMA, are almost wholly based on pure text. Unable to rely on conventions of body language to make sense to one another, it might appear that participants in multi-user games (MUDs), members of on-line discussion groups or simple email partners should fail to make sense to each other or, at least, be able to convey only sparse unemotional messages. There is ample evidence that this is not the case.

Many analyses of such activities as newsgroups, synchronous chat (IRC) and MUD games (e.g. Baym, 1997; Curtis, 1997; Turkle, 1995) have demonstrated that communication is often highly charged and participants invest considerable emotional weight in their participation. The means of expressions open to users are limited by the technology on which CMC is based, but users have devised a number of ingenious and effective methods, such as emoticons and the use of acronyms, which enable them to incorporate socio-emotional cues into typed language (e.g. Reid, 1995; Wilkins, 1991).

Identity and CMC

Because social and physical cues are less immediately obvious in interactions conducted through CMC, studies suggest that participants reveal personal information about themselves slowly as they are building relationships (Walther, 1995). The fewer constraints there are on the time participants spend in CMC, the higher the proportion of socio-emotional communications (Walther *et al.*, 1994). Establishing the authenticity of this information is difficult (Harasim, 1993); some people may alter small portions of their personal information (e.g., weight, income), whereas others may change their identities altogether, adopting “virtual identities” far removed from those presented in daily face-to-face relationships. Turkle (1995) points out that people sometimes change their gender or a major personality trait when they go on-line. Although this behaviour may be more common in role-playing games, it also is possible in more ‘serious’ on-line communities. An oft-quoted example is the story of a male psychiatrist who posed as ‘Joan’, a handicapped female neuro-psychologist, who entered a support group for women with disabilities, seduced other women into trying ‘lesbian cybersex’ and faked ‘her’ own death. The subsequent exposure of Joan as an impostor gave rise to considerable emotional stress among those with whom ‘she’ had been in contact (Van Gelder, 1991).

Although these cases draw much attention, Curtis (1997) reminds us that MUD players rarely adopt and sustain a character completely different from their own unless immersed in a reproduction of an alternate world, as in the case of Pern MUSH, a MUD that reproduces Ann McCaffrey's world of Pern and its dragons (Haythornthwaite *et al.*, 1998:204). It seems unlikely that such subterfuges will be used for long in more ‘normal’ forms of on-line communication, at least until the present largely text-based forms of interaction are supplanted by more immersive virtual environments. It may also be the case that adoption of alternative identities provides an opportunity for those who are otherwise disadvantaged in face-to-face communication (e.g. as the result of handicap or other stigmatising characteristic) to enter relationships which are free of stigma. Examples are quoted in the literature of people who use alternative identities to overcome problems of shyness (Myers, 1987), physical disability (Bock, 1994), age (De Leon, 1994) and social isolation (Brennan *et al.*, 1992).

To prevent the possibility of deceptions, some on-line communities do not allow anonymous communications and try to keep participants honest about their identities (Harasim, 1993; Rheingold, 1993). Examples of extreme dishonesty, such as Joan, are, in any case, likely to be less common in locally based on-line communities, where the chances of being caught are higher due to the multiplicity of information flowing through face-to-face communications networks.

The purpose of the on-line community and the norms associated with it may also be expected to influence the likelihood of its participants being honest about their identities (Blanchard & Horan, 1998). The role of moderators and system administrators may also be vital in ensuring the trustworthiness of posted material. The impact of moderators on the developing culture of on-line communities is an obvious topic for research, but one which has as yet been little explored

Computer-Supported Social Networks

The Internet provides a rich medium for the development of social networks, what Wellman and his colleagues (see Haythornthwaite *et al.*, 1998) call *computer supported social networks* (CSSNs). Many of the issues crucial to the establishment of on-line communities, such as the ability to reach significant others and to exchange information and support, lend themselves readily to analysis from a social network perspective. Measures conventionally used in the analysis of social networks based on off-line ties and exchanges, such as the nature, density, range and strength of ties, provide appropriate means for researching and conceptualizing the on-line environment (Haythornthwaite *et al.*, 1998).

Patterns of who is connected to whom, via what media, and what they exchange via these media, can reveal larger structures in network communications that affect individual's access to information and opportunities for companionship, support, work, and play. Being on-line means more than belonging to an email mailing list or joining a chat line— it means joining a social network composed of those others who belong to the list or participate in the chat line. Their continuous many-to-many interaction distinguishes CSSNs from the more individualistic forms of computer use which have frequently been the focus of research studies of human-computer interaction (Haythornthwaite *et al.*, 1998; *c.f.* Booth, 1989).

Social networks on-line are in a constant state of flux. Communication norms are negotiated in response to members' use and to the patterns of power and management in the network (*e.g.* the distinction between moderated and un-moderated discussion groups in organisational Intranets described by Orlikowski *et al.*, 1995). In common with findings relating to other uses of CMC it has been suggested that on-line communities foster equality of status and participation among members (Hiltz & Turoff, 1993). This may lead to greater flexibility. Other observations are that CMC facilitates extensive, weak ties (Pickering & King, 1995) and encourages multiple partial relationships (Wellman & Gulia, 1999). Networks based on CMC may be more open and less tightly bounded than is characteristic of those based on face-to-face physical contact.

A number of questions remain to be addressed concerning the stability of CSSNs as members join and leave, the patterning of network relations and roles and the nature of the resource exchanges which take place. A "shopping list" is provided by Wellman (1997: 199-200) Among the 18 sets of questions outlined are ones addressing the modalities of using the 'Net, the structure of virtual communities, the boundedness and natural history of on-line relationships, the scale and composition of personal networks, the involvement of socially disadvantaged groups, the relationship between network membership and political participation and empowerment, deviant behaviour and social control, and the composition, strength and durability of ties.

Wellman and his team believe that CMC has the potential to support strong, multiplex ties allowing the exchange of instrumental, social, and emotional communications. King and Moreggi (1998) examine an important aspect of this in their discussion of the use of CMC for therapy and self-help groups. An informative instance is the Sanctuary MUD, designed for survivors of sexual abuse and described by Moursund (1997) as an important and valuable resource.

CMC also has the potential to increase the range of personal networks, allowing individuals to contact more people, whether to maintain a single specialised interest, or to meet others with whom they can build ties (see Constant *et al.*, 1997 on the use of the Internet for weak ties and Wellman, 1997 on the diversity of others who can be contacted via CMC). Coate (1992) points out that "An on-line community is one of the easiest ways to meet new people". For some, CMC is the only medium used to maintain the tie; for others CMC is just one means of communication among many, with off-line exchanges intermingling with on-line exchanges. Use of more media may coincide with development of stronger ties, although the distance spanned by CMC may contribute to this remaining the only means of communication even as the tie strengthens (Haythornthwaite *et al.*, 1998: 219).

Local Communities and Interest Groups On-Line

The Internet has been described as a series of networks connected to other networks that comprise a very large network (Baym, 1995; McLaughlin *et al.*, 1995). Anyone across the globe who has an Internet connection can join many groups with which they share interests. However, there is a finite, if indeterminate, limit to the number of active relationships people can handle at any one time, so unlimited relationships and communication with the rest of the world are unlikely (Wellman & Gulia, 1999). Parks and Floyd (1996) found that overlap among people in a geographically dispersed community on-line was quite low as compared to face-to-face friendships. In locally based communities on-line, the chances of overlap between on- and off-line ties are likely to be bigger than in the case of dispersed community networks (Blanchard & Horan, 1998).

An important feature of communities on-line is the ability to search for others who share specific interests and, thus, form communities of interest; these relationships may develop among people who are geographically dispersed. People are more likely to find others who share highly specialised interests when they can search a broader population. However, it is also possible that people can find others who share their specialised interest in their physically based communities (Michaelson, 1996). For example, parenting or caring groups can be formed within locally-based community networks (Schuler, 1996). There has been not been as much research or media attention paid to these local communities of interest than there has been on those which have no geographical base. This lack of attention is unfortunate since locally based communities of interest may contribute to denser networks as the number of overlapping relationships among community members increases (Blanchard & Horan, 1998) and that the co-incidence of electronic and territorial social networks may provide a valuable resource in the search for community.

6. Communities On Line

The Reality of OnLine Community

The question of whether on-line communities should be treated as real communities or as new social forms has been hotly contested. Some researchers have argued that communities developed and maintained in cyberspace are not 'true' or 'real' communities, but, rather, should be construed as pseudo-communities (Harasim, 1993) or as metaphors (McLaughlin *et al.*, 1995; Blanchard & Horan, 1998). An emerging majority, however, which includes the present writers, regard on-line communities as satisfying the defining criteria for being considered as 'real' communities. The difference between on-line and off-line communities relates to the mechanisms of communication used, not the meaning of the relationships involved, the social processes they encompass or the effects they have on their members.

In line with this approach, Haythornthwaite *et al.* (1998: 212-3) assert:

“The question of whether or not one can find "community" on-line is asked largely by those who do not experience it. Committed participants in email, bulletin boards, chat lines, MUDs, and MOOs have no problem in accepting that communities exist on-line and that they belong to them (e.g. Baym, 1995; Curtis, 1997; Kling, 1996; Reid, 1995; Rheingold, 1993)... The on-line world is being examined for conformity to off-line definitions of community. The comparison is doing well. On-line communities show behaviours consistent with off-line communities. They use language conventions (e.g. jargon, emoticons, acronyms), maintain social and professional roles (e.g. hacker, moderator, webmaster, gamer, crusader, enforcer, traffic cop; Rout, 1997), establish boundaries using domain names, enact rituals such as weddings and funerals, show commitment to communal goals, and follow netiquette norms (Curtis, 1997; McLaughlin *et al.*, 1995)... Virtual communities also extend the possibilities for community; just as CMC extends possibilities for communication.”

The on-line community is often referred to as a “*virtual community*” a term popularised by Howard Rheingold in his book of the same name.

Rheingold (1993: 5) offers this definition:

“Virtual communities are social aggregations that emerge from the Net when enough people carry on those public discussions long enough, with sufficient human feeling, to form webs of personal relationships in cyberspace.”

Rheingold bases much of the book on his personal experience as a regular user of the WELL (*Whole Earth 'Lectronic Link*), an electronic conferencing system set up in 1985 in the Bay Area of San Francisco. The WELL was a relatively small multi-user system, but, according to both Rheingold and the WELL's own promotional literature, it developed a strong sense of on-line community and its users expressed a pervasive sense of belonging.

Rheingold recounts how his on-line experiences in the WELL spilled over into his everyday life. He notes (1993: 3):

“People in virtual communities... exchange pleasantries and argue, engage in intellectual discourse, conduct commerce, exchange knowledge, share emotional support, make plans, brainstorm, gossip, feud, fall in love, find friends and lose them, play games, flirt, create a little high art and a lot of idle talk. People in virtual communities do just about everything people do in real life, but we leave our bodies behind. You can't kiss anybody and nobody can punch you in the nose, but a lot can happen within those boundaries.”

On-line communities foster real friendships, real relationships, and real community spirit. In this respect, there is not much virtual about it at all, aside from the fact that these communities are in the 'bold new frontier of cyberspace'. According to Shelton and McNeeley (1997), 'virtual community' is a synonym for "real community on the Internet." Thus, the question is not whether or not community exists on-line, rather it the nature and extent of on-line communities that remains to be explored.

Geographically Based and Dispersed Communities OnLine

As in the more general form, it is possible to distinguish two forms of on-line community: those which are territorially-based and those which are based on common interests. The first is typified by a physically based community that adds electronic resources for its citizens' use. An example might be a neighbourhood or city that puts information about its local authority committees, schools, and community organisations on-line, that provides electronic access to civic employees, and provides its residents with free (or at least subsidised) access to email, electronic bulletin boards and the Internet. This sort of local on-line community is frequently referred to as a *community network* or *community net*. Measures of the extent to which the new communications channels provide a basis for the maintenance or recreation of community participation and engagement focus on the degree to which those resident in the locality make use of CMC to participate in local social networks.

The second type of on-line community is geographically dispersed, with members participating due to their shared interests in a topic and not their shared locations. These on-line communities of interest can occur through bulletin boards on *Usenet*, through a national Internet provider such as *America On-Line*, through email via *listserv* programs or via on-line educational programmes. Members of these communities may never meet face to face and their interactions may be limited to the topic or interests that brought them together (Blanchard and Horan, 1998). Through an extension of the initial task-oriented ties, however, these groups may come to form a relatively cohesive community, united by strong and dense ties which pay scant regard to geographical (or temporal) location.

Little is known about the relationship between the two types of community. If there is a limit on the number of relationships which individuals can maintain, they may be in competition with each other (Wellman *et al.*, 1995). Markus (1994) found that email users were likely to interrupt face-to-face conversations to read and respond to their email messages. It also seems likely that CMC, especially text-based CMC, will often lead to different forms of contact than face-to-face interaction. Internet communication increases the range of possible social networks that a person can connect to and adds elements of diversity (Wellman, 1997: 185-6):

“computer supported social networks are not destroying community but are responding to, resonating with, and extending the types of

community that have already become prevalent in the developed Western world.”

What is not clear is the relative strength of those processes which support locally-based communities and those which lead to the development of geographically dispersed ones.

There is also a lack of clarity about which type of on-line community may be stronger in its sense of community identity. Much on-line contact currently is between people who see each other and who live locally (Wellman & Gulia, 1999). Virtual communities may have a stronger sense of their identities where there can be both computer-mediated and face-to-face communication. On the other hand, it has been suggested that people may have stronger ties with their on-line communities of interest than with their own physically based communities because the former are based on consciously shared interests and not just shared location (Michaelson, 1996).

The stability of on-line communities, whether local or dispersed, seems likely to be related to the multiplicity of shared interests and meanings. Reid (1998: 40) points out that networks based on single links may be ephemeral:

“if the virtual community consists of tenuous and single links between fragments this bodes extremely ill for its resilience. Users must have more than one string to their bow, and must be encouraged to participate in multiple ways, rather than being streamed into one particular role.”

In an information society anything which prevents the individual from participating in the underlying network of information and support becomes a force for their exclusion. However, it may be easier to disrupt communities that exist only online and do not have face-to-face interactions (Wellman & Gulia, 1999; Blanchard & Horan, 1998).

Community Networks and ComputerSupported Local Communities

Especially, but not only, in North America the use of C&IT to support local communities has given rise to the term community network. Addressing a meeting of the European Alliance for Community Networking in July 1998, the President of the (American) Association for Community Networking (Borgstrom, 1998), provided the following definitions:

“I like to define community networking as what happens when people get together to solve problems or respond to opportunities. This can happen with an online network, or in a church basement or a meeting room... Community networks, on the other hand, are the place-based, community owned and operated electronic spaces where this community networking can take place.”

In her oft-quoted analysis of *Communities On-Line: Community-Based Computer Networks*, Beamish (1997) quotes a list originally devised by Morino (1994):

“Community networking is known by many names— community-based computer networks, community computing, community telecomputing, community bulletin boards, civic networking, telecommunity systems and community information systems”

She goes on to state:

“Though their names may differ, a community network is always a network of computers... that are interconnected... to a central computer which provides:

community information;
and a means for the community to communicate electronically,

...

Unlike the similarly named "on-line communities" or "virtual communities", community networks are based on a physical place—what participants have in common are their cities and neighbourhoods.”

Several reviews of the use of *freenets* and other C&IT facilities to support community net-working (e.g. Gregson, 1997; Baker, 1998) similarly make use of the term community network to refer to computer-based activities. The difficulty with this usage is that the term has wider sociological connotations, referring to social networks which have a community base regardless of the means by which they are maintained. In cognizance of this potential source of confusion, some commentators (e.g. Surak, 1998; Victoria Telecommunity Network, 1998) adopt the term community computer networks. Although more specific, this appears to give rather greater emphasis to the technology, leaving the social aspects in a secondary position.

By analogy with the term computer-supported social network used by Wellman and his associates, we prefer the term computer-supported local networks (CSLNs). It becomes an empirical question whether CSLNs support the development of on-line local communities.

7. Social Participation in the Information Society

On-line communities, whether based on localities or interests, provide a new basis for the development of social networks and for the differentiation of society.

The Information Rich and the Information Poor

If an on-line community is to be a forum for the social integration of the community, then all members of the community must be able to participate. The fifth report of the House of Lords Select Committee on Science and Technology, *Information Society: Agenda for Action*, published in July 1996, proclaims that “The Information Society is not an exclusive club. Every British citizen should be able to become a member.”

There is a concern that the creation of on-line community will create a division between those who can participate in the discussion of community and governance and those who have no access to the system as the result of lack of financial resources, language or knowledge difficulties. In this case computer-supported social networks may disenfranchise parts of the population even further. Luke (1993) suggests that the expansion of communications technology has resulted in the creation of a ‘new class’ of the information-elite, a tribal community that is committed to knowledge-based technological development which inevitably disenfranchises the information poor. Although recent surveys of users have suggested a widening of the constituency over time, it remains the case that the majority of computer users are well-educated, relatively rich, relatively young and residents of metropolitan areas. According to Bikson and Panis (1997: 407):

“The gap between the information haves (richer, better educated people) and information have-nots has actually increased in the last few years even as computers and online services have become less expensive.”

Beamish (1995) suggests that in the UK and US the groups that have not been involved in the technology in the past and may continue to be excluded from it in the future tend to be poor, non-English speakers, illiterate, disabled, older and/or female. The percentage of the population that falls into at least one of these categories is high, and clearly any CSLN that does not address the specific needs of these groups cannot be representative of the community. If CSLNs are to play a significant role in social cohesion it is important that C&IT is available for all groups in the society (Åström, 1998).

Barriers to Access

Access to the network is a fundamental issue. Unfortunately it is not a straightforward matter which can be solved by handing out computers and modems to everyone in the community (as proposed for example in Ennis, winner of the competition to become the ‘Information Town’ of Ireland (for details see <http://www.ennis.ie>)).

There are at least three barriers to widespread computer use and connection to computer-supported networks, local or otherwise:

- cost

- accessibility
- usability

Cost: The costs of access to local Intranets or the world-wide Internet involve those associated with both hardware and communications. The cost of basic hardware has tumbled in recent years, but the purchase of a computer and its ancillary equipment and software still represents a considerable capital investment. It is no accident that the usage of the Internet is heavily dominated by those who are either connected by courtesy of their places of work (*e.g.* university staff and students) or have free telecommunications facilities. Although most ISPs provide access at local telephone rates, this can still mount up to a considerable sum if a user spends significant amounts of time on-line.

Accessibility: Accessibility is closely associated with cost. Only in rare cases (*e.g.* the Ennis project) is it likely that all households will be provided with both computers and Internet access points. Even then access may be difficult for those who are not householders (*e.g.* boarders and the homeless). People with communications disabilities are likely to require special provision and communities with residents speaking a variety of languages may also need to make special provision if minorities are not to be excluded. Problems of bandwidth may also occur, especially in remote, sparsely populated regions which lack the 'critical mass' to support the provision of cable or other high-capacity wired telecommunications infrastructure.

Usability: Usability considerations relate to technical aspects of both the computing and communications infrastructures. Most computers used to communicate on the 'Net are general purpose desk machines, mainly running under *Windows*. Not only are the machines considerably over-powered for the great majority of the tasks for which they are used, but operating systems are prone to fall-over with disturbing frequency. Within a campus environment technical expertise is (usually) on-hand to deal with system crashes and other bugs; off-campus the situation may be very different. Despite the seductive invitations accompanying advertisements about the ease of using a desktop computer and modem to dial-in to the information superhighway the experience of the lone user is often far from satisfactory. *The Net Result*, a Report by the National Working Party on Social Inclusion, set up by IBM to examine the implications of C&IT for social inclusion in the information society, points out (INSINC, 1997: para 4.41):

“It seems mysteriously easy for those with privileged access to overlook [the fact] that the existing technology is extremely cumbersome and off-putting to the naive user... For many, the Internet is characterised by the 'egg-timer' symbol which appears on screen to warn them that after 10 minutes of inaction they will reach a web site which is under construction and contains no useful information. Others will be put off by the often tortuous logistics of loading a browser; finding their entire online access disabled after following a service provider's instructions on loading their software upgrade; replying to an email message and having the reply 'bouncing'; being put in a lengthy telephone queue when they call their service provider's helpline; having their modem disabled by a service provider's visiting expert, or worse... ”

The INSINC Report goes on to hope that “computer and online technology will soon have outgrown its phase as a domain for specialists, a priesthood with protected knowledge” (*Ibid*: para 4.43).

There are few other areas of consumer expenditure in which successful operation of the machine apparently requires users to familiarise themselves with manuals which can run into the hundreds or even thousands of pages and in which upgrades are produced every few months to deal with 'bugs' or 'additional' features. The mystique that accompanied the early days of the computer is not an adequate foundation for its exploitation as the delivery mechanism for universal membership in online communities.

“Our concern is that new users may quickly be discouraged and so opt out of the Information Society. Experienced users come to treat as acceptable a situation in which both system software and content may well be flawed or incomplete. At this point what concerns us is not so much that things don't work properly, as the fact that they're not necessarily expected to.” (INSINC, 1997: para 4.48)

If C&IT is to be used as the basis for online access for all, it must be as transparent as possible; no more difficult to use than say a TV or phone. It may be appropriate to include the use of C&IT in the list of core skills to be incorporated in basic education for the Information Society, but the skills involved should be those concerned with seeking, interpreting and using information, not with keeping the machine and its associated network up and running.

The implications of cost, access and usability for the development of CSLNs are so obvious that they may hardly need to be stated: the poor, the less educated, those suffering from disabilities and those who belong to groups who are discriminated against on grounds of race, culture or origin are likely to be at a severe disadvantage. Computer-supported local networks which are designed to tackle social exclusion must address the problem of the disadvantaged head-on.

On-Line Community and Marginal Groups

The development of on-line communities has the potential to help at least one category of people who otherwise find themselves at a social disadvantage: those who for reasons of geographical location or temporal constraint have found it difficult to access community resources. The ability of electronic media to undermine the relationship between location and information access may break down some of the barriers to participation which previously led to the isolation of marginalised groups. Meyrowitz (1985: 143-44) points out:

“Many categories of people— women, ghetto dwellers, prisoners, children— were once 'naturally' restricted from much social information by being isolated in particular places. The identity and cohesion of many groupings and associations were fostered by the fact that members were 'isolated together' in the same or similar locations... Now, however, electronic messages... democratize and homogenize places by allowing people to experience and interact with others in spite of physical isolation. As a result physical location now creates only one type of information-system, only one type of shared but special group experience.”

There are both gains and losses from this divorce between place and participation. Castells (1996) suggests that feelings of identity and social solidarity have been based on place. The transformation of social relations from geographical space to

cyberspace will give rise to new and as yet unclear consequences for the self. Some groups who have been able to protect their identities by restricting their exposure to outside influences may find it difficult to maintain their segregation on the 'Net. Conversely, as Rheingold (1993:26) points out, individuals with stigmatising characteristics such as physical disability or other devalued attributes may find it easier to find community on the 'Net than in physical reality:

“people whose physical handicaps make it difficult to form new friendships find that virtual communities treat them as they always wanted to be treated— as thinkers and transmitters of ideas and feeling beings, not carnal vessels with a certain appearance and way of walking and talking (or not walking and talking).”

On-Line Communities and Social Capital

Critical Voices

Nguyen and Alexander (1996: 111) are critical about the political implications of on-line communities, claiming that participation in them represents a retreat from political engagement in favour of a “conversational, demassified, non-representative democracy”. A similar view is provided by Lajoie (1996: 154) who believes that on-line communities result in the elimination of public space. Participants in on-line communities are reduced to “the status of atomised entities, ill-equipped for collective politics or public life.”

To Putnam much of the blame for increasing civil disengagement rests on the passive consumption of television entertainment. Meyrowitz (1985) suggests that computer use might overcome the passivity of watching television, but might not replace it with more public interaction. An extension of computer provision might even ‘hyper-privatize’ leisure time as family members no longer watch television together but rather play or explore their own computers alone. According to McClelland (1994: 10):

“Rather than providing a replacement for the crumbling public realm, virtual communities are actually contributing to its decline. They're another thing keeping people indoors and off the streets. Just as TV produces couch potatoes, so on on-line culture creates mouse potatoes, people who hide from real life and spend their whole life goofing off in cyberspace.”

Pettersson (1997:91) wonders whether computer-mediated communication will replace face-to-face contact between people and worries that the network will further isolate people, leading to an atomization of society. Heim (1993: 100) argues that

“Technology increasingly eliminates direct human interdependence. While our devices give us greater personal autonomy, at the same time they disrupt the familiar networks of direct association.”

Positive Voices

Heim presents no empirical evidence for his assertion that the use of new communications technologies disrupts existing social networks and a number of

researchers (e.g. Beamish, 1995; Åström, 1998: 27; Hamman, 1998) have presented a counter argument that CMC complements face-to-face interaction, rather than substituting for it. According to proponents of this view, participation in discussions taking place via Intranets and the Internet encourages new contacts, electronic as well as in 'real' life. This is based on an argument that is similar to the position advanced by Putnam, namely that contact creates circles of increased trust and more contacts.

The key here is in the use of Internet for communication between people. Ferguson (1994) maintains

“We are social creatures and we long for contact: I don't think it matters that contact is via 'phone, Net, or face-to-face if it promotes and reinforces understanding, action, and human connection.”

The ability to contact others online enables individuals to extend their personal networks and include previously unknown others, but the number of significant relationships in which people are involved may not change and a more common use of CMC may be to keep in contact with associates who were originally met offline but have since moved out of the local area. In an analysis of *America On-Line* users, Hamman (1998b) notes that the users he studied:

“are not motivated by social isolation or loneliness, but by the ease with which they can access information online and keep in touch with their friends, colleagues and relatives from offline who increasingly have email accounts and web pages themselves... even for the minority of respondents who do report that they sometimes feel socially isolated, using computer networks is a beneficial use of time.”

Local or WorldWide Access?

The Internet is, by definition, a global rather than a local network. Community networks can be seen as embodying many of the tensions between the local and the global which have accompanied the development of modern society. Access to the Internet may encourage users to bypass the communitarian agendas of the local community network in favour of apparently more glamorous opportunities elsewhere. For those wanting to promote community networking, the question is not “Can we achieve universal access?” but “Can local community nets survive in an environment in which people are connected to world wide nets?” With this question, the issues of access shifts from being one of infrastructure to one of public participation and social transformation (Doheny-Farina, 1996:144).

Schuler (1996) notes:

“While virtually all community network systems... offer access to at least some Internet services (e-mail at a minimum) the focus of a community network is on the local community”.

Many supporters of CSLNs make the optimistic assertion that the networks can be used to bring fractured communities together. For example, Morino (1994) writes:

“we believe that the local community is where our toughest social problems – crime, inadequate education, underemployment – will be solved, by the grass-roots efforts of the people who have the most personal stake in their solution. It is here that community networking

takes on such relevance in helping people solve problems and addressing the needs of their day-to-day lives. Clearly, community networking is an emerging phenomenon with the potential to effect profound societal transformation.”

Martin (1997: 318) believes that CSLNs have the potential not only to provide a new kind of community but also to strengthen the existing community, if people use it to that end. A CSLN does not automatically solve difficult social and community problems, but a community of people using an electronic network to communicate may find it a powerful tool to organise people with similar interests. In that way, the network, as a communications tool, serves the community.

The creation of locally-based communities on-line provides a way of circumventing the problems associated with the lack of place on the Internet, but attracting users requires that attention be paid to providing the information and facilities wanted by local residents. Cisler (1995) points out that if people do not want what CSLNs give them, a lot of the effort devoted to the establishment of the network will be wasted. The premise of most local community systems is that residents want to get local information— job listings, sport scores, community calendars, etc.— and to exchange mail and participate in discussions with fellow residents. To support access to local information, organisers of community networks have persuaded government offices, hospitals and local organisations to input their data and maintain it. Doheny-Farina (1996:152) asserts that, despite this orientation on the part of the system originators, many subscribers to CSLNs appear primarily to be interested in ‘getting out of town’ to pursue entertainment and other non-geographical communities of interest. If usage statistics show little local use, with subscribers spending their time elsewhere, local agencies and businesses may cease to maintain the data files and the community system will be like a dying mid-town shopping centre where shoppers drift away to out-of-town shopping malls.

The erection of rigid boundaries between the local community and the external world may provide a means of supporting local solidarity but may also lead to a weakening of overall cohesion. To the extent that they restrict communication to the local area they may encourage the further ‘ghettoization’ of society. If debates mostly concern local issues and do not go outside local borders, there is a risk that the aim will become the protection of the neighbourhood from ‘unwelcome’ groups, such as immigrants, members of disliked religious or ethnic groups, or low-income earners (Hansson; Åström, 1998). Communities of interest based around such perceived social differentials as race or religion will have a similar effect.

In order to avoid the segmentation danger it is important that the boundaries between the local and the general are permeable. Local community networks which are shut-off from the external world or communities of interest which restrict access to those sharing common positions and have no external links will encourage segmentation.

Closely related to the argument about the relative attractiveness and availability of local material and that available on the Internet at large are concerns about the impact of the Web on the diversity of opinions and about the possible seizure of sites by extremists (however these may be defined).

Some writers fear that dialogue on the ‘Net will mainly be between people and groups that already have similar opinions and interests. In this case they claim that computer-supported community networks are unlikely to be democratic, but, rather, will be arenas dominated by pressure groups: the virtual community will support

different special interests, but not democracy (Åström, 1998). The ability to choose will make it possible for subscribers to the network to be further insulated from having to deal with the vagaries of the everyday world. Communities may be formed that reinforce social relationships among like-minded individuals, but these groups will have a decreasing need or opportunity to interact with other members of the larger society. In this scenario, instead of creating increasing cohesion, online communities, local or otherwise, are likely to have the opposite effect on the larger collectivity, increasing segmentation (Fernback & Thompson, 1995).

Conclusion: Local Community Networks and Social Cohesion

The design and administration of local community networks is full of potential pitfalls. All members of the community must be able to gain access and there needs to be a satisfactory balance between the local and specific and the global and general. Despite the difficulties, the weight of evidence is that local community networks provide an important new tool in attempts to (re-)create social cohesion.

According to Putnam the most effective foundation for the development of social capital and civic engagement is a combination of locality- and interest-based communities. Computer-supported communities which develop around a local territorial community, but which foster additional communities of interest, provide just such a foundation:

“social capital and civic engagement will increase when virtual communities develop around physically based communities and when these virtual communities foster additional communities of interest.”
Blanchard and Horan (1998: 293)

Etzioni (1993: 32) presents a model of a cohesive society, based on communitarian principles, which uses an analogy based on Chinese nesting boxes, in which

“less encompassing communities... are nestled within more encompassing ones... which in turn are situated within still more encompassing communities.”

In the Information Society, locally-based communities on-line provides one of the essential units in this model.

8. The Social Mission of Computer Supported Local Networks

The Community Networking Movement

What is generally acknowledged to have been the first CSLN, *Community Memory* in Berkeley, California, was established in the mid 1970s, but it was not until the late 1980s and early 1990s that an explosion occurred in the number of CSLNs. It is difficult to provide a reliable estimate of the number of networks currently active, but it certainly runs into the hundreds. The great majority are still in North America (partly, at least, because of the availability of free local calls in many U.S. telecommunication systems) but there is a growing number in Europe and Scandinavia. Co-ordinating bodies such as the *Association for Community Networking* (AFCN) in the United States, the *European Alliance for Community Networking and U.K. Communities On-line* (UKCO) provide meeting places for network organisers to compare notes and plan for the future.

The organization of CSLNs often involves a combination of individual enthusiasts and public agencies, generally either universities or libraries. In many cases the network relies on volunteers for much of its day-to-day work. Financial backing may be provided by government grant or through beneficent sponsors, but is nearly always sporadic and problematic; most networks which survive the period of initial enthusiasm seem to have done so as the result of building up strategic alliances with other institutions.

Despite the variety of origins and organisations it is possible to recognise a number of features which are shared by the majority of computer-supported local networks.

Definition

In a review of the development of computer-supported local networks, Schuler (1994) comments that "Community networks are an attempt to use computer network technology to address the needs of the community."

An extended working description is provided by the Association for Community Networking (<http://bcn.boulder.co.us/afcn/cn>):

"Community Networking (CN) projects bring local people together to discuss their community's issues and opportunities, learn about Internet technology, and decide upon and create services to address these community needs and opportunities. CN is comprised of a wide variety of groups that make up a community (*e.g.*, libraries, Universities,... schools, local government, businesses, media, individuals), with special focus on including those who are traditionally left out of community decision making in general, and technology decision making in particular (*e.g.*, low-income, minorities, senior citizens). CN projects value collaboration and participation, and are usually noncommercial.

CN projects usually provide training on the use of the Internet, general computer skills, and basic research skills. Most projects provide public access sites in libraries, schools, businesses, and nonprofit organizations, as well as free or low-cost access accounts. Many projects also provide free or low-cost Web design & development for nonprofit organizations,

and provide a matchmaking service between nonprofits' technical needs, and CN volunteers' technical abilities.

An 'online presence' is usually created by the CN project, that is a reflection of its particular community. This 'presence' is nowadays usually on the World Wide Web, and typically provides: 'official' and not-official community information; news and events; community members' poetry, stories, commentary; some kind of discussion capabilities (e.g., discussion groups, chat)."

In the definition used by the *Association for Community Networking*, community networks are networks of computers, located in a defined geographical area, connected via cable, wire or radio to a central server (Schuler, 1996:330). Common components are local news and information from community groups, companies and agencies, chatlines for residents to discuss common issues, 'to buy and sell' areas, email facilities and access to the Internet. The emphasis is on local service. As Schuler puts it

"Community networks are not designed to be on-ramps to the Internet... as this metaphor implies that the purpose of the system is to help people escape from their local community."

For reasons mentioned earlier it seems appropriate to term such systems computer-supported local networks.

Beamish (1995) has identified three characteristics that distinguish computer-supported local networks from other types of commercial networks and bulletin boards:

- 1) The most distinctive feature of CSLNs is their focus on **local issues**. They stress local culture, pride and community ownership (Morino, 1994).
- 2) The second characteristic is their effort to make sure that the network reflects and includes all members of the community and not just traditional computer users.
- 3) The third feature is the belief that the system can strengthen and vitalise existing communities, that CSLNs can be used by the local community to solve problems (Guthrie et al., 1990; Morino, 1994).

The Morino Institute (<http://www.morino.org>) says that computer networks (or, in our terms, CSLNs) must be forums for local public deliberation in order to enhance local self-determination. They must serve to organise local information and human communication. They must be used for the good of the less fortunate in a community: the low- to middle-income families, the disabled, and the immobile. They must provide affordable— preferably free-access for all. Most important, they must do "what commercial providers find difficult to do well: represent local culture, local relevance, local pride, and a strong sense of community ownership." (Doheny-Farina, 1996:126).

The Goals of On-Line Local Community Networks

The goals of the community networking movement are to increase the sense of community, solidarity and democracy. *The Association for Community Networking* provides a clear statement (<http://bcn.boulder.co.us/afcn/cn/goals.html>):

Community Networking's Social Goals

To increase communication between local residents, so they will get to know each other and their community better, and thus strengthen the sense of local community

To increase communication between citizens and their government, encourage more involvement in local decision making, and thus improve democracy

To, at a minimum, ensure Universal Access to the evolving New Medium (today, the Internet, tomorrow "Who Knows What")

To promote Universal Creation on the New Medium, and encourage people to be creators and not just consumers

To promote diversity of perspectives and content

(Some CN Projects: To promote local economic development. (Some projects, particularly those in isolated rural or disadvantaged areas, are exploring ways this new medium can help create jobs, or facilitate collaborations not possible before.))

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A more general statement of the aims of the community networking movement is given in the *Statement of Principles* by the *Seattle Community Network* (<http://www.scn.org/ip/commnet/principles.html>):

Seattle Community Network Principles

The Seattle Community Network (SCN) is a free public-access computer network for exchanging and accessing information. Beyond that, however, it is a service conceived for community empowerment. Our principles are a series of commitments to help guide the ongoing development and management of the system for both the organizers and participating individuals and organizations.

Commitment to Access—Access to the SCN will be free to all.

We will provide access to all groups of people particularly those without ready access to information technology.

We will provide access to people with diverse needs. This may include special-purpose interfaces.

We will make the SCN accessible from public places.

Commitment to Service—The SCN will offer reliable and responsive service.

We will provide information that is timely and useful to the community.

We will provide access to databases and other services.

Commitment to Democracy—The SCN will promote participation in government and public dialogue.

The community will be actively involved in the ongoing development of the SCN.

We will place high value in freedom of speech and expression and in the free exchange of ideas.

We will make every effort to ensure privacy of the system users.

We will support democratic use of electronic technology.

Commitment to the World Community—In addition to serving the local community, we will become part of the regional, national and international community.

We will build a system that can serve as a model for other communities.

Commitment to the Future—We will continue to evolve and improve the SCN. We will explore the use of innovative applications such as electronic town halls for community governance, or electronic encyclopaedias for enhanced access to information.

We will work with information providers and with groups involved in similar projects using other media.

We will solicit feedback on the technology as it is used, and make it as accessible and humane as possible.

Computer-supported local networks are promoted as providing a potent force for improving the social cohesion of the localities they serve. Proponents believe that if residents have the opportunity to know their neighbours better electronically it will lead to increased face-to-face contact, increase their participation within the community and encourage them to take part in neighbourhood activities. Computer-supported local networks are seen by their organisers as tools for actively rebuilding community life and for the development of local culture and industry (Beamish, 1995; Åström, 1998).

Social goals include a number relating to the role of local community networks in the enhancement of political participation. Schuler, then chair of the board of directors of *Computer Professionals for Social Responsibility*, quoted in Doheny-Farina (1996:126) the politics of community networking should encompass five goals:

- community cohesion,
- informed citizenry,
- access to education and training,

- strong democracy,
- an effective process through which these goals can be achieved .

Computer-supported local networks have the potential to benefit many groups. They are based on the belief that they can be beneficial for dealing with local problems and building cohesion within the community as a whole (Hamman, 1998). Computer-supported local networks offer residents of the community access to information and communication services which can be used to make contacts both locally and, through the Internet, across the world; local authorities and other agencies can provide citizens with information and residents can easily communicate with elected officials (Beamish, 1995). In addition, CMC offers the possibility for the creation of new social relationships: a possibility which may be especially valuable for those who for any reason find it difficult to meet others 'in the flesh'.

Research on the Social Impact of OnLine Local Communities

In spite of the involvement of universities in many existing CSLN, relatively little research appears to have been conducted on them and evaluations of their effectiveness in terms of social cohesion tend to be based on hear-say. Wellman and Gulia (1999:170) point out:

“there have been few detailed ethnographic studies of virtual communities, no surveys of who is connected to whom and about what, and no time-budget amounts of how many people spend what of hours virtually communing”

Statements about the ability of on-line communities to recreate social capital are based more on anecdote and assumption than empirical studies.

The major exception to the lack of research is a series of studies of the users of North American freenets, defined by Patrick (1997) as “nonprofit community online systems that provide on-line services such as electronic mail, discussion groups, and information archives.”

Stallings (1996) analyses three disparate systems in the US (the Cleveland Free-Net, the Great Lakes Free-Net and the Worth County-Sylvester, Georgia Free-Net). On the basis of observation and an informal survey of users he concludes:

“Computer use is not in itself antisocial; all three Free-Nets improved their communities. Access to the system must be universal if the entire community is to benefit. Emphasis must be on local content, or the systems will come into unflattering comparison with commercial InterNet service providers. The management style of a CN is as much an effect as a cause of its success. CNs may follow a 'life cycle' of growth and decay similar to that of cities, but my evidence is not conclusive on this point.”

In detail the respondents to Stallings' survey reveal a wide range of views on such matters as whether the use of CMC leads to more incidents of antisocial behaviour, such as flaming, whether email can be used for emotionally-charged communication, the balance between local and distant contacts, the propensity of

free-nets disproportionately to attract 'computer geeks', the levelling effects of CMC on social hierarchies and whether CNs are effective mechanisms for increasing community participation, especially among underserved and isolated groups. Respondents tended to agree with a series of positive statements about the potential effects of CNs taken from a list prepared by the Office of Technology Assessment (OTA, 1990) that the

“emerging technologies promise to provide individuals with opportunities to increase personal autonomy, enhance their sense of connection with others and, in general, enable greater accomplishments and self-fulfilment”,

and disagreed with the negative statements that they could contribute “to personal isolation, increased dependency and the loss of privacy.”

Stallings concludes that more research is needed to unravel the factors that will enable CSLNs to most effectively serve their populations:

“The age of pioneering is largely over, and while this means that reinventing the proverbial wheel in each community is a waste of resources, it also means that we have no excuse for giving communities square wheels. If the community networking movement is to continue into the future it must learn from the successes and failures of its past.”

The Cleveland Free-Net is the oldest and largest CSLN in the United States and was also the object of study by Anderson (1992), who based her analysis on a survey of 320 users, approximately 1% of the system's users. Her results, quoted in Patrick (1997), showed that the areas which users found most beneficial:

“were 'learning things to tell people later', 'keep up with current events', 'find out about interesting events', 'exchange information' or advice, 'compare my ideas with others' and 'be entertained'. Areas that did not show strong benefits included 'keep in touch with family and friends', 'meet people', 'pass the time', and 'take a break from work'.”

The emphasis on the informational content of CMC is also apparent in a third study, that by Patrick (1997), concerned with the National Capital FreeNet (NFC) in Ottawa, Canada. According to the NCF mission statement:

“The National Capital FreeNet is a free, computer-based information-sharing network. It links the people and organizations of this region, provides useful information, and enables an open exchange of ideas with the world. Community involvement makes FreeNet an important and accessible meeting place, and prepares people for full participation in a rapidly changing communications environment.”

Patrick's analysis concentrates on the personal and social impacts of using the NCF system and is based on a survey of over 1,000 users. Users overwhelmingly responded to the effect that the system had had a positive effect on their lives (95% versus 4% saying it had had no effect). There was some indication that using the network was at the expense of other leisure activities such as watching TV, sleeping, spending time with their families and active participation in sports and hobbies. The evidence on social participation in general is mixed, with many users reporting spending more time socializing (outside of the system). Contrary to the claim by Stoll (1995) that CMC may be socially isolating rather than socially facilitating, the majority of NFC users state that using NFC has been beneficial for meeting people

and engaging in discussions. Patrick notes that “The NCF membership has seen friendships and fights, marriages and divorces, as people use the system to form new relationships in the community.”

Although the overall effect of membership in the NCF on social interaction seems to have been positive, there was little support for the supposition that participation would have a major impact on community involvement. When asked the question “Has the NCF encouraged you to get more involved in community life” the majority answer “No”. Similarly negative responses were generated by questions concerned with whether the use of the NCF had been an important aid to community action or whether it had led to increased knowledge of local support groups. Patrick comments that the reasons for the failure of NCF to fulfil the goal of encouraging and revitalizing community involvement are unclear:

“It is possible that the NCF system simply does contain enough community information to be a benefit in this area. It is also possible that members are not using the system to access community information or do community activities, but instead are using it for personal communication and learning. It is also possible that users are learning more about their community and getting involved without realizing it. Finally, only a small percentage of the population may get involved in community activities in the first place so these results may only be a reflection of that general pattern. Further research should examine these possibilities.”

In contrast to the relative lack of impact at the local level users of the NCF report considerable enthusiasm for wider use of the Internet and for using the system for both formal and informal learning, again posing questions concerning the relative balance of personal, local and world-wide interests.

The influence of contextual factors on the development of computer-supported community networks is explored in a study by Surak (1998), which investigates three sets of community computer networks in Australia, Canada and the United States. The author hypothesises that differences in the social and political context in the three countries will lead to differences in the goals, partnerships and financial organization of local networks. According to Surak the three countries can be arranged on a continuum in terms of the factors which have given rise to the development of local computer-based community networks. In the United States the community networking movement is essentially a grassroots initiatives; in Australia the development is the result of governmental initiatives; in Canada both sets of forces are represented.

As a result of their grassroots origins, local computer-based community networks in the United States are likely to be local in ownership, content and user base and heavily dependent on volunteer effort.

“Because such a network is driven by community goals, it is more likely to espouse social and civic rather than political and economic goals... As local initiatives, grassroots networks are generally run on a small budget and are dependent on funds from a variety of sources.”

Conversely, in Australia, direct government influence will give rise to an emphasis on the promotion of more general political goals, including the promotion of economic success .

“Because these networks see their local mission through the lens of government, governmental and economic interests are of greater importance to these networks, in comparison with grassroots networks, although social interests remain apparent... Government influenced networks are concerned with using CMC to fulfill political goals of promoting success through boosting interest and investment in the community, leading to aims such as using the network to link the world to the community... Because they have access to public coffers, such networks generally have large budgets”

The history of the selected networks in the three countries, three in each, fits the model Surak proposes, but the results of a questionnaire survey of Webmasters and public relations managers (not users) reveals little difference in the overall goals of the networks.

In each country “aiding community groups and service organizations and linking them with the community” and “increasing involvement with the community” are cited as being the most important goals of the networks. High ratings are also given to statements concerning the provision of local information, email access, and computer training. All respondents state that links with schools and “aiding, supporting, and linking to the public community groups and social service organizations” are important features of the service offered by the networks, though there is some difference between the countries in the types of other organization mentioned.

In general, Surak concludes:

“The results... show differences in the types of groups organizing community networks in Australia, Canada and the United States and differences in the relationships the networks have with government corresponding to national government policies. However, the effects of these differences on the goals, financing and relationships of the community networks proved not to be very strong... In general, community networks in Australia, Canada and the United States seem to be motivated and characterized by grassroots ideals of community building, providing equal access to information, and promoting communication and involvement in the community, regardless of whether the networks were organized by grassroots or government influenced efforts.”

Much remains to be explored in terms of the social impact of computer-supported community networks and it must be remembered that, despite the excitement which surrounds the latest advances in C&IT, involvement with the 'Net is still a minority interest and, even among its most devoted participants, interaction in on-line communities is only a part of their social participation. Wellman and Gulia (1999:170) point out:

“The Net is only one of many ways in which... people may interact. It is not a separate reality. People bring to their online interactions such baggage as their gender, stage in life cycle, cultural milieu, socioeconomic status and offline connections with others.”

The impact of online communities will be mediated by a host of other factors.

The great majority of the studies of online communities reported to-date have been based on North American free-nets which were designed in pre-WWW days. Their interfaces tend to be textual rather than graphical and the information they provide is almost wholly textual. Most reports concentrate on technical aspects rather than being concerned with the social effects of the networks. The extension of community networking outside North America, notably in Scandinavia, the rapid spread of the World Wide Web and the development of new infrastructures, provide new opportunities for researching the impact of CMC on local communities, but must ensure that due consideration is paid to encompassing social, political and economic factors which provide the context in which online community can develop.

SCHEMA plans to investigate a number of CSLNs with the initial emphasis being on two projects in Sweden and one in Scotland. An introduction to the two Swedish sites is given in the next chapter. The name used are fictitious, pending discussion with community residents.

9. Fältby and Bergdal

Computer-supported local community networks have become relatively common in Sweden. A number of municipalities have been active in attempts to provide widespread high-speed access (e.g. Karlskrona-Ronneby and Varberg: see map in Mattsson, 1999: 38-9). At a more local level, the lead has often been taken, particularly in low-status areas, by housing associations, which offer tenants subsidised connection to a local Intranet. The most usual goal is to make the area a more attractive place in which to live and work, but social aims include increasing social cohesion, inclusion and integration, especially with reference to disadvantaged groups such as immigrants.

Fältby

The Community

Fältby is an inner-city suburb a few kilometres from Stockholm city centre. The district which forms the site for the community networking initiative contains approximately 8,700 inhabitants, living in 3,400 flats, built between 1984-9. The public housing company, Stockholmshem, a subsidiary of the city of Stockholm, is the largest landowner, owning 39% (1201) of the flats. The district has its own local services, including a post office, medical centre, pharmacy, restaurants, hairdressers, food stores, clothes shops etc. Almost one-third of the population are aged under 20 years. The area is multicultural, with 23% of the inhabitants being immigrants from outside Sweden.

All households living in Stockholmshem properties have been offered free-of-charge connections to a local Intranet, *Fältby*. The purpose is stated to be to use C&IT as a public tool in order to create social contact, mediate information, simplify every day life and stimulate local industry (Svedlund, 1998).

Infrastructure

Connection to the high-speed Telia Internet cable can be made using either ordinary PCs or Network Computers (NCs), supplied by IBM. Connection started in August 1998. There is no necessity for the tenants to own their own PC. Since the aim is to make access as simple and cheap as possible, households have been offered the opportunity to rent a NC for the equivalent of €10 a month. This includes a display, keyboard, and a mouse as well as the computer itself. As is detailed in SCHEMA deliverable 2.2 (Booth, 1998), the NC is designed to be simple to use and maintain, which makes it particularly appropriate for networks in which many users have little or no previous experience of computers.

As of winter 1998/9 the use of the NCs was in its infancy and bedevilled by technical problems. There was one NC in the library and another in the local community centre. There were also two "ambassadors" who have NCs and have been charged with demonstrating the Fältby Intranet and the Internet to other inhabitants.

Access to the Fältby home page and the local Intranet is controlled through password. When surfing on the 'Net the inhabitants are anonymous, but the webmaster (based in Stockholmshem) can obtain some personal data about the households via their passwords. A number of rules have been laid down, including prohibitions on postings which are judged to be racist or pornographic, which have to be followed by users. The webmaster has the power to exclude households that do not follow the rules.

Local Issues

The Intranet provides information and communication facilities to residents in relation to a number of local services. Ignorance about facilities in the area is said to be a common problem which the local information pages are designed to address directly. A related aim is to provide on-line access to certain local facilities in order to simplify everyday life for residents.

The Fältby network is envisaged as offering a wide range of services:

- Contact and chat between members of the community
- Chatting with politicians (at specified times)
- Contact with various agencies, *e.g.* the police, the regional social insurance office, banks, post offices, local shops.
- Information about local events in Fältby, for example theatre and dance performances, meetings and football matches
- Contact with schools and child care services
- Booking the dentist, doctor and hairdresser
- Contacting the housing company in order to make complaints, arrange to change flats *etc.*
- Booking the laundry-room
- Accessing open and distance learning courses (possible courses envisaged for early availability include "Swedish for immigrants" and units relevant to running businesses)
- Local advertising, including residents' to buy and for sale notices
- Extracts from newspapers (with the whole newspaper being on the Internet if wanted).

A recent change in Swedish law relating to the storage and communication of personal information on computer networks (Palme, 1999) has meant that the chat facilities have currently (March 1999) had to be cancelled.

The Fältby community network is also planned to provide a stimulus for local business and industry. Companies have been offered the possibility of putting up their own home pages. Shops in the area can advertise special offers on the Intranet, in line with stock availability, and can arrange home deliveries. Pizza can be ordered via the Intranet and banking transactions can be made from home. Stockholmshem is offering 14-15 year old students in a local school the opportunity of attending a course on making Web home pages, so that will then be able to help local

companies, associations and agencies create their own home pages, further increasing the sense of cohesion and social solidarity.

Social Inclusion

The aim is to include everybody/as many as possible in the community network. To accomplish this connection to the 'Net is designed to be as cheap and easy as possible. Surfing on the local net is free; if households want to go outside the local community on to the Internet they can do so for the cost of a local telephone call.

Since the cable that is used for the network already exists in the area, the housing company hopes that the other housing bodies in Fältby will also link to the net. The aim is for everybody to be connected and to make the surfing as simple and cheap as possible.

It is recognised that the creation of a successful local community network requires the participation of all groups in the area. To help meet this goal a "reference group" has been established, designed to be as representative as possible, and scheduled to hold regular meetings. Among the organizations connected in the early days of the project and represented in the reference group were hyresgastforeningen, stadsdelsnamnden, brottsforebygganderadet, kulturhuset, datorteket and pensionersforeningen; the reference group also contains a couple of tenants and someone with visual disabilities.

In addition a number of "ambassadors" are to be appointed, hopefully one in each apartment block, in order to demonstrate use of the network and create interest among other residents so they will either rent a NC or buy a PC. It is reported that there remains considerable scepticism towards the use of the community network, with concerns being expressed about the usefulness and cost of connection. Many old people, potentially major beneficiaries of the information and contacts provided on the network, have refused the initial offer of connection.

The underlying social goal of the Fältby project is to enhance the social cohesion of the local community through the use of C&IT and to enhance the appeal of the district to existing and potential residents. The project has been designed specifically as a means to create a sense of community and prevent isolation. The plan envisages that residents with common interests, ideas and thoughts will create discussion groups and will provide support services to each other.

Bergdal

The Community

Bergdal is a mixed housing area situated in the western inner suburbs of a city in Småland in the south of Sweden. The area, consisting of 2700 apartments in multi-storey dwellings, was constructed between 1964-1974 and is managed by two public utility housing companies. The district has a small commercial and service centre, with a bank, post office, shops, restaurants, and social service offices. Bergdal has acquired the reputation of being something of a problem area and houses three-quarters of the immigrant population of the city. Unemployment is high and the educational level low. A particular concern has been the low level of political participation in the area: voting levels are the lowest in the city (in the 1998 general

election only 58% of those registered in one of the election districts in the area cast a vote).

Infrastructure

The Bergdal community network project began in 1998 and has a three-year time plan. All flats in the area were equipped with 4 Mbit ADSL broadband network access points through a local cable TV network provided by Telia in May 1998 and the goal is to get at least half the 2700 households connected to the network by 2001.

Access costs 90 SEK a month (c. €10), added to the rental contract with the housing company. For that sum subscribers can have unlimited access to both the Intranet and the Internet.

In contrast to Fältby, the Bergdal project is based on the use of standard desktop PCs with ethernet connections. In recognition of this, more emphasis is given to the need to supply computer training. The user association in the community also provides a helpdesk. As of January 1999, 850 households had signed up to the network.

Local Issues

The mission statement includes the following aims:

- to provide CMC possibilities to all “ordinary households” in the area
- to increase knowledge levels through an intensive IT-education programme
- to develop local information and communications services
- to enable immigrants to keep in touch with family and friends in their home countries
- to invite collaborators to support the continuation of the project
- to use the Intranet to provide interesting marketing opportunities for local and external partners
- to develop management expertise

The initial services made available on the Intranet include e-mail addresses, space for home pages and access to the Internet via a series of links and search engines. Contacts are provided with health and social welfare agencies and with local shops and banks. A national training organization for unemployed people, *Kunskapslyftet* provides courses in basic computer skills, offering a free 30-hour programme to all those who sign on; *Konsum* is sponsoring an on-line food shopping service and *Sparbanken* is offering on-line banking facilities (and, apparently, has an ambition to be “a good influence on society”).

Social Inclusion

Within the overall project there are a number of sub-strands with specific social agendas, including one on local democracy, based on collaboration between the local authorities in the area and the city’s university. The core of the local democracy project is the use of the Intranet for discussion and decision-making. The project’s

organisers believe that by participating in the local Intranet residents will discover common values and interests and will increase their social competence.

The specific purposes of the local democracy project are:

- to increase the influence of citizens in local political processes
- to involve local residents in environmental improvements
- to improve the attractiveness of the housing area
- to offer new techniques of CMC to everybody in the area
- to decrease the “social distance” between groups resident in Bergdal

Summary

The Fältby and Bergdal CSLCN projects have similar overall goals. Each is situated in a relatively low status inner-city area that has been labelled as “problematic” and contains a population which is heterogeneous in origin. Each has an increase in social involvement and integration as part of its mission statement. There are, however, differences in the infrastructure they are using and in the organisation and control of user access. Evaluation of their effectiveness should provide valuable information on the utility of computer-supported local networks as tools for the extension of social cohesion in inner city areas.

10. Research Questions

Previous sections have outlined some of the research and theories in the fields of CMC, computer-supported community networking and social cohesion. On this basis it is intended to analyse the relationship between computer-based local community networks and social cohesion in a number of communities, starting with Fältby and Bergdal.

The underlying question to be examined is

- In what ways and to what extent do computer-based local community networks contribute to the goal of reinforcing social cohesion and enhancing social capital?

In order to look at this, questions need to be asked about:

- social inclusion
- social participation
- identification and belonging

In the context of participation in a computer-supported local community network this will involve a consideration of the following areas:

- Who is the typical user in the local network and who is left out?
- Does the use of C&IT increase integration between different groups in the community (*e.g.* immigrants and members of the host population)?
- Is social participation in the community enhanced by C&IT?
- Does participation in a CSLCN enhance the sense of identity with the local community?
- Will the use of C&IT lead to increased social contact in general?

In order to operationalise these matters, observations, questionnaires and interviews will be conducted looking at the following:

- social attributes (education, age, gender, ethnicity, *etc.*)
- patterns of usage on the local network
- social networks within and outwith the local area
- social support (what kind of support and provided by who)
- community activities on- and off-line
- interest and knowledge about C&IT, including the local Intranets
- identification with the local community and/or the wider society

Detailed specification of the questions will take place during Spring, 1999, in collaboration with members of the communities involved. Results of the study will be made available on-line.

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