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THE NETWORKED NATURE OF COMMUNITY: ONLINE AND OFFLINE

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ABSTRACT

(Data Available)

Communities started changing from groups to networks well before the advent of the Internet. Initially, people believed that industrialization and bureaucratization would dissolve community groups and leave only isolated, alienated individuals. Then scholars discovered that communities continued, but more as sparsely-knit, spatially-dispersed social networks rather than as densely-knit, village-like local groups. A similar debate has developed about the impact of the Internet on community. Some fear that it will isolate people from face-to-face interactions. Others extol the Internet's ability to support far-flung communities of shared interest.

Evidence to address this debate about the impact of the Internet on community is thundering in. Three studies done at the NetLab are concomitant with general findings, both in North America and worldwide, that rather than weakening community, the Internet adds to existing face-to-face and telephone contact. Rather than increasing or destroying community, the Internet can best be seen transforming community such that it becomes integrated into rhythms of daily life, with life online integrated with offline activities.

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People hotly debate the impact of the Internet on community (see the articles in Wellman and Haythornthwaite 2002). Scholars, policymakers and the public all are concerned. Most believe that the Internet has changed community, but there are many different opinions about the novelty, nature and extent of the change:

- *The Internet weakens community:* The immersive nature of the Internet may be so compelling that Internet users neglect their family, friends, relatives and neighbors (Kraut et al. 1998; Nie and Hillygus 2002)
- *The Internet enhances community:* People mostly use the Internet to maintain contact with existing community members, either by adding Internet contact on to telephone and face-to-face contact or by shifting their means of communication to the Internet (Wellman and Quan-Haase 2002).
- *The Internet transforms community:* The Internet's connectivity better enables people to develop far-flung communities of shared interest, possibly at the expense of local contact (Barlow, 1995; Wellman 2001b).

Although the Internet has only been widely used since the early 1990s, the debate about its impact on community is a continuation of concerns since the Industrial Revolution about the impact of technology on community. Part of this debate has been the realization that community is better conceptualized as a social network. Such networks could be locally bound, as in traditional neighborhoods, or global as in some Internet-based communities.

This article first considers how changing means of transportation and communication operated in conjunction with large scale social changes—such as the advent of capitalism, bureaucratization, industrialization and urbanization—to change the nature of community from the door-to-door interactions of village-like communities to spatially-dispersed social networks of community.

Second, this article relates involvement in the Internet to the ways in which people communicate with each other, offline as well as online. As an efficient and popular medium of communication and socializing, the Internet is playing an increasingly important role in everyday life. The findings here come from research done by the NetLab as well as from other scholars (collected in Wellman and Haythornthwaite 2002; but see also Kraut et al. 2002). These findings build a picture that conceptualizes Internet use in peoples' lives online and offline, including the friends with whom they interact and the technologies they have around them.

Third, NetLab research suggests that contemporary community life can often be characterized as "networked individualism," or possibly "individualized networking." Understanding the dynamic interaction between new technology and sociability should be a central concern of community research.

COMMUNITY WAS CHANGING BEFORE THE INTERNET

In Western societies, community has traditionally been anchored in local, neighborhood interactions and enshrined as a code word for social cohesion. "Community" usually connotes people socially and cognitively encapsulated by homogeneous, broadly embracing groups (Hillery 1955; Wellman 2001a; Wellman and Leighton 1979; Wellman 2002). People in group-based societies deal principally with fellow members of the few groups to which they belong: at home, in the neighborhood, at work or in voluntary organizations. They work in a discrete work group within a single organization; they live in a household in a neighborhood; they are members of one or two kinship groups; and they participate in structured voluntary organizations: churches, bowling leagues, unions and the like. These groups often have boundaries for inclusion and structured, hierarchical organization: supervisors and employees, parents and children, pastors and churchgoers, organizational executives and members. In such a society, each interaction is in its place: one group at a time.

There have been fears since the Industrial Revolution that traditional group-based community has been "lost" (see the review in Wellman and Leighton 1979). From the early 1960s, the balance of analysis swung away from bewailing this purported loss of community to using ethnographic and survey techniques to discover the persistence of neighborhood communities. In the 1970s, analysts began realizing that communities were flourishing outside of neighborhoods. The proliferation of cheap and efficient transportation and communication networks in the developed world has increased the velocity of transactions and fostered interactional density. This allows contact to be maintained with greater ease and over longer distances. Since the 1970s, many studies have documented a change from local to long-distance community, with little interaction across the intervening territory between places. Few neighbors are known, and most friends and relatives live elsewhere (Fischer 1982; Wellman 1979, 1999a, 1999b).

Given this movement from the local and densely knit to the far flung and the sparsely knit, it is not useful to think about community as group-like neighborhoods and villages. It is more useful to define community as networks of interpersonal ties that provide sociability, support, information, a sense of belonging and social identity. This network understanding of community not only makes sense in modern times, it contributes to understanding of the place of the Internet in everyday life. After all, a computer network is a community network when it connects friends, relatives, neighbors and workmates.

THE INTERNET IN EVERYDAY LIFE

Can the Internet sustain "real" community where people have intense supportive and sociable relationships that provide them with a sense of social identity and social belonging? Critics wonder whether relationships between

people who never see, smell, or hear each other can be the basis for true community. Other critics make an opposite argument: The Internet may be so immersive that it lures people away from other pursuits and involves them in online interactions that only reinforce their existing opinions (more details about this debate can be found in Wellman and Gulia 1999; Haythornthwaite and Wellman 2002; Wellman and Quan-Haase 2002).

By contrast, enthusiasts see the Internet as extending and enhancing community. For example, Barlow et al. (1995) assert "with the development of the Internet . . . we are in the middle of the most transforming technological event since the capture of fire." Enthusiasts point to the ability of the Internet to span distances and time zones at low cost, to sustain relationships based on shared interests (even when the participants are residentially dispersed), and to provide powerful links between people and dispersed knowledge (Rheingold 2000).

Too often the debate has been:

1. *Manichean:* The Internet is bringing heaven or hell, but nothing in between.
2. *Unidimensional:* The Internet is such a powerful force that other considerations, such as gender and status in an organization, are ignored.
3. *Parochial:* The Internet should be considered as an entity in itself, rather than as fitting into the full range of work, community and daily life.
4. *Presentist:* The Internet is such a transforming force that long-term social trends, such as the pre-Internet move to networked communities, are irrelevant.
5. *A-Scholarly:* Software designers and pundits assume and assert the nature of community, while ignoring what existing scholarship can tell them about the actual state of community.

Rather than increasing or destroying community, the Internet can best be seen as integrated into rhythms of daily life, with life online intertwined with offline activities. Changes in transportation and communication have already allowed for a new conception of community in which relationships need not be limited to spatial boundaries. Thus, the Internet adds another means of communication to the telephone and face-to-face contact (writing letters on paper having become all but obsolete), one that is often convenient and affordable. This suggests that the Internet's effects on society will continue and intensify the interpersonal transformation from neighborhood groups to social networks. Table 1 shows that face-to-face and telephone contact between community members continue, complemented by the Internet's ease in connecting geographically dispersed people and organizations. Indeed, 91 percent of those who use email daily are high in telephone contact compared to only 57 percent who only rarely email.

TABLE 1: EMAIL COMMUNICATION BY HIGH LEVELS OF PERSONAL VISITING AND TELEPHONE CONTACT*

Email with Friends within 30 miles/ 50 kilometers	Rarely	Several times a year	About monthly	About weekly	Daily
High personal visit	55%	52%	51%	52%	50%
High telephone contact	57%	53%	64%	82%	91%

**Source: National Geographic Survey 2000*

To further appreciate the Internet's place in society, it helps to understand exactly how it is being used. Current research indicates that it is being used more by more people, in more countries, and in more different ways:

- Internet use has diffused from white, young North American men to the rest of the world. Gender and age have ceased being barriers. Although few poor people, less-educated people and non-whites use the Internet, the "digital divide" between such groups and traditional Internet users is closing (Wellman et al. 2003).
- Almost all Internet users send and receive email, with email becoming more widely used than the telephone.
- Almost all Internet users web surf. Moreover, Web surfers are spending more time online and using the Internet more often. In September 2001, Internet users spent an average of 10 hours and 19 minutes online, up 7 percent from the 9 hours and 14 minutes recorded a year earlier (Macaluso 2001).
- Usenet members participated in more than 80,000 topic-oriented collective discussion groups in 2000. More than eight million participants posted 151 million messages (Smith, personal communication, August 10, 2001; see also Smith 1999). This is more than three times the number identified on January 27, 1996 (Southwick 1996).
- Although reliable data are hard to come by, Internet telephone accounted for 5.5 percent of international traffic in 2001 (ITU 2001).

Evidence to address the debate about the impact of the Internet on community continues to thunder in. This article next reviews three studies done at NetLab that are congruent with the broad base of findings about the nature of the Internet.

STUDY 1. NETVILLE: NEIGHBORING AND LONG-DISTANCE COMMUNITY IN A HIGHLY-WIRED SUBURB

To obtain insight into how the evolution of the Internet in the near future might affect community, one NetLab study analyzed "Netville," an experimental "wired suburb" consisting of 109 single-family homes in a mid-

price housing development near Toronto. One current area of transition is away from "dial-up" to "broadband." "Dial-up," using traditional modems is a relatively slow-speed service (30–50 kilobit) that competes with telephone use and hence can rarely be left on 24 hours per day, 7 days per week. By contrast, "broadband" connections (either by cable or telephone company ADSL) currently have speeds that are at least ten times as fast (500 kilobit—1 megabit), do not compete with telephone use, and can be left on 24/7 at no extra cost. The experimental Internet development in Netville went even further by installing a much higher speed (10 megabit) "asynchronous transfer mode" system in most of the homes. However, 35 percent of the households in Netville did not have this new technology installed, thus providing a convenient comparison group.

This research has focused on how access to such advanced communication technologies affects the amount of contact and support exchanged with members of their distant social networks. How does living in Netville affect people's community relations, online and offline, in the neighborhood and further away?

The findings suggest that high-speed Internet access supports both neighboring and long-distance community (see Hampton 1999, 2001; Hampton and Wellman 1999, 2002a, 2002b):

- "Wired" residents with high-speed Internet connections had much more informal contact with neighbors than did the "non-wired" residents—those who had moved into the same development but had not yet received their high-speed access. Wired residents knew the names of twenty-five neighbors, whereas non-wired residents knew only eight. Wired residents talked to about six neighbors on a regular basis, but non-wired residents only talk to three. Further, wired residents made 50 percent more visits to each others' homes, and their contacts with neighbors were more widely dispersed in the development.
- At the same time, wired Netville residents reported maintaining more long distance contact with friends and relatives than non-wired residents did. All Netville residents had left friends and relatives behind when they moved into the new development, but only the wired residents were able to use the Internet to maintain their pre-move levels of contact with non-local friends and relatives.
- The Internet also helped provide social support for wired Netville residents. There is interplay between Internet contact and face-to-face contact. Distant friends and relatives were especially apt to provide support when they lived close enough for occasional face-to-face get-togethers.

STUDY 2. COMMUNITY NETWORKS IN NORTH AMERICA

To understand the relationship between online and offline community ties, NetLab collaborated in the National Geographic Survey 2000. The *National Geographic* magazine and society publicized this then-innovative web survey worldwide and featured it on their popular website between September and November of 1998. Visitors to the site were encouraged to answer the survey on the spot (Witte, Amoroso and Howard 2000). Most respondents were North American, reflecting the predominant clientele at that time of the web (and of the *National Geographic* magazine and website).

Among the findings (with details presented in Quan-Haase and Wellman 2002):

- Experience counts: The longer that people have been online, the more they use the Internet.
- It is probable that the effects of experience are confounded with the different demographic and cultural characteristics of early Internet users as compared to relative latecomers. The demographic characteristics of the Internet population are rapidly becoming similar to the characteristics of the general population. Gender and age composition are quite similar. The participation gap ("the digital divide") is real but diminishing for people who have less money, have less education, and are less fluent in English.
- Rather than weakening community, the Internet supplements existing face-to-face and telephone contact. Heavy Internet users have a greater overall volume of contact with community members.
- The more . . . the more: Frequent contact via the Internet is associated with frequent contact via other means. It is not the case that the Internet is replacing face-to-face or telephone contact.[2] It is probable that people not only have more relationships than in pre-Internet times, they are in more frequent contact with community members.
- Frequent users of the Internet have a more positive sense of *online* community with friends and family. However, frequent Internet users have neither a higher nor a lower sense of overall community.
- The strengthening of community ties through more frequent contact on and offline means that community members can be more readily mobilized for aid.

STUDY 3. INTERNATIONAL USERS AND USES OF THE INTERNET

Taking advantage of Survey 2000's data from 178 countries, NetLab has also compared the users and uses of the Internet in North America with users in other developing (OECD) countries and in less developed counties (for details,

see Chen, Boase and Wellman 2002). In addition to the cautions noted above, the sample was further affected by the availability of the survey only in the English language. Nevertheless, this first comparative international study shows:

- The Internet is used in similar ways around the world. Throughout the world, frequent users tend to use the Internet in multiple ways – socially, instrumentally and recreationally—and to combine it with face-to-face and telephone contact.
- The users of the Internet around the world vary more than the uses of Internet. The profile of respondents outside North America looks similar to that of North American Internet users a half-decade earlier. They are apt to be male, well-educated and younger adults. Where North American Internet use has become broadly based, international use is more restricted to elites, especially in developing countries.
- North Americans usually have been online longer, use the Internet more frequently, and do more kinds of activities online. North America has continued to be the "primate region" of the Internet whose influence and activity outweighs the rest of the world combined.
- As in North America, experience counts around the world. The longer that people have been online, the more they use the Internet.

Table 2 presents a comparison of the social profiles of Internet users in different countries.

The above research suggests that the Internet is not a self-contained world. Rather than operating at the expense of the "real" face-to-face world, it is a part of it, with people using all means of communication to connect with friends and relatives. The Internet is another means of communication, which is being integrated into the regular patterns of social life. Other NetLab research suggests that this integration of online and offline life is also true for "communities of practice" at work (Haythornthwaite and Wellman 1998; Koku, Nazer and Wellman 2001; Koku and Wellman 2003).

THE RISE OF NETWORKED INDIVIDUALISM

The proliferation of the Internet is facilitating changes that have been developing for decades in the ways that people contact, interact and obtain resources with each other. This new person-to-person connectivity has been afforded both by social changes (such as birth control and liberalized divorce laws and dual-career families), land-use changes (such as zoning separation of residential from commercial and work uses) and technological changes (such as the proliferation of expressways and affordable air transportation; Wellman 2001b).

TABLE 2: SOCIAL PROFILES OF INTERNET USERS (%)*

	North America	Other OECD	Non-OECD
Women	50	34	37
Age (Mean)	38	33	33
Single	37	46	52
English Not Spoken at Home	14	60	75
Education			
High School or Less	9	17	17
Some College	33	26	23
Undergraduate	34	24	29
Graduate School	24	33	31
	100%	100%	100%
Employment			
Full-Time	59	62	62
Part-Time	6	6	5
Unemployment	8	5	6
Retired	6	2	2
Student	21	25	26
	100%	100%	100%
Place of Access			
Home	66	53	59
Workplace	27	36	33
School	5	7	5
Community Centers, etc.	3	3	3
	100%	100%	100%
Newbie (< 1 year Internet Experience)	18	23	22
Weekly+ Contact with Kin Within 50 Km			
Personal Visit	32	37	35
Telephone	42	47	46
Email	16	12	14
Weekly+ Contact with Friends Within 50 Km			
Personal Visit	60	64	60
Telephone	69	74	72
Email	49	44	48
Weekly+ Contact with Kin Beyond 50 Km			
Personal Visit	3	4	5
Telephone	46	42	31
Email	40	25	31
Weekly+ Contact with Friends Beyond 50 Km			
Personal Visit	4	5	5
Telephone	17	18	16
Email	40	35	40
Number of Survey Respondents (n=)	(15,599)	(3,079)	(1,604)

**Source: National Geographic Survey 2000*

Communities and societies have been changing towards "networked individualism." Our social systems—at work and home and elsewhere—have moved from being bound up in hierarchically arranged, relatively homogeneous, densely knit, bounded groups to being social networks. In networked societies, boundaries are more permeable, interactions are with diverse others, linkages switch between multiple networks, and hierarchies are flatter and more recursive (Wellman 1997, 1999a; Castells 2000). Hence, many people and organizations communicate with others in ways that carry across group boundaries. Rather than relating to one group, people live and work in multiple sets of overlapped relationships, cycling among different networks. Their work and community networks are diffuse and sparsely knit—with vague, overlapping, social, spatial boundaries and many of the people they deal with do not know one another.

Computer networks and social networks resonate with one another. Because the developed world had already begun changing into a networked society, the Internet could take root in the 1990s. In return, the Internet's flexible openness to intermittent communication with all comers encouraged the ongoing transformation of work and community into social networks. Internet and mobile phone connectivity is to persons and not to jacked-in telephones that ring in a fixed place for anyone in the room or house to pick up.

The developing personalization, wireless portability, and ubiquitous connectivity of the Internet all facilitate networked individualism as the basis of community. Because connections are to people and not to places, the technology affords shifting of work and community ties from linking people-in-places to linking people at any place. Computer-supported communication will be everywhere, but it will be situated nowhere. It is "I-alone" that is reachable wherever that "I" happens to be: at a home, hotel, office, highway or shopping center. The person has become the portal (Wellman 2000, 2001b).

This shift facilitates personal communities that supply the essentials of community separately to each individual: support, sociability, information, social identities, and a sense of belonging. It is the person, and neither the household nor the group, which is the primary unit of connectivity. Just as 24/7 Internet computing means the high availability of people in specific places, the proliferation of mobile phones and wireless computing increasingly is coming to mean the even higher availability of people without regard to place. Supportive convoys travel ethereally with each person (Ling and Yttri 2002; Katz 2002).

The technological development of computer networks and the societal flourishing of social networks are affording the rise of networked individualism in a positive feedback loop. Just as the flexibility of less bounded, spatially dispersed, social networks creates demand for collaborative communication and information sharing, the rapid development of computer-communications networks nourishes societal transitions from group-based societies to network-based societies (Castells 1996, 2000; Wellman 2002).

Networked societies are themselves changing in character. Until quite recently, transportation and communication have fostered place-to-place community. Expressways and airplanes speed people from one location to another (without much regard to what is in between); and telephone and postal communication are delivered to specific, fixed locations. The change is from place-to-place to person-to-person community. Communication is taking over many of the functions of transportation for the exchange of messages. With mobile phones and wireless computers proliferating, communication itself is becoming more mobile.

Each person is a switchboard, between ties and networks. People remain connected, but as individuals, rather than being rooted in the home bases of work unit and household. Each person operates a separate personal community network and switches rapidly among multiple sub-networks. In effect, the Internet and other new communication technology are helping individuals to personalize their own communities. This is neither a prima facie loss nor gain, but rather a complex, fundamental transformation in the nature of community.

NEXT STEPS

The Internet is a moving target, and society, community and work are all in states of flux. As the world changes from operating in groups to operating in networks, people's lives are changing at work, in the community and at home. Fascinated by the dynamic interaction of technology, community and work, NetLab is pursuing the following projects:

- *National Geographic Survey 2001:* This is a collaboration with James Witte and Catherine Mobley (Clemson University) to administer and use (a) a new web survey (2001–2002) of visitors to the National Geographic Society's website and (b) a phone survey of users/nonusers of the Internet. The object of this research is to understand how the experience of being online is affecting people's domestic, community and work relations, and the nature of the networked society in which they are embedded.
- *Community and Cohesion in Canada:* How does the Internet link Canadians to each other, near and far, and to the rest of the world? This research uses survey data and more qualitative investigations to study social linkages, social capital, social inclusion and social exclusion among Canadians.

- *Projecte Internet Catalunya:* This is a collaboration with Manuel Castells and Imma Tubella to understand how social identity and social empowerment are related to Catalans' involvement with the Internet.
- *Communities of (Work) Practice:* There are two parts to this research. One looks at how people in networked organizations learn about, gain access to and manage knowledge. The other studies how computer mediated communication affects scholarly interaction at two invisible colleges: an international human development research group ("GlobeNet") and a Toronto-based network ("TechNet") of computer scientists, social scientists and advanced creators of computer applications using survey, ethnographic and bibliometric data.
- *Focused Studies, Small and Large:* There is a need to go beyond studies demonstrating that community ties exist online and offline to understanding how people use the Internet to find community—and how online connectivity fits with offline connectivity. Investigating such issues calls for a mixture of qualitative and quantitative analyses. For example, even as the Internet maintains the quantity of community ties, does it maintain (or even transform) the quality of how community is experienced? There is a further need for understanding how extensive use of the Internet is affecting the societies in which it is embedded. For example, the Internet may well increase overall social cohesion by linking different groups and different regions.

The evidence suggests that heavy Internet users have become "glocalized," that is involved in both local and long-distance relationships. They both neighbor and connect with far-flung friends and relatives. Moreover, the wired nature of the contemporary Internet means that the more they are online the more they must stay physically rooted to fixed personal computers and Internet connections at home, work, school or public places. The paradox is that even as people are connecting globally, they are well placed to be aware of what is happening in their immediate surroundings.

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ENDNOTES

[1] This article is based on the writings of Barry Wellman, often in collaboration with Jeffrey Boase, Wenhong Chen, Keith Hampton, Caroline Haythornthwaite and Anabel Quan-Haase, Uzma Jaluddin, Kristine Klement, Monica Prijatelj and Uyen Quach contributed significantly to the research reported here. In addition to formal publication in journals and books, much of this research is presented in www.chass.utoronto.ca/~wellman/publications.

[2] A cautionary note: These are exploratory results based on what one can tell from cross-sectional survey data that has limited measures of the amount of contact with friends and relatives.