Networked

The New Social Operating System

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For Paulette and Bev

5 Networked Relationships

Alarm spread in June 2006 when Miller McPherson, Lynn Smith-Lovin, and Mathew Brashears published "Social Isolation in America" in the *American Sociological Review*.[1] In this leading journal, the three scholars reported findings from the General Social Survey—the gold standard of American surveys—to the question: "Looking back over the last six months—who are the people with whom you discussed matters important to you?" Comparing Americans' answers in 2005 to answers in 1984, they found that the number of people with whom Americans reported discussing important matters had declined by 28 percent, from 2.9 to 2.1. Moreover, nearly one-quarter (23 percent) of Americans said they did not have any confidants with whom they could discuss important matters—not even their spouses. The nature of their confidants had also changed. There were fewer friends and neighbors in 2005 than in 1984 and more immediate kin and spouses. For example, the percentage of Americans with a friend as a confidant declined from three-quarters (73 percent) in 1984 to one-half (51 percent) in 2005.[2]

These depressing results raised an alarm that Americans had become more isolated. Although the researchers did not show that the internet was the cause of social isolation, the media speculated about this. *Toronto Globe and Mail* columnist Douglas Cornish sounded a common refrain when he wondered: "Will this glow [from the internet] produce a closed generation of socially challenged individuals, humans who are more comfortable with machines than anything else?"[3]

Anxieties about the withering of relationships are not new, but began many centuries before the coming of the internet. Every epoch experiences them. In past decades, they were tied to industrialization, bureaucratization, urbanization, socialism, and capitalism. Often, these alarms have been tied to the rise of technologies that connect people in new ways: from grumbling about nineteenth-century railroads spooking horses to

more recent complaints about cars and telephones isolating people from in-person contact.[4]

The alarm is repetitive: Something is happening "now" to rend apart the supposedly supportive, fulfilling bonds of olden days—although in every generation the alarmists keep looking back approvingly to the previous generation. For example, in the now supposedly communal 1950s and 1960s, commentators were moaning that things were falling apart compared with the old days. They came up with a number of memes for it, such as "the lonely crowd," "mass society," and "the quest for community."[5] For example, here is Maurice Stein in *The Eclipse of Community*: "The old feeling of solidarity based on a sense that everyone in town belongs to common community gives way to sub-communities with hostile attitudes toward each other." He continues: "Community ties become increasingly dispensable, finally extending even into the nuclear family, and we are forced to watch children dispensing with their parents at an even earlier age in suburbia."[6]

Although such critics wrote before the proliferation of the internet, it has now became the scapegoat. The basic argument is that community is falling apart because internet use has led people to lose contact with authentic in-person relationships as they become ensnared online in weak simulacra of reality. As early as 1995, Texas radio commentator Jim Hightower warned, "While all this razzle-dazzle connects us electronically, it disconnects us from each other, having us 'interfacing' more with computers and TV screens than looking in the face of our fellow human beings."[7]

Social psychologist Robert Kraut and associates added to the unease in 1998 when major newspapers publicized his finding that newcomers to computing had decreased social involvement and psychological well-being. To their credit, Kraut and associates retracted their initial findings in 2002, when they found that as the newcomers became computing veterans, their negative symptoms disappeared. However, this got less media attention.[8]

The internet was also the force underlying social decay in William Gibson's science fiction novel *Neuromancer*, which portrayed people losing their real-world personas by "jacking in" to "cyberspace" (the latter being a word that Gibson coined for the novel).[9] More recently, social scientist Sherry Turkle has argued that people create separate selves as they immerse themselves in cyberspace and forget the real world. "People can get lost in virtual worlds," she warned in her 1996 *Wired* magazine article. Her 2011 book *Alone Together* continues the thread, bringing in a new techno-fear as added cause for alarm: connections with robots supplanting human interaction.[10] She also raised concerns about people being more preoccupied with the connections they make through mobile phones than with the real people who are standing mere inches away.

After the McPherson, Smith-Lovin, and Brashears article and ensuing commentary about technology's suspected baleful impact, network scholar Keith Hampton joined with Pew Internet to investigate how technology might be tied to social isolation and declining discussion networks. The resulting work showed the opposite: People who use ICTs (information and communication technologies) have larger and more diverse networks than others.[11] On average, a Pew Internet study showed, the size of people's discussion networks—those with whom they discuss important matters—is 12 percent larger among mobile phone users, 9 percent larger for individuals who share photos online, and 9 percent bigger for those who use instant messaging. The diversity of people's core networks—their closest and most significant confidants—tends to be 25 percent larger for mobile phone users, 15 percent larger for occasional internet users, and even larger for frequent internet users.

Contrary to some pundits' fears that the internet was drawing people away from local communities, Pew Internet research found that most internet activities have little relationship or a positive one to local activity. For instance, internet users are as likely as anyone else to visit with their neighbors in person. Mobile phone users, those who use the internet frequently at work, and bloggers are more likely to belong to a local volunteer association, such as a youth group or a charitable organization. Internet use does not pull people away from public places, but rather is associated with frequent visits to places such as parks, cafés, and restaurants—the kinds of locales where people are likely to encounter a wider array of people and diverse points of view.

Why do many commentators suspect that ICTs cause social woes? There are multiple traps in the notion that the internet is a separate, immersive medium:

• It assumes that people lead different "virtual" lives, distinct from their everyday real-world lives. As we showed in part I, this rarely is the case. With the partial exception of the intense gamers that Turkle has studied, online and in-person interactions—and lives—are intertwined.
• It assumes that in-person encounters are the only meaningful form of social connection, and it does not recognize that emails, text messages, Facebook posts, tweets, and the like are everyday tools that people routinely use to stay connected.

• It asserts the internet's limited capability for transmitting social cues such as facial expressions, smells, and body gestures. Internet encounters contain "less" social information and communication, and that might cause relationships to atrophy. Yet, people rarely interact with strangers over the internet. They have a strong sense of the others with whom they are online and internet encounters complement and increase the volume of communication among people, rather than substituting for richer in-person contact.

• It takes Marshall McLuhan's aphorism too seriously and *confuses the medium with the message.* In reality, people are not confusing the Facebook screen with the person at the other end of it, just as they have not confused the telephone receiver with the person with whom they were talking. Another McLuhan phrase seems more accurate: The media are "extensions of man" (in other words, people). When we send email to our spouse or look at a friend's Facebook updates, we do so with a strong understanding of the person with whom we are communicating.[12]

A large part of contemporary unease with technology stems from selective perception of the past and the superficial observation of other individuals. Many people think they are witnessing loneliness when they observe people walking or driving by themselves—not realizing they may be going to meet friends. They echo the Beatles: "All of the lonely people. Where do they all come from?"[13]

Yet, while people do not often open the door to strangers, they do drive, fly, and make internet phone calls over long distances to help their friends and relatives. People glance at Nelu Handa (chapter 4, figure 4.4) sitting by herself at her laptop and immersed in her iPhone chats and music, without realizing that she can also be interacting intensely with friends on the internet and the phone, as well as be available for in-person contact.

By contrast, tech enthusiasts have been excited about the positive possibilities of the internet for sociability. Their view has been that the internet would foster an enormous increase in cooperation by allowing far-flung people to interact. Rather than alienation and isolation, there would be more relationships, more long-distance relationships, and more connections among the members of a person's network. In the mid-1990s, John Perry Barlow was a leading enthusiast. The co-founder of the Electronic Frontier Foundation vividly prophesied that the Internet Revolution would bring about radical and positive social transformation: "With the development of the internet, and with the increasing pervasiveness of communication between networked computers, we are in the middle of the most transforming technological event since the capture of fire."[14]

Both sides of the debate—doomsters and enthusiasts—have been so excited by the internet that they can be too *presentist* and *parochial*: presentist, because they have rarely looked back to see if people had ever worried about relationships before the internet arose; parochial, because they have assumed that the internet's very existence would radically affect relationships. Social scientists call this sort of thinking "technological determinism," because it does not take into account how the use of ICTs is socially embedded and socially determined. This ignorance of context is why both the yeasayers and the naysayers have gone astray.

Their fixation on the internet has ignored nearly a century of research showing that technological changes before the internet—planes, trains, telephones, telegraphs, and cars—neither destroyed relationships and communities nor left them alone as remnants locked up in rural and urban villages. Fifty years of research have shown that people are in sizeable and supportive networks, both local and long-distance.[15] When asked, few people say that they, themselves, are living lives of lonely desperation, and they are aware that most of their friends, neighbors, relatives, and coworkers are also in supportive networks. Yet, even with these realizations, some people—and commentators—believe that they are the exceptions and that the masses around them are lonely, isolated, and fearful.

There is no reason to panic. The alarm that McPherson and associates sounded came from survey responses to only one narrow question. Looked at more broadly, a large body of evidence has shown that relationships and community and civic engagement thrive in social networks and that they are aided by the internet and mobile community. Take Robert Putnam's well-known book *Bowling Alone,* based on evidence from the middle to the end of the twentieth century. It argues that key reasons why involvement declined in community organizations such as bowling leagues is that people stayed home to watch television and many more women were doing paid work outside of their homes. But Putnam's own account shows that people are not bowling *alone*—despite the book's title—but in fact are bowling in networks of shifting sets of others who happen to be free that week.[16]

Research by Pew Internet, Toronto's NetLab, and others provides much evidence that that people have large and helpful networks. While the Internet and Mobile Revolutions have affected the nature of communities, they have transformed but not destroyed them for networked individuals in the networked operating system.

From Door-to-Door to Place-to-Place Networks

It helps to think about communities as fluid personal networks, rather than as static neighborhood or family groups. For too long, the model of community has been the preindustrial village where people walked door to door, and all knew, supported, and surveilled one another. These bygone village groups have largely transmuted into multiple, fragmented *personal networks* connected by the individuals and households at their centers. Figure 5.1 shows a typical network of close ties. For example, Wellman's early research found in 1968 that neighbors made up only 13 percent of Torontonians' core networks. Research elsewhere in North America confirmed this in Detroit, Los Angeles, and northern California. People find support and
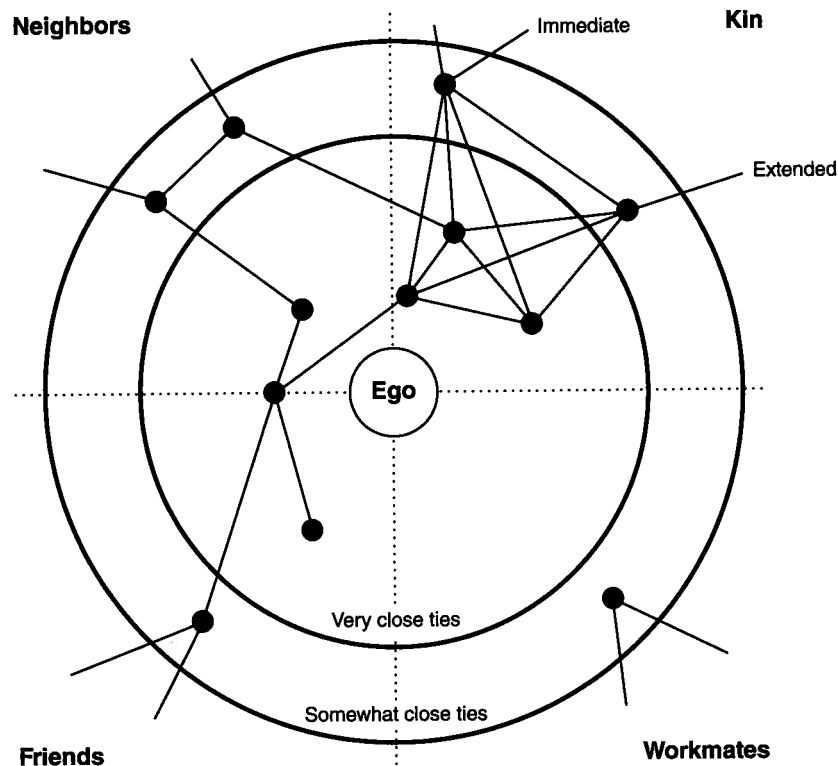

Figure 5.1
Typical personal network of close ties.
Note: Ego's ties to every network member omitted to reduce clutter.
Source: Barry Wellman. © 2004, used with permission.

sociability, but mostly with people who live outside of their neighborhoods and as often with friends as well as with kin. Rather than having a few go-to persons who provide a wide range of support.[17]

Although the move away from village groups did not happen instantly, it did happen after World II, but before the Internet and Mobile Revolutions. The widespread abundance of cars, phones, and plane travel made "glocalization" possible (global + local connections). Social networks remained anchored in households, yet people often traveled substantial distances to get together with friends and relatives. Although neighboring remained, personal communities extended far beyond them. Wellman's awakening insight on this came when he was part of a "Save our Neighbourhood" meeting, intent on stopping the Spadina Expressway from knifing though downtown Toronto. The group was just like groups in other cities, fighting to preserve neighborhoods against cars. But as he looked around the room, he realized that many of that neighborhood's saviors did not even live there. They were not a little group of neighbors at all—they were a network of community activists who had come from all over Toronto.

Wellman's long-running research in Toronto has shown that although people continue to befriend neighbors, they have less connection with their neighborhoods than in preindustrial door-to-door times. Until the Mobile Revolution, phone calls came in by landlines to households—rather than wirelessly by mobile phones to specific people. Consequently, many interactions moved inside private homes—where much entertaining, phone calling, and internetting take place. At the same time, longer-distance connections proliferated. Both Wellman's first (1968) and second (1979) studies in the East York area of Toronto found that few strong ties were with neighbors. The more voluntary phone calls were stronger predictors of social closeness and support than in-person contact with neighbors and coworkers who might not have voluntarily chosen their relationships.[18] As such, people became connected *place to place*. They are aware of local contexts that they physically inhabit—especially home, work, bars, coffee shops, and airports—but they rarely know about the places in between them.

From Place-to-Place to Person-to-Person Networks

The personalized and mobile connectivity enhanced by the Triple Revolution and the weakening of group boundaries have helped relationships move from place-to-place networks to individualized person-to-person

networks. Most have private internet connections and personal mobile phones, and their own cars. Lower numbers of children mean parents need to spend less time at home raising them. There are fewer children to keep parents housebound. The loosening of religious, occupational, and ethnic boundaries also encourages interpersonal free agentry.

Rather than ties between households or work groups, people connect as individuals to other individuals, in person-to-person networks. They maneuver through multiple sets of ties that shift in importance and contact by the day. Each person engages in multiple roles at home, with friends and relatives, and at work or school. Their networks are sparsely knit, with friends and relatives often loosely linked with each other. These loose linkages do not imply a complete untethering of social relations: There are only a few isolates "bowling alone." Most people are connecting in shifting networks rather than in solidary groups.[19] Such networks provide diversity, choice, and maneuverability at the probable cost of overall cohesion and long-term trust.

While place-to-place networks show how community has transcended local boundaries, person-to-person networks show how community has transcended group boundaries. It is the individual—and not the household, kinship group, or work group—that is the primary unit of connectivity. The shift puts people at the center of personal networks that can supply them with support, sociability, information, and a sense of belonging. People connect in person and via ICTs. Their networking activities shift as their needs shift. While network members relate to each other as persons, they often emphasize certain roles. They are bosses to their employees, husbands to their wives, friends to their friends, and so on—with somewhat different norms for each network.

Networked individualism means that people's involvement in multiple networks often limits their involvement in and commitment to any one network. It is not as if they are going to the village square every day to see the same crowd. Because people can maneuver among milieus, their multiple involvements decrease the control that each milieu has over their behavior. Yet limited involvements work both ways. If a person is only partially involved in a milieu, then the participants in that milieu often are not as committed to maintaining that person's well-being. Like corporations that segregate their activities into somewhat autonomous units, people are now in communities of "limited liability," to use the British legal term.[20]

The shift to person-to-person networks has profoundly affected how people relate. This is not a shift toward social isolation, but toward flexible

autonomy. People have more freedom to tailor their interactions. They have increased opportunities about where—and with whom—to connect. As people maneuver through their days, lives, and networks, the nature of their ties varies from situation to situation. That means people are more selective about the people with whom they relate, because they no longer can be open to "the community." In the old days, people reportedly kept their outside doors unlocked and picked up their phones as soon as they rang. By contrast, a recent study showed that many Chicago homes, for example, are "islands of privacy." People practice selective concealment and disclosure. They don't open their doors readily—to avoid salespeople and religious proselytizers—and they use caller ID and voicemail to avoid phone contact with telemarketers, politicians, and others. Email is easily screened by software to remove most spam before viewing, and invitation-only Facebook offers preselected contacts.[21]

Norms are developing around these new social spaces. For instance, some teachers are now being encouraged not to become Facebook "friends" with their students. Moreover, Facebook and Twitter users control what information they disclose online. For example, neither Rainie nor Wellman discuss much of their personal lives on Twitter. Others provide code words to mask sensitive content, just as "partying" can mean sexual relations among teens. So far, texting and other mobile phone calls have been less of a problem because there are no public directories of their numbers.

Most people do not limit themselves to participation with just one or two groups. They gain advantages by having a diversified set of networks and knowing who has what to offer. That creates powerful social capital. For example, NetLab's Connected Lives research in the Toronto area of East York has found that people are apt to get hugs from their sisters, money from their parents, and sociability from their friends.[22]

Living in person-to-person networks has profound implications both for individuals and for the social milieus and overall societies that they are in. Networked individualism downloads the responsibility—and the burden—of maintaining personal networks on the individual. Networked individuals often have time binds, since they are constantly negotiating plans with disconnected sets of individuals within their expanding network. Active networking is more important than going along with the group. Acquiring resources depends substantially on personal skill, individual motivation, and maintaining the right connections.

What about our "self": that elusive concept of subjective identity that helps us to integrate our involvement in multiple social networks?[23] Are we the same person in different milieus, both online and offline? Sherry

Turkle has argued that our "second selves" online are different from our selves offline. Yet the research we present throughout this book shows that people's online and offline interactions are almost always integrated. However, Turkle rightly calls attention to the need for more research into how different aspects of the self get emphasized in different situations.[24]

We suggest it is useful to think of a *networked self:* a single self that gets reconfigured in different situations as people reach out, connect, and emphasize different aspects of themselves. Our working visual image of this is an amoeba, with both a core nucleus and constantly changing pseudopods.[25] While a small number of scholars have used a concept similar to the networked self, there has been little systematic research—or even theorizing. The most relevant discussion is conducted by Jay David Bolter and Richard Grusin, who talk about a networked self switching among a variety of media to make their social networks perform well. They point out that people are "constantly making and breaking connections, declaring allegiances and interests and then renouncing them—participating in a video conference while sorting through email or word processing at the same time."[26] However, they anchor the concept in communication media rather than in multiple roles in social networks, as we do.

Networked Relationships On- and Offline

With the shift to person-to-person networks, the gap between physical space and cyberspace—or for that matter, between writing and talking—is diminishing. For instance, a Pew Internet study found that American teens usually think of their texting as "conversations" rather than as "writing."[27] Teens are even more text-involved, checking for multiple Facebook updates and text messages from their "friends," who in fact range from close friends to distant acquaintances. Expressions such as "see you later" or references to conversations such as "she told me that" could as easily refer to in-person encounters, emails, tweets, texts, or Facebook postings. Technology-enabled interaction fits seamlessly into people's everyday lives and complements other practices.

When people think of the impact of the Internet and Mobile Revolutions on relationships and community, two contrasting images often come to mind. One is that of a world without borders and an endless amount of friendships and knowledge at people's fingertips—Marshall McLuhan's mythological global village come to life.[28] The contrasting image is of a lonely individual, hunched over a computer or smartphone screen, avoiding all human interaction. These two extreme examples are at odds, and

the ambivalence has also been reflected in papal pronouncements. In June 2011, Pope Benedict XVI lauded the power and value of ICTs for spreading information, but warned that people need to get away from their computers and meet people in person:

The new technologies allow people to meet each other beyond the confines of space and of their own culture, creating in this way an entirely new world of potential friendships. This is a great opportunity, but it also requires greater attention to and awareness of possible risks. Who is my "neighbor" in this new world? Does the danger exist that we may be less present to those whom we encounter in our everyday life? Is there is a risk of being more distracted because our attention is fragmented and absorbed in a world "other" than the one in which we live? Do we have time to reflect critically on our choices and to foster human relationships which are truly deep and lasting? It is important always to remember that virtual contact cannot and must not take the place of direct human contact with people at every level of our lives.[29]

The Pope also tweets occasionally as PopeBenedictXVI.

It is appropriate that the pope recognized the importance of the Internet and Mobile Revolutions because in reality, people are positively embracing them. In July 2009, the Telus Canadians and Technology national survey found that more than half (55 percent) of Canadians aged thirteen and older agree that "the internet has improved my connections with friends and family." Only 15 percent disagree: a ratio of almost four to one. Moreover, 46 percent of the Canadians said, "the internet has improved the quality of my life": a ratio of nearly three to one. Almost as many (42 percent) go so far as to say, "I cannot live without access to the internet." Yet, the internet has not taken over completely, for only a minority say they spend more time interacting with friends and family online than in person.

Contrary to concerns that the internet would reduce other forms of contact, the evidence shows the opposite: the more internet contact, the more in-person and phone contact. These are not either/or relationships: People use the internet and mobile phones to keep in touch, to arrange get-togethers, and to follow up after they meet. Despite fears that the internet would curb relationships by luring people to the screen and away from in-person contact, the number of important relationships may even have grown. One survey found that Twitter users are more involved in social activities.[30] More broadly, the average number of friends whom American adults see in person at least weekly grew 20 percent in five years: from 9.4 in 2002 to 11.3 in 2007. Moreover, this does not include relatives unless the respondents consider them to be "friends." The same

study shows that internet users have somewhat larger networks than non-users. Moreover, heavy internet users have had the biggest increase in their number of friends: a 38 percent average increase from 9.0 in 2002 to 12.4 in 2007 (figure 5.2). Similarly, a Pew Internet study found in 2004 that internet users have had 23 percent more active network members than non-users.

In short, being on the internet is associated with having both more friends and a greater increase in the number of friends over time. The number of friends has increased even for non-users, although not nearly as much. That non-users has increased their friendship contacts suggests two possibilities: The use of the word "friend" may have broadened between 2002 and 2007 as MySpace and then Facebook became popular, or the halo effect of the internet has created more opportunities for friendship because most of the friends of non-users undoubtedly are internet users.[31]

ICTs are about society as well as relationships. They support participation in traditional settings such as neighborhoods, voluntary groups, churches, and public spaces. They also support involvement in interest groups, whose membership might have been too small or spatially dispersed in pre-ICT days, to find one another and to get together in person. For example, communication scientist Nancy Baym has shown how the internet allows lovers of obscure indie bands to find each other online and becoming acquainted offline. Like rock parties, significant political
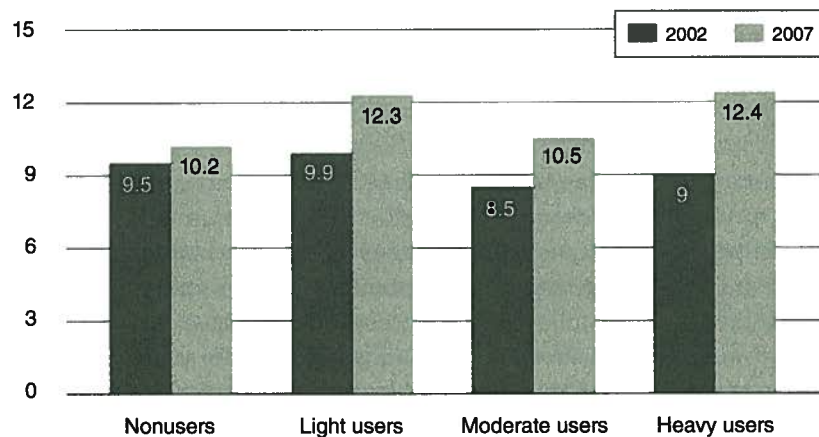

Figure 5.2
Change in average number of offline friends seen in person at least once per week.
Source: Wang and Wellman, 2010 (see note 31).

organization begins on the internet, organizes via mobile phones, and then meets in person.[32]

As a result, North Americans are in more contact with the members of their social networks than ever before. For example, the Pew Internet's "The Strength of Internet Ties" study found that people who email the great majority of their core ties at least weekly are also in phone contact with more core ties than are non-emailers. Many people use the internet to keep up with their weaker ties. Computer science graduate student Sarita Yardi explains:

I use the [I]nternet for two reasons: First, to keep up with my family. I have 18 cousins, and most are married. Most have kids too and will often post pics. I've become closer—also in real world interactions—than I would otherwise be with all of them.

Second, I keep up with researchers in my community. For example, at the conference I'm at, I see when people arrive, where they are going tonight, who wants to grab dinner, etc. Facebook is a little more manageable on a large scale than Twitter. One of the best benefits has been to see their work-life balance (most of them have a reasonable balance), and I see a mix of statuses and pics about kids, awards, travel, rants, updates about research, and it makes me confident that it is possible to do all that too.[33]

The more personal kinds of ICTs often intensify close relationships. Connected Lives participant Vamos values the personal autonomy he gets from using email. "If a friend sends me an email, I can respond—not immediately," he explains. "If I have something to do, I can say okay, I can send him an email after tomorrow when I have more time. Maybe [if he phoned] he can't understand that you can't speak with him for one hour, two hours. That's simpler on email."

Until recently, younger adults have been the most involved in the Internet and Mobile Revolutions. As Toronto student Nazia Shahrin recounts, "I find my mother and father value face-to-face communication a lot more than I do. To me, a phone call is good enough, while they really need to see my face. It creates a lot of arguments where I am screaming, 'I talk to you every day' and they are yelling, 'But I haven't seen you in two weeks.'"

Despite the ubiquity of the internet, the Center for the Digital Future's 2007 survey of Americans found that that only 23 percent of internet users have one or more "virtual friends" whom they have only met online. To be sure, the more people use the internet, the more virtual friends they are likely to have. Among those who have virtual friendships, heavy users (who use the internet at least three hours per day) report having an average

of 8.7 online friends compared with only 1.3 for light internet users (online an hour or less per day). Moreover, just as in-person relations lead to more online contact, 20 percent of Americans have at least one relationship that started online migrate to in-person contact. Here, too, heavy internet users have more migrating friends (an average of 2.2) than do light users (0.5).[34]

While only a small percentage of people are heavily involved in virtual friendships, to some they are important—even consuming. Many of them are immersed in massively multiplayer online role-playing games (MMORPGs) that embrace thousands of players simultaneously, loosely organized as networked clans. But even in these, virtual friendships tend to "decay or grow inert without interaction," reports anthropologist Bonnie Nardi in her study of the World of Warcraft MMORPG. For example, there is no real group pressure to show up for clan activity, and people can switch clans easily. The games lack the rich ways that in-person relationships have to maintain connections.[35]

Still, neighbors and local concerns matter in both online and offline encounters. Communications scholar Keith Hampton spent considerable time looking at how people connect with neighbors online and offline. In the late 1990s, he and coauthor Wellman studied the pioneering "wired suburb" of "Netville" near Toronto, comparing residents who used the internet with those who did not. They found that as compared with non-internet users, internet-using neighbors had larger and wider-ranging local networks that socialized more with each other.[36] Further reflection suggests that the more active internet use resulted from the suburb setting up a local listserv that encouraged such interactions. Moreover, as settlers in a newly built suburb, the residents became part of the larger network of information—for example, where the dry cleaners were, who would baby sit, and efforts to press the area's developer to fix sinking driveways and leaky plumbing. The email list served to facilitate the flow of information regardless of physical proximity and according to the users' convenience. When such incentives for local internet connectivity are not present, neighbors interact less intensively. To help build local community, Hampton created a set of internet-based eNeighbors.org and iNeighbors.org sites across America to aid local connectivity.[37]

Despite the distance spanning of the internet, people are still much more apt to have friends, coworkers, and schoolmates who live a short walk or drive away, they use the internet and mobile phones between in-person encounters to share information, coordinate contact, provide support, and just socialize. In-person contact predominates in all

neighborly interaction, but the amount of such contact may be declining. The Pew Internet "Neighbors Online" study found that while 46 percent of Americans talk face to face with their neighbors about community issues, only 21 percent discuss such issues over the phone. Even less—11 percent—read a blog about neighborhood issues, a mere 5 percent belong to a neighborhood listserv (such as Netville had), and only 9 percent have exchanged emails about neighborhood issues.[38] So, proximity matters to networked individuals, but for most, the neighborhood is not where their community lives are focused.

How Large Are Personal Networks?

The high level of friendship activity online and offline suggests that worries have been overstated that Americans have only an average of 2.1 close ties. Yet, the research on declining networks is based on a single question about people "discussing important matters" with others. But, that is only one kind of relationship in Americans' much larger core networks.

How large are people's personal networks? One widely known estimate by Oxford anthropologist Robin Dunbar argues that limits on people's cognitive information-processing capacity—what he calls their "social brain"—limits the maximum size of cohesive groups to 150. He bases his estimates principally on his studies of primates and villagers in less-developed societies and structured military organizations. Yet, as Dunbar himself points out, "The 150, as we understand it, is simply one of a series of layers of embedded relationships, and this seems to apply as much in the contemporary world as the ethnographic world."[39] The outer most layer, Dunbar explains, "demarcates those whom you know as individuals from those whom you recognize but only have casual relationships with." A social network "consists of four layers, the Circles of Acquaintanceship, which scale relative to each other by a factor of three (an inner core of five intimates, and then successive layers at 15, 50 and 150)."[40]

Does it matter if a personal network contains 150 or 1,000 people when most of these are undoubtedly weak ties—nodding acquaintances or people rarely in contact? The answer is "Yes" for many reasons. For example, the developers of social media want to know how much space to allocate for information about friends. They have eagerly seized upon what they call "Dunbar's number" because of their need to estimate the size of networks when they design social media such as Facebook—despite the fact that they are designing for less-bounded networked societies and not for village-like groups.[41] Likewise, policymakers want to know if people are lonely or

connected, so that they can understand if they need extraordinary measures to build community. Even weak ties can provide a sense of community.[42] Social psychologists want to know about the origins of lonely people: Where do they all come from?[43] And epidemiologists want to know network size because many diseases, such as HIV/AIDS, come from human-to-human contact.[44]

Network size also matters because people can often reactivate latent ties when they travel to a place where they know people, or they rekindle a common interest. At the same time, when people move, they are able to retain some of their relationships in the places where they used to live.[45]

The larger the network, the more ties that can pass along information.[46] Moreover, people with more ties tend to connect to more networks. Larger, more diverse networks connect people to a greater variety of social milieus, providing a greater variety of information and social contacts.[47] There is a nice spin-off societal effect that sociologist Émile Durkheim first identified in the late nineteenth century as the "division of labor in society": When ties connect different social networks, their interconnections help to integrate these different milieus in an overall society, providing a social glue that can help hold a society together.[48]

The larger the network, the more health benefits. Larger networks provide more social support. As Peter and Trudy Johnson-Lenz found (see chapter 1), such support reduces psychological distress by providing more information, more goods and services, and a greater sense of connectedness. Moreover, larger in-person networks provide more immunity to serious infectious diseases by exposing people to a wider range of minor infections such as common cold viruses.[49]

Of course, the more people use the internet, the easier it is to connect online with large numbers of people.[50]

Thus, size matters. Although some might think that smaller networks will have higher-quality relationships—quality compensating for the lack of quantity—in fact, quantity goes along with quality. Not only do larger networks provide more support, but each person in a larger network is likely to be supportive.[51] We do not know why, but we suspect that social capital breeds more social capital in a positive feedback cycle. A large, active, specialized and resource-filled set of ties is an important resource in its own right.

Dunbar's number is set too low for most people in developed countries because their networks have many more than 150 members. Such higher numbers were found even before the advent of the internet because people have been moving among multiple sets of ties for generations. Moreover,

social media such as Facebook have increased the carrying capacity of relationships: It takes little work to keep large numbers of hardly known (or long-lost) ties on your "friend" list. While many are weak ties at the moment, they can be called upon when needed. Networks are so large, segmented, and far-flung that many people are not in frequent contact with many members of their networks. This means that people may not remember many of those whom they know—unless they see them, see their names or pictures, or get another hint.

To deal with these complexities, researchers have used a variety of techniques to estimate network size. For example, one research team found that Americans can name an average of 290 persons as members of their personal networks when they asked them to spot names in a telephone book and identify first names they know.[52] Name identification is tricky, for people are more likely to remember a boy named Sue than a girl named Sue. When researchers more recently took into account the difficulties people have in recalling common first names, they found much larger networks: an average (or mean number) of about 611 members in of their networks with a median of about 470 people. The range in Americans' network size is vast, with 90 percent of the adult population knowing anywhere between 250 and 1,700 others, and half knowing between 400 and 800. Women know about 9 percent fewer people than men do.[53]

Scholars Keith Hampton and Lauren Sessions Goulet worked with Pew Internet researchers and a refined version of these name-recall methods to find that the average American has 634 social ties. Internet users, with an average of 669 ties, have more connections than nonusers, with an average of 506 ties. Moreover, heavy internet users have more ties than lighter users. At the same time, the average mobile phone user has 664 ties and the average user of a social networking site has 636 ties.[54]

But, even these larger numbers underestimate the number of people that each American adult knows—because they are all based on recalling names, and people will forget lots of others until they meet them or are otherwise reminded. As psychologists Melinda Blau and Karen Fingerman show in the well-named *Consequential Strangers,* people know many others whom they usually do not list in network surveys, such as the woman who runs the local variety store who smiles every weekday as she sells *The New York Times.*[55] All of these acquaintances embed people in society, provide useful services, sometimes open up new opportunities, and often give people a sense of belonging as they go through the day. The most accurate (and time-consuming) way to count these people is to follow someone

around. Anthropologist Jeremy Boissevain did this in the 1970s when he followed two people in Malta for a year and had them keep records when he was not with them. Boissevain found the "true" average size of the networks in his small, intensive study to be more than 600, consistent with the estimates done by two recent research groups and much larger than Dunbar's number.[56]

Who Is in Personal Networks?

Personal networks tend to have roughly similar mixtures of people: friends, relatives, neighbors, and workmates (or schoolmates). Immediate family (parents, adult children, and siblings) and friends usually dominate the core of North American networks. For example, the Connected Lives study shows that half (50 percent) of very close ties were kin. The rest are with friends (41 percent), a handful of neighbors (4 percent) and work/school mates (5 percent) (see table 5.1). But in societies with monogamous marriages, people can have only a limited number of kin even if they get married more than once. In the 1950s, anthropologists estimated that the British had about fifty kin on average: Smaller families

Table 5.1
Percentage of Closeness

Role	Very Close	Ambiguously Very Close	Somewhat Close	All Close Ties
Immediate kin	44	20	6	22
Extended kin	6	10	14	11
All kin	*50*	*30*	*20*	*33*
Friends	37	50	53	47
Neighbors	4	7	9	7
Work/school mates	5	6	10	7
Organizational ties	0	0	4	2
Online-only friends	0	0	0	0
Other	4	7	4	4
All non-kin	*50*	*70*	*80*	*67*
TOTAL	100	100	100	100
Number of ties	348	229	462	1,039

Source: Pew Internet & American Life Project, "The Strength of Internet Ties," 2006.

may have made the average even lower now.[57] But there are no such limits on other types of relations; they are limited only by a person's carrying capacity for friendships, neighbors, workmates, and more distant relatives.

Any network of relations around an individual can be a personal network: be it one of emotional support, gift giving, or email exchanges. Thus, studying personal networks provides information about people's social worlds. Friends tend to outnumber relatives in personal networks. The larger the network, the higher the percentage (and number) of friends who are in it. Although the Connected Lives study shows that kin comprise 50 percent of very close ties, friends and other non-kin (neighbors, workmates, etc.) comprise fully 80 percent of somewhat close ties. Using a somewhat more relaxed measure of closeness, Pew Internet research shows that Americans have twenty-three core ties in 2004 as well as twenty-seven other, but still significant ties: Most are friends and not kin.[58] Moreover, the average person's ten to fifty close ties are only in the core of their networks: Their other five hundred-plus ties are almost entirely with friends, acquaintances, and consequential strangers. The Connected Lives study does not show any close ties maintained solely via the internet; all meet in person at least once in a while.[59]

Sparsely Knit, Segmented, and Specialized Personal Communities

Networked individuals have "sparsely knit" personal communities, meaning that most network members are not directly connected with one another. As far back as 1968, the first Connected Lives study found that only one-third (33 percent) of an East Yorker's five socially close ties were linked with each other. Further research in 1979 showed that weaker ties are even more sparsely interconnected, with a density of 13 percent.[60] The larger the network, the less likely that two network members will be connected. We are not aware of more recent studies of the density of personal networks, although it is a good bet that the internet—especially Facebook, LinkedIn, Twitter, and email—enhances the density of interconnections among a person's relatively close ties by allowing friends of friends to become aware of each other.

Personal communities are usually specialized, with different network members helping in various ways.[61] The exception is spouses who supply each other with many types of support.[62] Friends are valued as confidants and social companions. Neighbors and coworkers are conveniently suited for handling unexpected emergencies because their nearness enables them

to react quickly with goods and services. Parents, adult children, and in-laws often provide emotional and long-term support: financial aid, emotional aid, large and small services such as childcare, health care, and home repairs. Similar to East Yorkers, Northern Californians name fifteen to nineteen network members who have helped them in up to ten different ways.[63]

Supportive people tend to have longer-lasting relationships.[64] Yet, networks do change over time. Friendships are not always forever; neither are some kinship ties. Breakups became more widely known as "unfriending" when the Facebook term "unfriend" became the Oxford University Press "word of the year" for 2009. However, there is not much research evidence about how friends break up, fade away, or become weaker ties. A preliminary study found that those who initiate friending requests on Facebook are more likely to be subsequently unfriended (disconnected) in the relationship than are those who receive the friendship requests—presumably because some friending requests were unwanted.[65] One small NetLab study, done before the advent of Facebook, suggests that changes in network membership are not gradual but sudden, triggered by changes in personal situations such as marriage, childbirth, and residential moves—a personal network version of what paleontologist Steven Jay Gould has called "punctuated equilibrium" on the global evolutionary scale.[66]

Core Networks Do More than Discuss Important Metters

We began this chapter with the alarm that Americans have only 2.1 people with whom they can discuss important matters, while a sizeable minority does not have any such discussion partners. Presumably these people are at the core of someone's personal network. But when we delved into the matter, we found that there was more to the core than discussion partners.[67] For one thing, the original survey did not ask about what "important matters" people discussed. When sociologists Peter Bearman and Paolo Parigi did, they discovered the variety of people's concerns. While some talked about war and peace or getting a job, others talked about eating less meat and cloning headless frogs.[68]

Not only is there variety in what people discuss, but their closeness comes from more ways than discussing important matters. Different people are close for different reasons, as sociologist Claude Fischer first documented in 1982.[69] For example, they could be *doing* things for each other (rather than *discussing)*; be *mutually enmeshed* in a broader kinship, friendship, or workplace network; *see* each other often at work or in the

neighborhood; or *chat* frequently in person or on the internet. As new Connected Lives research is showing, the multiple ways in which people are socially close means that the core networks of close ties are much larger than the 2.1 persons whom the U.S. General Social Survey (GSS) reported discuss important matters.

To understand this better, the Connected Lives study interviewed 84 East Yorkers to learn about whom they felt close to in their personal communities—and why. The researchers asked about closeness in two different ways: by asking participants a direct question, and by asking them to place their network members on a series of concentric rings like a target, with the innermost ring indicating those who are "very close" (see figure 5.1). By only choosing those who are "very close" on both criteria, the researchers are more confident that they are studying ties that are very close. The Connected Lives study finds that the average Torontonian interviewed feels very close to 4.1 network members (answering "very close" on both measures) and pretty close to another 8.2. In short, they feel close to 12.3 people—not 2.1.[70]

But what does such closeness mean? Surprisingly, only 31 percent of the very close ties "discuss important matters" with each other: an average of 1.1 ties. The respondents also discuss important matters with 1.3 of their other somewhat less close ties. The total of 2.4 close ties who reportedly "discuss important matters" with the Connected Lives participants is more than the average of 2.1 found by the 2005 GSS but less than the 1984 GSS average of 2.9.[71]

If people do not discuss important matters with all of their very close ties, then what relationships connect them with their other very close ties? "Salami analysis"—cutting off and analyzing one chunk at a time—reveals that 20 percent of those who do not discuss important matters "chat about the day" with each other. Think of friends and relatives schmoozing. Another 12 percent of the very close ties neither discuss nor chat, but do provide various kinds of social support such as information about health, help with home renovations, and advice about computers.

What about the 37 percent of the very close ties who neither discuss important matters, nor chat about the day, nor exchange social support? Frequent contact seems to account for most of the rest: 13 percent see each other in person at least weekly, while 12 percent of the ties do not see each other in person but connect by email at least weekly. A few (4 percent) just keep in contact by talking on the phone at least weekly. The small number of remaining very close ties are almost equally divided among friends, neighbors, and workmates (4 percent) and parents and

adult children (3 percent): These are ties with whom people feel very close, but contact infrequently.

These findings make it clear that "closeness" is not a one-dimensional phenomenon.[72] The variety of reasons for closeness shows that most ties in personal networks are specialized: People get different types of social support from different folks. Only when social closeness is measured exclusively by the "discuss important matters" criterion is there any evidence that North Americans have tiny and shrinking networks. As soon as multiple criteria for closeness are taken into account, there are larger supportive networks of strong, close ties. Toronto student Mirna Ghazarian put this nicely. "I would argue that close ties are not necessarily close friends," she writes. "For instance, I have a close tie with a lady I work with, with whom I discuss important political, environmental, and work-related matters, but I would not consider her a close friend. Why? Because I do not discuss my personal matters with her. I do not confide my personal problems as I would with my best friend."[73]

Despite the major changes in connectivity that ICTs have brought, the percentage of very close kin and friends in these networks is almost identical to what it was in 1979, when NetLab studied East York and found 48 percent were kin and 39 percent were friends, compared with 50 percent kin and 37 percent friends in 2005. However, friendships doubled between 1979 and 2005, from 24 percent to 53 percent, while the percentage of neighbors has dropped by half for both the very close and somewhat close ties. These changes suggest that ICTs help to expand friendships—especially with somewhat weaker ties—and diminish the importance of neighborly proximity.

Of course, styles vary with the stage of life. Marriage and early parenthood often entail high levels of commitment to kin, exerting strenuous demands on both time and energy for both spouses. Where singles use weekends for socializing with friends, married couples use weekends and weekday evenings for childcare and visits to their parents and in-laws. When working mothers are pressed for time, it is friendship that gives way and kinship that remains.[74]

Moreover, how men and women network is converging. In pre-internet days, women were most often responsible for keeping networks going, especially with kin, although husbands and wives often saw the same friends.[75] In the early days of the internet, men were more active than women. Now, on the one hand, there is less difference in what women and men do online. On the other hand, a study of American undergraduates still finds a traditional difference between men and women in their

internet use. Women use the internet more to reinforce their existing core ties, while men are more apt to use the internet to develop new relationships.[76]

Networks in the Age of Facebook

Nothing has brought social networks more vividly to public awareness than the rise of social networking sites—first Friendster, then MySpace, and, most dramatically, Facebook. These sites have made social networks more salient and allowed networked individuals to share and capture more information about their friendships than has ever been possible. Moreover, this mutual exchange opens up countless avenues for dialogue and discussion among one's personal network, bringing to reality what mathematician Jon Kleinberg describes as "the visible conversations, the spikes and bursts of text, the controlled graffiti of tagging and commenting."[77] Social networking sites have become the dashboards of the internet for networked individuals. Half of all American adults (50 percent) now use such sites, according to Pew Internet work.[78] From early 2010 onward, the fastest growing user cohort for these sites has included individuals over age fifty (see figure 5.3).

Facebook, especially, has become a powerful stimulant to internet and mobile use. Some of the contours of the Facebook world and the visible conversations that take place there were captured in a Pew Internet survey
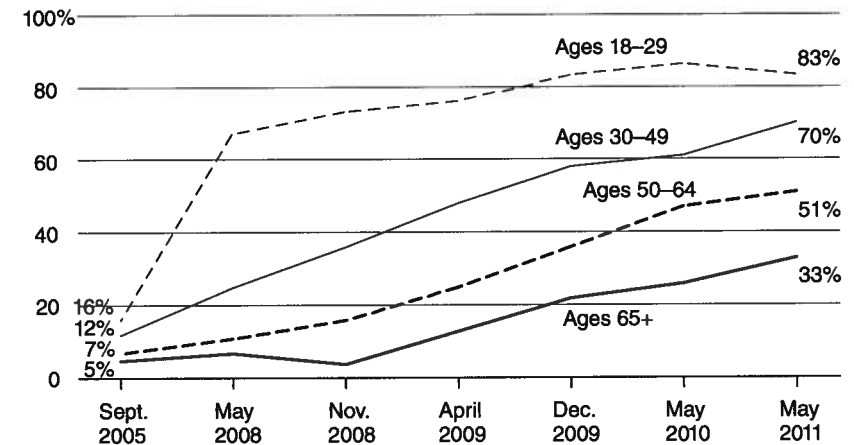

Figure 5.3
Growth in the percentage of adult internet users who use social networking sites. *Source*: Pew Internet & American Life Project surveys.

in September 2010: Some 42 percent of all American adults (53 percent of internet users) are Facebook users.[79] Many have large and active networks on Facebook. The mean number of users' Facebook "friends" is 229, or 35 percent of the estimated size of Facebook users' overall social networks. Almost a third of the Facebook users (31 percent) say they check the site multiple times a day, and another 21 percent say they check in at least daily. And 15 percent say they change their profile at least once a day. The growing linkage between mobile connectivity and social networking is apparent in the study. Some 35 percent of those Facebook users access their profile pages from time to time with their mobile phones.

This same survey showed that 85 percent of the Facebook users comment on other people's status, wall, or links—and 21 percent do so every day. Similarly, 85 percent comment on other people's photos—and 19 percent do so every day. The survey shows that 78 percent use the "like" button to comment on others' status, wall, or links—and 25 percent say they do so every day. Also, 72 percent send private Facebook messages—and 10 percent do so every day.

Facebook has become so essential and appealing to networked individuals that it is consuming ever-increasing amounts of time. Nielsen Company figures show this (see table 5.2). The company reports that throughout the month of March 2011 the average internet user spent 6.5 hours on Facebook, compared with 21 minutes on Google, the most heavily trafficked site on the web that month.[80]

By engaging in these activities, networked individuals influence the content and flow of interpersonal information in ways that were unseen prior to the emergence of social networking sites. Figure 5.4 provides just a snapshot of the kind of personal information that networked individuals publicize on their online profiles. Nicole Soriano (a pseudonym) has filled out her Facebook profile with tidbits of personal information. For instance, just on this one page, Nicole has shared her location (Toronto), educational background (Political Science and Sociology at the University of Toronto), partnership status (in a relationship), languages (English, French, and Spanish), birthday (September 6), and religion (Catholicism). She provides links to her friends (also pseudonyms here), and has set up her social networking profile to indicate her favorite music, books, and movies. Nicole also shares a total of 921 photographs from her daily life and travel. Networked individuals on Facebook can share other details such as their current and previous work experience, favorite quotations, activities, interests, and contact information.

Table 5.2

Percent Using Top Ten Internet Sectors by Share of Time U.S. Internet Users Spend Online

Rank	Subcategory	% Share of Time June 2010	% Share of Time June 2009	% Change in Share of Time
1	Social networks	22.7	15.8	43
2	Online games	10.2	9.3	10
3	E-mail	8.3	11.5	−28
4	Portals	4.4	5.5	−19
5	Instant messaging	4.0	4.7	−15
6	Videos/movies	3.9	3.5	12
7	Search	3.5	3.4	1
8	Software manufacturers	3.3	3.3	−0
9	Multicategory entertainment	2.8	3.0	−7
10	Classifieds/ auctions	2.7	2.7	−2
	Other	34.3	37.3	−8

Source: The Nielsen Company. See note 80.

Although the award-winning 2010 movie about Facebook is called *The Social Network*, Facebook is mostly about groups rather than networks. Rather than making it easy to limit certain kinds of information to different types of people, Facebook's profiles are set up to default to the assumption that all people want to make all of their information available to all of their Facebook friends. This is a key part of Facebook founder Mark Zuckerberg's philosophy: "You have one identity. . . . The days of you having a different image for your work friends or co-workers and for the other people you know are probably coming to an end pretty quickly. . . . Having two identities for yourself is an example of a lack of integrity. . . . The level of transparency the world has now won't support having two identities for a person."[81]

So, Nicole's parents hear about her late-night partying, and her friends learn obscure details about her second cousins. Other social networking sites such as Google+ are trying to capitalize on this one-size-fits-all structure by allowing users to segment their networks and send different information and updates to those different segments.

Nicole Soriano
Studied Political Science/Sociology at University of Toronto Lives in Toronto, Ontario
In a relationship Knows English, French, Spanish Born on September 6

Wall
Info
Photos (921)
Notes
Friends

Friends (663)

Mark G

Carissa Stone
Queen's University

Monica Mayer
Wilfrid Laurier

Carmen Ali
University of Toron

Education and Work

College University of Toronto
Class of 2011 · Political Science/Sociology

Philosophy

Religious Catholic
Views

Arts and Entertainment

Books The Reader The Little White The Time Half the Sky
Prince Oleander Traveler's

Music Nancy Wilson Julie London Sergio Stan Getz Etta James
Mendes

Figure 5.4
Screen shot of a networked individual's Facebook profile.
Source: © 2011, used with the Facebook user's permission.

Much of the information on Nicole's profile links to other pages within the social networking site itself and to external websites. For instance, the University of Toronto is a link to another page on Facebook that provides a description of the school as found on Wikipedia, related posts by Nicole's friends, and all the people who have also added this university to their profile. Similarly, the icon for her favorite book, *The Reader*, links to another Facebook page that gives a description of the book and shows how many other Facebook users like the novel. Thus, these links allow for a denser and broader network of information, not just about Nicole, but also about the things she likes and the other networks she is a part of.

Facebook news feeds update Nicole's friends with what is happening in her life. The feeds are neither random nor comprehensive: Facebook uses algorithms that try to tailor the information that each friend gets according to their interests. Thus, each friend gets a somewhat different picture of Nicole's life on their customized news feed. Some information is widely shared: When Nicole's status changed from "single" to "in a relationship," all her friends wanted to know "who?" and "why?"

What impact has the now-dominant Facebook had on networked relationships? It has clearly allowed more sustained contact with weaker ties. Even as people move, change jobs, and switch their attention zones, Facebook efficiently allows them to stay in touch with others, broadcast basic update messages, and receive similar updates from their friends. Facebook has also enabled reconnections. Long-lost friends can locate each other and reconnect with old school chums, onetime lovers, former coworkers, and former neighbors.[82]

Facebook promotes bridging as well as bonding: By following a chain of Facebook friends, people connect to other personal networks, providing potential access to other social milieus.[83] Mutual ties—both people are friends with the same third party—are especially important for forming new connections, as one friend validates the other.[84] As Toronto student Sharanpreet Kelley notes:

As I parted ways with my friends in high school offline, we maintained our relationship online. When I started university, my network swelled with new people. Facebook functioned unofficially alongside the university system, providing me with information on social events as well as on how my peers were doing. This open discussion played a key role in meeting people outside of my immediate network. I have depended on Facebook since high school, and it is difficult not to notice how dependent I am for social rituals, updates, and entertainment. Most of my friends and I do not see each other on a daily basis, so Facebook serves as a medium to continue light conversations and maintain our social ties.

Her story also shows how useful it is to be perpetually and pervasively aware of who is doing what with whom. Of course, this extreme transparency means that Facebook friends may learn unwanted things about one other—such as political leanings or sexual adventures—that may lead to unwanted attempts to control each other's behavior or may even rupture relationships.

Yet, the importance of Facebook goes beyond its role in connecting current and former friends. It has become a personal portal embodying the networked individual. Not only are there links to people, but to tastes— such as Nicole's books—and "likes" to even more books, music, and organizations. Corporations are now using Facebook pages extensively, so that if Nicole likes San Miguel Beer, she can link to the company's page and

they will know about it. Facebook has become each person's "go to" page: their home base. It is why they stay on Facebook for so long. Just like the car has become the personal basis for transportation, the smartphone for personal communication, and Google for information, Facebook is becoming a key web in the social operating system—connecting each person to who and what they are interested in. At the same time, Facebook is amassing tons of information about the individual, the aggregated profiles of individuals (for example, young Canadian women with Chinese family names), and their social networks. Thus, Facebook is both the epitome of networked individualism—each person is an individual participant—*and* of the networked operating system as a whole.

The More, the Merrier

Critics used to worry that the internet would be an inadequate replacement for human contact because hugging a computer screen is less satisfying than hugging a friend. In fact, the evidence shows that ICTs supplement—rather than replace—human contact. People will make do with electronic contact if they cannot be together in person. A more anthropomorphic device is the mobile phone, which some people see as their third skin. But despite whispered endearments into the phones, the boundaries are clear even here.[85]

Do ICTs substitute for in-person communication, extend it, or transform it? The evidence for the *substitution* argument is almost nonexistent except for early studies of apprehensive newcomers to the internet. If anything was being substituted for, it was television.[86] Consider what happened when Toronto student Sharanpreet Kelley experimented with going off of Facebook and Twitter for two weeks in 2011. "As soon as I went offline, I wanted to check back immediately to see what I could have possibly missed," she says. "I had to distract myself with other activities, but my attention kept on going back to what was going on online. I felt like I was being isolated from my community. This was highly frustrating, because it was as if I had been exiled from my community."

Sharanpreet ended her cold-turkey experiment early: She could only handle her partial withdrawal from the network operating system for eight days instead of two weeks. There were events to plan and things to do. "FOMO"—fear of missing out—played a key role in her return: Her network was too individualized and spatially dispersed to keep in touch solely through in-person and telephone contact. Sharanpreet's experience partially supports the *extension* argument. Facebook, email, internet phoning

(video and audio), mobile phoning, and texting are continuations of interpersonal conversations.

But, Sharanpreet says that things have gone beyond supplementary extension. ICTs have *transformed* communication, relationships, and community. They support rapid-fire exchanges among individuals—in pairs or groups—that would only be partially feasible in village pubs. Social media such as Facebook, Twitter, and lists support "social neighborhoods" that may be as important as the physical neighborhood or workplace in providing frequent contact and information about others.[87] Moreover, interconnected personal networks now aggregate so that the sum is more than the whole.

To what purpose? So far, systematic research has found ICT use to be more beneficial than harmful. This is true in city, suburb, and countryside.[87] The question is no longer the simple one of whether or not the number of relationships in personal networks is rising or falling in a hyperconnected world. Although earlier studies were ambiguous, it is now clear that they are rising in number and in the volume of contact.[88] Networks are larger, more diverse,[89] and supportive.[90] The question is not if but *how* ICTs intensify bonding and promote bridging. These happen both through casual interaction via email and Facebook, and through ad hoc support organized to help those in need. Susannah Fox reports this dimension of Pew Internet's research into how people support others with illnesses even when they have never met: "The most striking finding of the national survey is the extent of peer-to-peer help among people living with chronic conditions," she notes. "One in four internet users living with high blood pressure, diabetes, heart conditions, lung conditions, cancer, or some other chronic ailment (23 percent) say they have gone online to find others with similar health concerns. By contrast, 15 percent of internet users who report no chronic conditions have sought such help online.[91]

Fox summarizes that "people living with chronic disease who go online are finding resources that are more useful than the rest of the population."[92] Similarly, a Dutch study found that online communication stimulates teens' well-being,[93] while an American study showed that Facebook users provide social support. As one person in the Facebook study mused, "When you Google it, they just give you a list of medicines. You don't know if the medicine works or not. You talk to somebody else [on Facebook] who has a child and know that they gave it to their child."[94]

Networked relationships on and offline reinforce networked individualism. Both the internet and the mobile phone allow people to use their social switchboards to move between their social circles and to inter-

connect them. The internet and mobiles help people to bond within their circles by supplementing their in-person contacts. Further, their ease of use helps people to bridge networks as they never could before. They allow people to shop at specialized relational boutiques for support, similar to how Peter and Trudy Johnson-Lenz obtained diversified, often specialized, help from friends near and far in the story we recounted at the beginning of this book.

We have interviewed scores of networked individuals who use a panoply of gadgets and applications to orchestrate their lives. Theirs is a complicated dance through the networked operating system. They use email for certain kinds of networked communication; text messaging, Facebook posts, private Facebook messages, and Twitter posts for others; and phone calls for communication that requires more extensive conversation. Today individuals have more communications options than ever, and that means they have to work harder to figure out which gadget or mobile apps to use for which kinds of activities. Yet, segmenting their tools and messaging strategies allows them to handle different tasks across their segmented networks. It is common for multiple devices and applications to be running simultaneously in the network operating system. In many cases, ICTs are used to organize in-person contact.

The more people use the internet, the more friends they have, the more they see their friends, and the more socially diverse are their networks. The internet and mobile phones are both an outcome and a cause of larger networks. They help people get social support. They provide conduits for information, guides to services, and ways to seek and ask for help. The internet, especially, amplifies people's social capital—the resources they get from the ties that they draw upon for their needs and interests. As we have shown elsewhere in this chapter, the internet is especially good for connecting people with their weaker ties and with a broader diversity of people.

This chapter has described how personal networks have expanded, become more complex, and speeded up. Communities continue to exist, except as spacially dispersed and differentiated personal networks rather than as neighborhoods or densely knit groups. When we see individuals sitting alone, we should not assume they are isolated or lonely: With internet access and mobile phones they have community immediately at their fingertips. And when they need a real hug or material aid, transit, cars, and planes are often available.[95] People's lives offline and online are now integrated—it no longer makes sense to make a distinction.

Chapter 5

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Chapter 6

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