The Wealth of Networks:
How Social Production Transforms Markets and Freedom
by Yochai Benkler, Yale University Press

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Epigraph

"Human nature is not a machine to be built after a model, and set to do exactly the work prescribed for it, but a tree, which requires to grow and develop itself on all sides, according to the tendency of the inward forces which make it a living thing."

"Such are the differences among human beings in their sources of pleasure, their susceptibilities of pain, and the operation on them of different physical and moral agencies, that unless there is a corresponding diversity in their modes of life, they neither obtain their fair share of happiness, nor grow up to the mental, moral, and aesthetic stature of which their nature is capable."

John Stuart Mill, On Liberty *(1859)*

Chapter 10
Social Ties: Networking Together

Increased practical individual autonomy has been central to my claims throughout this book. It underlies the efficiency and sustainability of nonproprietary production in the networked information economy. It underlies the improvements I describe in both freedom and justice. Many have raised concerns that this new freedom will fray social ties and fragment social relations. On this view, the new freedom is one of detached monads, a freedom to live arid, lonely lives free of the many constraining attachments that make us grounded, well-adjusted human beings. Bolstered by early sociological studies, this perspective was one of two diametrically opposed views that typified the way the Internet's effect on community, or close social relations, was portrayed in the 1990s. The other view, popular among the digerati, was that "virtual communities" would come to represent a new form of human communal existence, providing new scope for building a shared experience of human interaction. Within a few short years, however, empirical research suggests that while neither view had it completely right, it was the dystopian view that got it especially wrong. The effects of the Internet on social relations are obviously complex. It is likely too soon to tell which social practices this new mode of communication will ultimately settle on. The most recent research, however, suggests that the Internet has some fairly well-defined effects on human community and intimate social relations. These effects mark neither breakdown nor transcendence, but they do represent an improvement over the world of television and telephone along most dimensions of normative concern with social relations.

We are seeing two effects: first, and most robustly, we see a thickening of preexisting relations with friends, family, and neighbors, particularly with those who were not easily reachable in the pre-Internet-mediated environment. Parents, for example, use instant messages to communicate with their children who are in college. Friends who have moved away from each other are keeping in touch more than they did before they had e-mail, because e-mail does not require them to coordinate a time to talk or to pay long-distance rates. However, this thickening of contacts seems to occur alongside a loosening of the hierarchical aspects of these relationships, as individuals weave their own web of supporting peer relations into the fabric of what might otherwise be stifling familial relationships. Second, we are beginning to see the emergence of greater scope for limited-purpose, loose relationships. These may not fit the ideal model of "virtual communities." They certainly do not fit a deep conception of "community" as a person's primary source of emotional context and support. They are nonetheless effective and meaningful to their participants. It appears that, as the digitally networked environment begins to displace mass media and telephones, its salient communications characteristics provide new dimensions to thicken existing social relations, while also providing new capabilities for looser and more fluid, but still meaningful social networks. A central aspect of this positive improvement in loose ties has been the technical-organizational shift from an information environment dominated by commercial mass media on a one-to-many model, which does not foster group interaction among viewers, to an information environment that both technically and as a matter of social practice enables user-centric, group-based active cooperation platforms of the kind that typify the networked information economy. This is not to say that the Internet necessarily effects all people, all social groups, and networks identically. The effects on different people in different settings and networks will likely vary, certainly in their magnitude. My purpose here, however, is to respond to the concern that enhanced individual capabilities entail social fragmentation and alienation. The available data do not support that claim as a description of a broad social effect.

From "Virtual Communities" to Fear of Disintegration

Angst about the fragmentation of organic deep social ties, the gemeinschaft community, the family, is hardly a creature of the Internet. In some form or another, the fear that cities, industrialization, rapid transportation, mass communications, and other accoutrements of modern industrial society are leading to alienation, breakdown of the family, and the disruption of community has been a fixed element of sociology since at least the mid-nineteenth century. Its mirror image - the search for real or imagined, more or less idealized community, "grounded" in preindustrial pastoral memory or postindustrial utopia - was often not far behind. Unsurprisingly, this patterned opposition of fear and yearning was replayed in the context of the Internet, as the transformative effect of this new medium made it a new focal point for both strands of thought.

In the case of the Internet, the optimists preceded the pessimists. In his now-classic *The Virtual Community*, Howard Rheingold put it most succinctly in 1993:

> My direct observations of online behavior around the world over the past ten years have led me to conclude that whenever CMC [computer mediated communications] technology becomes available to people anywhere, they inevitably build virtual communities with it, just as microorganisms inevitably create colonies. I suspect that one of the explanations for this phenomenon is the hunger for community that grows in the breasts of people around the world as more and more informal public spaces disappear from our real lives. I also suspect that these new media attract colonies of enthusiasts because CMC enables people to do things with each other in new ways, and to do altogether new kinds of things - just as telegraphs, telephones, and televisions did.

The Virtual Community was grounded on Rheingold's own experience in the WELL (Whole Earth 'Lectronic Link). The WELL was one the earliest well-developed instances of large-scale social interaction among people who started out as strangers but came to see themselves as a community. Its members eventually began to organize meetings in real space to strengthen the bonds, while mostly continuing their interaction through computer-mediated communications. Note the structure of Rheingold's claim in this early passage. There is a hunger for community, no longer satisfied by the declining availability of physical spaces for human connection. There is a newly available medium that allows people to connect despite their physical distance. This new opportunity inevitably and automatically brings people to use its affordances - the behaviors it makes possible - to fulfill their need for human connection. Over and above this, the new medium offers new ways of communicating and new ways of doing things together, thereby enhancing what was previously possible. Others followed Rheingold over the course of the 1990s in many and various ways. The basic structure of the claim about the potential of cyberspace to forge a new domain for human connection, one that overcomes the limitations that industrial mass-mediated society places on community, was oft repeated. The basic observation that the Internet permits the emergence of new relationships that play a significant role in their participants' lives and are anchored in online communications continues to be made. As discussed below, however, much of the research suggests that the new online relationships develop in addition to, rather than instead of, physical face-to-face human interaction in community and family - which turns out to be alive and well.

It was not long before a very different set of claims emerged about the Internet. Rather than a solution to the problems that industrial society creates for family and society, the Internet was seen as increasing alienation by absorbing its users. It made them unavailable to spend time with their families. It immersed them in diversions from the real world with its real relationships. In a

social-relations version of the Babel objection, it was seen as narrowing the set of shared cultural experiences to such an extent that people, for lack of a common sitcom or news show to talk about, become increasingly alienated from each other. One strand of this type of criticism questioned the value of online relationships themselves as plausible replacements for real-world human connection. Sherry Turkle, the most important early explorer of virtual identity, characterized this concern as: "is it really sensible to suggest that the way to revitalize community is to sit alone in our rooms, typing at our networked computers and filling our lives with virtual friends?"[1] Instead of investing themselves with real relationships, risking real exposure and connection, people engage in limited-purpose, low-intensity relationships. If it doesn't work out, they can always sign off, and no harm done.

Another strand of criticism focused less on the thinness, not to say vacuity, of online relations, and more on sheer time. According to this argument, the time and effort spent on the Net came at the expense of time spent with family and friends. Prominent and oft cited in this vein were two early studies. The first, entitled *Internet Paradox*, was led by Robert Kraut.[2] It was the first longitudinal study of a substantial number of users - 169 users in the first year or two of their Internet use. Kraut and his collaborators found a slight, but statistically significant, correlation between increases in Internet use and (a) decreases in family communication, (b) decreases in the size of social circle, both near and far, and (c) an increase in depression and loneliness. The researchers hypothesized that use of the Internet replaces strong ties with weak ties. They ideal-typed these communications as exchanging knitting tips with participants in a knitting Listserv, or jokes with someone you would meet on a tourist information site. These trivialities, they thought, came to fill time that, in the absence of the Internet, would be spent with people with whom one has stronger ties. From a communications theory perspective, this causal explanation was more sophisticated than the more widely claimed assimilation of the Internet and television - that a computer monitor is simply one more screen to take away from the time one has to talk to real human beings.[3] It recognized that using the Internet is fundamentally different from watching TV. It allows users to communicate with each other, rather than, like television, encouraging passive reception in a kind of "parallel play." Using a distinction between strong ties and weak ties, introduced by Mark Granovetter in what later became the social capital literature, these researchers suggested that the kind of human contact that was built around online interactions was thinner and less meaningful, so that the time spent on these relationships, on balance, weakened one's stock of social relations.

A second, more sensationalist release of a study followed two years later. In 2000, the Stanford Institute for the Quantitative Study of Society's "preliminary report" on Internet and society, more of a press release than a report, emphasized the finding that "the more hours people use the Internet, the less time they spend with real human beings."[4] The actual results were somewhat less stark than the widely reported press release. As among all Internet users, only slightly more than 8 percent reported spending less time with family; 6 percent reported spending more time with family, and 86 percent spent about the same amount of time. Similarly, 9 percent reported spending less time with friends, 4 percent spent more time, and 87 percent spent the same amount of time.[5] The press release probably should not have read, "social isolation increases," but instead, "Internet seems to have indeterminate, but in any event small, effects on our interaction with family and friends" - hardly the stuff of front-page news coverage.[6] The strongest result supporting the "isolation" thesis in that study was that 27 percent of respondents who were heavy Internet users reported spending less time on the phone with friends and family. The study did not ask whether they used e-mail instead of the phone to keep in touch with these family and friends, and whether they thought they had more or less of a connection with these friends and family as a result. Instead, as the author reported in his press release, "E-mail is a way to stay in touch, but you can't share coffee or beer with somebody on e-mail, or give them a hug" (as opposed, one supposes, to

the common practice of phone hugs).[7] As Amitai Etzioni noted in his biting critique of that study, the truly significant findings were that Internet users spent less time watching television and shopping. Forty-seven percent of those surveyed said that they watched less television than they used to, and that number reached 65 percent for heavy users and 27 percent for light users. Only 3 percent of those surveyed said they watched more TV. Nineteen percent of all respondents and 25 percent of those who used the Internet more than five hours a week said they shopped less in stores, while only 3 percent said they shopped more in stores. The study did not explore how people were using the time they freed by watching less television and shopping less in physical stores. It did not ask whether they used any of this newfound time to increase and strengthen their social and kin ties.[8]

A More Positive Picture Emerges Over Time

The concerns represented by these early studies of the effects of Internet use on community and family seem to fall into two basic bins. The first is that sustained, more or less intimate human relations are critical to well-functioning human beings as a matter of psychological need. The claims that Internet use is associated with greater loneliness and depression map well onto the fears that human connection ground into a thin gruel of electronic bits simply will not give people the kind of human connectedness they need as social beings. The second bin of concerns falls largely within the "social capital" literature, and, like that literature itself, can be divided largely into two main subcategories. The first, following James Coleman and Mark Granovetter, focuses on the economic function of social ties and the ways in which people who have social capital can be materially better off than people who lack it. The second, exemplified by Robert Putnam's work, focuses on the political aspects of engaged societies, and on the ways in which communities with high social capital-defined as social relations with people in local, stable, face-to-face interactions - will lead to better results in terms of political participation and the provisioning of local public goods, like education and community policing. For this literature, the shape of social ties, their relative strength, and who is connected to whom become more prominent features.

There are, roughly speaking, two types of responses to these concerns. The first is empirical. In order for these concerns to be valid as applied to increasing use of Internet communications, it must be the case that Internet communications, with all of their inadequacies, come to supplant real-world human interactions, rather than simply to supplement them. Unless Internet connections actually displace direct, unmediated, human contact, there is no basis to think that using the Internet will lead to a decline in those nourishing connections we need psychologically, or in the useful connections we make socially, that are based on direct human contact with friends, family, and neighbors. The second response is theoretical. It challenges the notion that the socially embedded individual is a fixed entity with unchanging needs that are, or are not, fulfilled by changing social conditions and relations. Instead, it suggests that the "nature" of individuals changes over time, based on actual social practices and expectations. In this case, we are seeing a shift from individuals who depend on social relations that are dominated by locally embedded, thick, unmediated, given, and stable relations, into networked individuals - who are more dependent on their own combination of strong and weak ties, who switch networks, cross boundaries, and weave their own web of more or less instrumental, relatively fluid relationships. Manuel Castells calls this the "networked society,"[9] Barry Wellman, "networked individualism."[10] To simplify vastly, it is not that people cease to depend on others and their context for both psychological and social well-being and efficacy. It is that the kinds of connections that we come to rely on for these basic human needs change over time. Comparisons of current practices to the old ways of achieving the desiderata of community, and fears regarding the loss of community, are more a form of nostalgia than a diagnosis of present social malaise.

Users Increase Their Connections with Preexisting Relations

The most basic response to the concerns over the decline of community and its implications for both the psychological and the social capital strands is the empirical one. Relations with one's local geographic community and with one's intimate friends and family do not seem to be substantially affected by Internet use. To the extent that these relationships are affected, the effect is positive. Kraut and his collaborators continued their study, for example, and followed up with their study subjects for an additional three years. They found that the negative effects they had reported in the first year or two dissipated over the total period of observation.[/11] Their basic hypothesis that the Internet probably strengthened weak ties, however, is consistent with other research and theoretical work. One of the earliest systematic studies of high-speed Internet access and its effects on communities in this vein was by Keith Hampton and Barry Wellman.[/12] They studied the aptly named Toronto suburb Netville, where homes had high-speed wiring years before broadband access began to be adopted widely in North America. One of their most powerful findings was that people who were connected recognized three times as many of their neighbors by name and regularly talked with twice as many as those who were not wired. On the other hand, however, stronger ties - indicated by actually visiting neighbors, as opposed to just knowing their name or stopping to say good morning - were associated with how long a person had lived in the neighborhood, not with whether or not they were wired. In other words, weak ties of the sort of knowing another's name or stopping to chat with them were significantly strengthened by Internet connection, even within a geographic neighborhood. Stronger ties were not. Using applications like a local e-mail list and personal e-mails, wired residents communicated with others in their neighborhood much more often than did nonwired residents. Moreover, wired residents recognized the names of people in a wider radius from their homes, while nonwired residents tended to know only people within their block, or even a few homes on each side. However, again, stronger social ties, like visiting and talking face-to-face, tended to be concentrated among physically proximate neighbors. Other studies also observed this increase of weak ties in a neighborhood with individuals who are more geographically distant than one's own immediate street or block.[/13] Perhaps the most visible aspect of the social capital implications of a well-wired geographic community was the finding that wired neighbors began to sit on their front porches, instead of in their backyard, thereby providing live social reinforcement of community through daily brief greetings, as well as creating a socially enforced community policing mechanism.

We now have quite a bit of social science research on the side of a number of factual propositions.[/14] Human beings, whether connected to the Internet or not, continue to communicate preferentially with people who are geographically proximate than with those who are distant.[/15] Nevertheless, people who are connected to the Internet communicate more with people who are geographically distant without decreasing the number of local connections. While the total number of connections continues to be greatest with proximate family members, friends, coworkers, and neighbors, the Internet's greatest effect is in improving the ability of individuals to add to these proximate relationships new and better-connected relationships with people who are geographically distant. This includes keeping more in touch with friends and relatives who live far away, and creating new weak-tie relationships around communities of interest and practice. To the extent that survey data are reliable, the most comprehensive and updated surveys support these observations. It now seems clear that Internet users "buy" their time to use the Internet by watching less television, and that the more Internet experience they have, the less they watch TV. People who use the Internet claim to have increased the number of people they stay in touch with, while mostly reporting no effect on time they spend with their family.[/16]

Connections with family and friends seemed to be thickened by the new channels of communication, rather than supplanted by them. Emblematic of this were recent results of a survey conducted by the Pew project on "Internet and American Life" on *Holidays Online*. Almost half of respondents surveyed reported using e-mail to organize holiday activities with family (48 percent) and friends (46 percent), 27 percent reported sending or receiving holiday greetings, and while a third described themselves as shopping online in order to save money, 51 percent said they went online to find an unusual or hard-to-find gift. In other words, half of those who used the Internet for holiday shopping did so in order to personalize their gift further, rather than simply to take advantage of the most obvious use of e-commerce-price comparison and time savings. Further support for this position is offered in another Pew study, entitled "Internet and Daily Life." In that survey, the two most common uses - both of which respondents claimed they did more of because of the Net than they otherwise would have - were connecting with family and friends and looking up information./17 Further evidence that the Internet is used to strengthen and service preexisting relations, rather than create new ones, is the fact that 79 percent of those who use the Internet at all do so to communicate with friends and family, while only 26 percent use the Internet to meet new people or to arrange dates. Another point of evidence is the use of instant messaging (IM). IM is a synchronous communications medium that requires its users to set time aside to respond and provides information to those who wish to communicate with an individual about whether that person is or is not available at any given moment. Because it is so demanding, IM is preferentially useful for communicating with individuals with whom one already has a preexisting relationship. This preferential use for strengthening preexisting relations is also indicated by the fact that two-thirds of IM users report using IM with no more than five others, while only one in ten users reports instant messaging with more than ten people. A recent Pew study of instant messaging shows that 53 million adults - 42 percent of Internet users in the United States - trade IM messages. Forty percent use IM to contact coworkers, one-third family, and 21 percent use it to communicate equally with both. Men and women IM in equal proportions, but women IM more than men do, averaging 433 minutes per month as compared to 366 minutes, respectively, and households with children IM more than households without children.

These studies are surveys and local case studies. They cannot offer a knockdown argument about how "we" - everyone, everywhere - are using the Internet. The same technology likely has different effects when it is introduced into cultures that differ from each other in their pre-Internet baseline./18 Despite these cautions, these studies do offer the best evidence we have about Internet use patterns. As best we can tell from contemporary social science, Internet use increases the contact that people have with others who traditionally have been seen as forming a person's "community": family, friends, and neighbors. Moreover, the Internet is also used as a platform for forging new relationships, in addition to those that are preexisting. These relationships are more limited in nature than ties to friends and family. They are detached from spatial constraints, and even time synchronicity; they are usually interest or practice based, and therefore play a more limited role in people's lives than the more demanding and encompassing relationships with family or intimate friends. Each discrete connection or cluster of connections that forms a social network, or a network of social relations, plays some role, but not a definitive one, in each participant's life. There is little disagreement among researchers that these kinds of weak ties or limited-liability social relationships are easier to create on the Internet, and that we see some increase in their prevalence among Internet users. The primary disagreement is interpretive - in other words, is it, on balance, a good thing that we have multiple, overlapping, limited emotional liability relationships, or does it, in fact, undermine our socially embedded being?

Networked Individuals

The interpretive argument about the normative value of the increase in weak ties is colored by the empirical finding that the time spent on the Internet in these limited relationships does not come at the expense of the number of communications with preexisting, real-world relationships. Given our current state of sociological knowledge, the normative question cannot be whether online relations are a reasonable replacement for real-world friendship. Instead, it must be how we understand the effect of the interaction between an increasingly thickened network of communications with preexisting relations and the casting of a broader net that captures many more, and more varied, relations. What is emerging in the work of sociologists is a framework that sees the networked society or the networked individual as entailing an abundance of social connections and more effectively deployed attention. The concern with the decline of community conceives of a scarcity of forms of stable, nurturing, embedding relations, which are mostly fixed over the life of an individual and depend on long-standing and interdependent relations in stable groups, often with hierarchical relations. What we now see emerging is a diversity of forms of attachment and an abundance of connections that enable individuals to attain discrete components of the package of desiderata that "community" has come to stand for in sociology. As Wellman puts it: "Communities and societies have been changing towards networked societies where boundaries are more permeable, interactions are with diverse others, linkages switch between multiple networks, and hierarchies are flatter and more recursive. . . . Their work and community networks are diffuse, sparsely knit, with vague, overlapping, social and spatial boundaries."[19] In this context, the range and diversity of network connections beyond the traditional family, friends, stable coworkers, or village becomes a source of dynamic stability, rather than tension and disconnect.

The emergence of networked individuals is not, however, a mere overlay, "floating" on top of thickened preexisting social relations without touching them except to add more relations. The interpolation of new networked connections, and the individual's role in weaving those for him- or herself, allows individuals to reorganize their social relations in ways that fit them better. They can use their network connections to loosen social bonds that are too hierarchical and stifling, while filling in the gaps where their real-world relations seem lacking. Nowhere is this interpolation clearer than in Mizuko Ito's work on the use of mobile phones, primarily for text messaging and e-mail, among Japanese teenagers.[20] Japanese urban teenagers generally live in tighter physical quarters than their American or European counterparts, and within quite strict social structures of hierarchy and respect. Ito and others have documented how these teenagers use mobile phones - primarily as platforms for text messages - that is, as a mobile cross between e-mail and instant messaging and more recently images, to loosen the constraints under which they live. They text at home and in the classroom, making connections to meet in the city and be together, and otherwise succeed in constructing a network of time- and space-bending emotional connections with their friends, without - and this is the critical observation - breaking the social molds they otherwise occupy. They continue to spend time in their home, with their family. They continue to show respect and play the role of child at home and at school. However, they interpolate that role and those relations with a sub-rosa network of connections that fulfill otherwise suppressed emotional needs and ties.

The phenomenon is not limited to youths, but is applicable more generally to the capacity of users to rely on their networked connections to escape or moderate some of the more constraining effects of their stable social connections. In the United States, a now iconic case - mostly described in terms of privacy - was that of U.S. Navy sailor Timothy McVeigh (not the Oklahoma bomber). McVeigh was discharged from the navy when his superiors found out that he was gay by accessing his AOL (America Online) account. The case was primarily considered in terms of McVeigh's e-mail account privacy. It settled for an undisclosed sum, and McVeigh retired from the navy with

benefits. However, what is important for us here is not the "individual rights" category under which the case was fought, but the practice that it revealed. Here was an eighteen-year veteran of the navy who used the space-time breaking possibilities of networked communications to loosen one of the most constraining attributes imaginable of the hierarchical framework that he nonetheless chose to be part of - the U.S. Navy. It would be odd to think that the navy did not provide McVeigh with a sense of identity and camaraderie that closely knit communities provide their members. Yet at the same time, it also stifled his ability to live one of the most basic of all human ties - his sexual identity. He used the network and its potential for anonymous and pseudonymous existence to coexist between these two social structures.

At the other end of the spectrum of social ties, we see new platforms emerging to generate the kinds of bridging relations that were so central to the identification of "weak ties" in social capital literature. Weak ties are described in the social capital literature as allowing people to transmit information across social networks about available opportunities and resources, as well as provide at least a limited form of vouching for others - as one introduces a friend to a friend of a friend. What we are seeing on the Net is an increase in the platforms developed to allow people to create these kinds of weak ties based on an interest or practice. Perhaps clearest of these is Meetup.com. Meetup is a Web site that allows users to search for others who share an interest and who are locally available to meet face-to-face. The search results show users what meetings are occurring within their requested area and interest. The groups then meet periodically, and those who sign up for them also are able to provide a profile and photo of themselves, to facilitate and sustain the real-world group meetings. The power of this platform is that it is not intended as a replacement for real-space meetings. It is intended as a replacement for the happenstance of social networks as they transmit information about opportunities for interest- and practice-based social relations. The vouching function, on the other hand, seems to have more mixed efficacy, as Dana Boyd's ethnography of Friendster suggests.[/21] Friendster was started as a dating Web site. It was built on the assumption that dating a friend of a friend of a friend is safer and more likely to be successful than dating someone based on a similar profile, located on a general dating site like match.com - in other words, that vouching as friends provides valuable information. As Boyd shows, however, the attempt of Friendster to articulate and render transparent the social networks of its users met with less than perfect success. The platform only permits users to designate friend/not friend, without the finer granularity enabled by a face-to-face conversation about someone, where one can answer or anticipate the question, "just how well do you know this person?" with a variety of means, from tone to express reservations. On Friendster, it seems that people cast broader networks, and for fear of offending or alienating others, include many more "friendsters" than they actually have "friends." The result is a weak platform for mapping general connections, rather than a genuine articulation of vouching through social networks. Nonetheless, it does provide a visible rendering of at least the thinnest of weak ties, and strengthens their effect in this regard. It enables very weak ties to perform some of the roles of real-world weak social ties.

The Internet as a Platform for Human Connection

Communication is constitutive of social relations. We cannot have relationships except by communicating with others. Different communications media differ from each other - in who gets to speak to whom and in what can be said. These differences structure the social relations that rely on these various modes of communication so that they differ from each other in significant ways. Technological determinism is not required to accept this. Some aspects of the difference are purely technical. Script allows text and more or less crude images to be transmitted at a distance, but not voice, touch, smell, or taste. To the extent that there are human emotions, modes of submission and exertion of authority, irony, love or affection, or information that is easily encoded and

conveyed in face-to-face communications but not in script, script-based communications are a poor substitute for presence. A long and romantic tradition of love letters and poems notwithstanding, there is a certain thinness to that mode in the hands of all but the most gifted writers relative to the fleshiness of unmediated love. Some aspects of the difference among media of communication are not necessarily technical, but are rather culturally or organizationally embedded. Television can transmit text. However, text distribution is not television's relative advantage in a sociocultural environment that already has mass-circulation print media, and in a technical context where the resolution of television images is relatively low. As a matter of cultural and business practice, therefore, from its inception, television emphasized moving images and sound, not text transmission. Radio could have been deployed as short-range, point-to-point personal communications systems, giving us a nation of walkie-talkies. However, as chapter 6 described, doing so would have required a very different set of regulatory and business decisions between 1919 and 1927. Communications media take on certain social roles, structures of control, and emphases of style that combine their technical capacities and limits with the sociocultural business context into which they were introduced, and through which they developed. The result is a cluster of use characteristics that define how a given medium is used within a given society, in a given historical context. They make media differ from each other, providing platforms with very different capacities and emphases for their users.

As a technical and organizational matter, the Internet allows for a radically more diverse suite of communications models than any of the twentieth-century systems permitted. It allows for textual, aural, and visual communications. It permits spatial and temporal asynchronicity, as in the case of e-mail or Web pages, but also enables temporal synchronicity - as in the case of IM, online game environments, or Voice over Internet Protocol (VoIP). It can even be used for subchannel communications within a spatially synchronous context, such as in a meeting where people pass electronic notes to each other by e-mail or IM. Because it is still highly textual, it requires more direct attention than radio, but like print, it is highly multiplexable - both between uses of the Internet and other media, and among Internet uses themselves. Similar to print media, you can pick your head up from the paper, make a comment, and get back to reading. Much more richly, one can be on a voice over IP conversation and e-mail at the same time, or read news interlaced with receiving and responding to e-mail. It offers one-to-one, one-to-few, few-to-few, one-to-many, and many-to-many communications capabilities, more diverse in this regard than any medium for social communication that preceded it, including - on the dimensions of distance, asynchronicity, and many-to-many capabilities - even that richest of media: face-to-face communications.

Because of its technical flexibility and the "business model" of Internet service providers as primarily carriers, the Internet lends itself to being used for a wide range of social relations. Nothing in "the nature of the technology" requires that it be the basis of rich social relations, rather than becoming, as some predicted in the early 1990s, a "celestial jukebox" for the mass distribution of prepackaged content to passive end points. In contradistinction to the dominant remote communications technologies of the twentieth century, however, the Internet offers some new easy ways to communicate that foster both of the types of social communication that the social science literature seems to be observing. Namely, it makes it easy to increase the number of communications with preexisting friends and family, and increases communication with geographically distant or more loosely affiliated others. Print, radio, television, film, and sound recording all operated largely on a one-to-many model. They did not, given the economics of production and transmission, provide a usable means of remote communication for individuals at the edges of these communication media. Television, film, sound recording, and print industries were simply too expensive, and their business organization was too focused on selling broadcast-model communications, to support significant individual communication. When cassette

tapes were introduced, we might have seen people recording a tape instead of writing a letter to friends or family. However, this was relatively cumbersome, low quality, and time consuming. Telephones were the primary means of communications used by individuals, and they indeed became the primary form of mediated personal social communications. However, telephone conversations require synchronicity, which means that they can only be used for socializing purposes when both parties have time. They were also only usable throughout this period for serial, one-to-one conversations. Moreover, for most of the twentieth century, a long-distance call was a very expensive proposition for most nonbusiness users, and outside of the United States, local calls too carried nontrivial time-sensitive prices in most places. Telephones were therefore a reasonable medium for social relations with preexisting friends and family. However, their utility dropped off radically with the cost of communication, which was at a minimum associated with geographic distance. In all these dimensions, the Internet makes it easier and cheaper to communicate with family and friends, at close proximity or over great distances, through the barriers of busy schedules and differing time zones. Moreover, because of the relatively low-impact nature of these communications, the Internet allows people to experiment with looser relations more readily. In other words, the Internet does not make us more social beings. It simply offers more degrees of freedom for each of us to design our own communications space than were available in the past. It could have been that we would have used that design flexibility to re-create the mass-media model. But to predict that it would be used in this fashion requires a cramped view of human desire and connectedness. It was much more likely that, given the freedom to design our own communications environment flexibly and to tailor it to our own individual needs dynamically over time, we would create a system that lets us strengthen the ties that are most important to us. It was perhaps less predictable, but unsurprising after the fact, that this freedom would also be used to explore a wider range of relations than simply consuming finished media goods.

There is an appropriate wariness in contemporary academic commentary about falling into the trap of "the mythos of the electrical sublime" by adopting a form of Internet utopianism.[/22] It is important, however, not to let this caution blind us to the facts about Internet use, and the technical, business, and cultural capabilities that the Internet makes feasible. The cluster of technologies of computation and communications that characterize the Internet today are, in fact, used in functionally different ways, and make for several different media of communication than we had in the twentieth century. The single technical platform might best be understood to enable several different "media" - in the sense of clusters of technical-social-economic practices of communication - and the number of these enabled media is growing. Instant messaging came many years after e-mail, and a few years after Web pages. Blogging one's daily journal on LiveJournal so that a group of intimates can check in on one's life as it unfolds was not a medium that was available to users until even more recently. The Internet is still providing its users with new ways to communicate with each other, and these represent a genuinely wide range of new capabilities. It is therefore unsurprising that connected social beings, such as we are, will take advantage of these new capabilities to form connections that were practically infeasible in the past. This is not media determinism. This is not millenarian utopianism. It is a simple observation. People do what they can, not what they cannot. In the daily humdrum of their lives, individuals do more of what is easier to do than what requires great exertion. When a new medium makes it easy for people to do new things, they may well, in fact, do them. And when these new things are systematically more user-centric, dialogic, flexible in terms of the temporal and spatial synchronicity they require or enable, and multiplexable, people will communicate with each other in ways and amounts that they could not before.

The Emergence of Social Software

The design of the Internet itself is agnostic as among the social structures and relations it enables. At its technical core is a commitment to push all the detailed instantiations of human communications to the edges of the network - to the applications that run on the computers of users. This technical agnosticism leads to a social agnosticism. The possibility of large-scale sharing and cooperation practices, of medium-scale platforms for collaboration and discussion, and of small-scale, one-to-one communications has led to the development of a wide range of software designs and applications to facilitate different types of communications. The World Wide Web was used initially as a global broadcast medium available to anyone and everyone, everywhere. In e-mail, we see a medium available for one-to-one, few-to-few, one-to-many and, to a lesser extent, many-to-many use. One of the more interesting phenomena of the past few years is the emergence of what is beginning to be called "social software." As a new design space, it is concerned with groups that are, as defined by Clay Shirky, who first articulated the concept, "Larger than a dozen, smaller than a few hundred, where people can actually have these conversational forms that can't be supported when you're talking about tens of thousands or millions of users, at least in a single group." The definition of the term is somewhat amorphous, but the basic concept is software whose design characteristic is that it treats genuine social phenomena as different from one-to-one or one-to-many communications. It seeks to build one's expectations about the social interactions that the software will facilitate into the design of the platform. The design imperative was most clearly articulated by Shirky when he wrote that from the perspective of the software designer, the user of social software is the group, not the individual./23

A simple example will help to illustrate. Take any given site that uses a collaborative authorship tool, like the Wiki that is the basis of *Wikipedia* and many other cooperative authorship exercises. From the perspective of an individual user, the ease of posting a comment on the Wiki, and the ease of erasing one's own comments from it, would be important characteristics: The fewer registration and sign-in procedures, the better. Not so from the perspective of the group. The group requires some "stickiness" to make the group as a group, and the project as a project, avoid the rending forces of individualism and self-reference. So, for example, design components that require registration for posting, or give users different rights to post and erase comments over time, depending on whether they are logged in or not, or depending on a record of their past cooperative or uncooperative behavior, are a burden for the individual user. However, that is precisely their point. They are intended to give those users with a greater stake in the common enterprise a slight, or sometimes large, edge in maintaining the group's cohesion. Similarly, erasing past comments may be useful for the individual, for example, if they were silly or untempered. Keeping the comments there is, however, useful to the group - as a source of experience about the individual or part of the group's collective memory about mistakes made in the past that should not be repeated by someone else. Again, the needs of the group as a group often differ from those of the individual participant. Thinking of the platform as social software entails designing it with characteristics that have a certain social-science or psychological model of the interactions of a group, and building the platform's affordances in order to enhance the survivability and efficacy of the group, even if it sometimes comes at the expense of the individual user's ease of use or comfort.

This emergence of social software-like blogs with opportunities to comment, Wikis, as well as social-norm-mediated Listservs or uses of the "cc" line in e-mail - underscores the nondeterministic nature of the claim about the relationship between the Internet and social relations. The Internet makes possible all sorts of human communications that were not technically feasible before its widespread adoption. Within this wide range of newly feasible communications patterns, we are beginning to see the emergence of different types of relationships - some positive, some, like spam

(unsolicited commercial e-mail), decidedly negative. In seeking to predict and diagnose the relationship between the increasing use of Internet communications and the shape of social relations, we see that the newly emerging constructive social possibilities are leading to new design challenges. These, in turn, are finding engineers and enthusiasts willing and able to design for them. The genuinely new capability - connecting among few and many at a distance in a dialogic, recursive form - is leading to the emergence of new design problems. These problems come from the fact that the new social settings come with their own social dynamics, but without long-standing structures of mediation and constructive ordering. Hence the early infamy of the tendency of Usenet and Listservs discussions to deteriorate into destructive flame wars. As social habits of using these kinds of media mature, so that users already know that letting loose on a list will likely result in a flame war and will kill the conversation, and as designers understand that social dynamics - including both those that allow people to form and sustain groups and those that rend them apart with equal if not greater force - we are seeing the coevolution of social norms and platform designs that are intended to give play to the former, and mediate or moderate the latter. These platforms are less likely to matter for sustaining the group in preexisting relations - as among friends or family. The structuring of those relationships is dominated by social norms. However, they do offer a new form and a stabilizing context for the newly emerging diverse set of social relations - at a distance, across interests and contexts - that typify both peer production and many forms of social interaction aimed purely at social reproduction.

The peer-production processes that are described in primarily economic terms in chapter 3 - like free software development, *Wikipedia*, or the Open Directory Project - represent one cluster of important instances of this new form of social relations. They offer a type of relationship that is nonhierarchical and organized in a radically decentralized pattern. Their social valence is given by some combination of the shared experience of joint creativity they enable, as well as their efficacy - their ability to give their users a sense of common purpose and mutual support in achieving it. Individuals adopt projects and purposes they consider worth pursuing. Through these projects they find others, with whom they initially share only a general sense of human connectedness and common practical interest, but with whom they then interact in ways that allow the relationship to thicken over time. Nowhere is this process clearer than on the community pages of *Wikipedia*. Because of the limited degree to which that platform uses technical means to constrain destructive behavior, the common enterprise has developed practices of user-to-user communication, multiuser mediation, and user-appointed mediation to resolve disputes and disagreements. Through their involvement in these, users increase their participation, their familiarity with other participants - at least in this limited role as coauthors - and their practices of mutual engagement with these others. In this way, peer production offers a new platform for human connection, bringing together otherwise unconnected individuals and replacing common background or geographic proximity with a sense of well-defined purpose and the successful common pursuit of this purpose as the condensation point for human connection. Individuals who are connected to each other in a peer-production community may or may not be bowling alone when they are off-line, but they are certainly playing together online.

The Internet and Human Community

This chapter began with a basic question. While the networked information economy may enhance the autonomy of individuals, does it not also facilitate the breakdown of community? The answer offered here has been partly empirical and partly conceptual.

Empirically, it seems that the Internet is allowing us to eat our cake and have it too, apparently keeping our (social) figure by cutting down on the social equivalent of deep-fried dough-television.

That is, we communicate more, rather than less, with the core constituents of our organic communities - our family and our friends - and we seem, in some places, also to be communicating more with our neighbors. We also communicate more with loosely affiliated others, who are geographically remote, and who may share only relatively small slivers of overlapping interests, or for only short periods of life. The proliferation of potential connections creates the social parallel to the Babel objection in the context of autonomy - with all these possible links, will any of them be meaningful? The answer is largely that we do, in fact, employ very strong filtering on our Internet-based social connections in one obvious dimension: We continue to use the newly feasible lines of communication primarily to thicken and strengthen connections with preexisting relationships - family and friends. The clearest indication of this is the parsimony with which most people use instant messaging. The other mechanism we seem to be using to avoid drowning in the noise of potential chitchat with ever-changing strangers is that we tend to find networks of connections that have some stickiness from our perspective. This stickiness could be the efficacy of a cluster of connections in pursuit of a goal one cares about, as in the case of the newly emerging peer-production enterprises. It could be the ways in which the internal social interaction has combined social norms with platform design to offer relatively stable relations with others who share common interests. Users do not amble around in a social equivalent of Brownian motion. They tend to cluster in new social relations, albeit looser and for more limited purposes than the traditional pillars of community.

The conceptual answer has been that the image of "community" that seeks a facsimile of a distant pastoral village is simply the wrong image of how we interact as social beings. We are a networked society now-networked individuals connected with each other in a mesh of loosely knit, overlapping, flat connections. This does not leave us in a state of anomie. We are well-adjusted, networked individuals; well-adjusted socially in ways that those who seek community would value, but in new and different ways. In a substantial departure from the range of feasible communications channels available in the twentieth century, the Internet has begun to offer us new ways of connecting to each other in groups small and large. As we have come to take advantage of these new capabilities, we see social norms and software coevolving to offer new, more stable, and richer contexts for forging new relationships beyond those that in the past have been the focus of our social lives. These do not displace the older relations. They do not mark a fundamental shift in human nature into selfless, community-conscious characters. We continue to be complex beings, radically individual and self-interested at the same time that we are entwined with others who form the context out of which we take meaning, and in which we live our lives. However, we now have new scope for interaction with others. We have new opportunities for building sustained limited-purpose relations, weak and intermediate-strength ties that have significant roles in providing us with context, with a source of defining part of our identity, with potential sources for support, and with human companionship. That does not mean that these new relationships will come to displace the centrality of our more immediate relationships. They will, however, offer increasingly attractive supplements as we seek new and diverse ways to embed ourselves in relation to others, to gain efficacy in weaker ties, and to interpolate different social networks in combinations that provide us both stability of context and a greater degree of freedom from the hierarchical and constraining aspects of some of our social relations.

Notes

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2. Robert Kraut et al., "Internet Paradox, A Social Technology that Reduces Social Involvement and Psychological Well Being," *American Psychologist* 53 (1998): 1017-1031.

3. A fairly typical statement of this view, quoted in a study commissioned by the Kellogg Foundation, was: "TV or other media, such as computers, are no longer a kind of 'electronic hearth,' where a family will gather around and make decisions or have discussions. My position, based on our most recent studies, is that most media in the home are working against bringing families together." Christopher Lee et al., "Evaluating Information and Communications Technology: Perspective for a Balanced Approach," Report to the Kellogg Foundation (December 17, 2001), http://www.si.umich.edu/pne/kellogg/013.html .

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5. Ibid., 42-43, tables CH-WFAM, CH-WFRN.

6. See John Markoff and A. Newer, "Lonelier Crowd Emerges in Internet Study," *New York Times*, February 16, 2000, section A, page 1, column 1.

7. Nie and Ebring, "Internet and Society," 19.

8. Amitai Etzioni, "Debating the Societal Effects of the Internet: Connecting with the World," *Public Perspective* 11 (May/June 2000): 42, also available at http://www.gwu.edu/~ccps/etzioni/A273.html .

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12. Keith Hampton and Barry Wellman, "Neighboring in Netville: How the Internet Supports Community and Social Capital in a Wired Suburb," *City & Community* 2, no. 4 (December 2003): 277.

13. Gustavo S. Mesch and Yael Levanon, "Community Networking and Locally-Based Social Ties in Two Suburban Localities," *City & Community* 2, no. 4 (December 2003): 335.

14. Useful surveys include: Paul DiMaggio et al., "Social Implications of the Internet," *Annual Review of Sociology* 27 (2001): 307-336; Robyn B. Driskell and Larry Lyon, "Are Virtual Communities True Communities? Examining the Environments and Elements of Community," *City & Community* 1, no. 4 (December 2002): 349; James E. Katz and Ronald E. Rice, *Social Consequences of Internet Use: Access, Involvement, Interaction* (Cambridge, MA: MIT Press, 2002).

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17. Pew Internet and Daily Life Project (August 11, 2004), report available at http://www.pewinternet.org/PPF/r/131/report_display.asp .

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19. Barry Wellman, "The Social Affordances of the Internet."

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