

JCMC 6 (2) JANUARY 2001

Message Board

[JCMC](#) [editors](#) [to submit](#) [citesite](#) [subscribe](#) [notices](#) [email](#) [message board](#)

[Collab-U](#) [CMCPlay](#) [E-Commerce Symposium](#) [NetLaw](#) [InfoSpaces](#) [Usenet](#)
[NetStudy](#) [VEs](#) [VOs](#) [O-Journ](#) [HigherEd](#) [Conversation](#) [Cyberspace](#) [WebCommerce](#)
[VisualCMC](#)

On Utopias and Dystopias: Toward an Understanding of the Discourse Surrounding the Internet

[Dana R. Fisher](#)

Department of Sociology/Rural Sociology
University of Wisconsin-Madison

Larry Michael Wright

Department of Journalism and Mass Communication
University of Wisconsin-Madison

-
- [Abstract](#)
 - [Introduction](#)
 - [Cultural Lag](#)
 - [Utopian and Dystopian Visions of the Internet](#)
 - [Discussion and Conclusion](#)
 - [Footnotes](#)
 - [References](#)
 - [About the Authors](#)

Abstract

It is clear that the Internet has the capacity to change how individuals interact with others as well as increase access to information. Whether either one of these factors affects the social landscape has yet to be determined. This fact has not kept many from anticipating the effects of the technology on society. In this paper, we contextualize some of the main issues of discussion regarding the Internet, describing these positions in terms of utopian and dystopian perspectives. By resurrecting William Ogburn's theory of the cultural lag (1964), we present a framework for understanding the extreme responses to the technology. The lag suggests that the effects of a technology will not be apparent to social actors for some time after it is introduced to a society. As such, much of the discourse concerning the Internet is ideologically charged, filled as much with the hopes and fears of individual authors as with the reality of the medium's effects..

Introduction

On 26 July 2000, the San Francisco District Court ruled that Napster, the Internet-based music sharing software, was, in the words of Judge Marilyn Hall Patel, "essentially a program to facilitate the downloading and uploading of music . . . pirating be damned is the sense one gets" (Grimaldi, 2000, p. A01). Although a final decision regarding the future of Napster is pending, this case has evoked responses from all sides of the issue, claiming that Napster has "changed the world" (Greenfeld, 2000, p. 62). Whether the software has made the world better or worse depends on whom you ask. One side of the issue is voiced in the words of David Boies, lead attorney for Napster, who says that "this is a new technology that threatens . . . control." ¹ On the other side, the technology has been called a part of the revolution by mainstream sources such as *Time Magazine* (Cohen, 2000).

Such extreme responses are not unique to the online music-sharing software. Similar polarized discussions have focused on many different aspects of the Internet since it became accessible to mass society in the early 1990s. Given the different responses to the Internet's effects, it is important to consider the discourse surrounding this medium of communication as it will likely affect how the technology is utilized by society in the future. Much of this discourse can be described along the lines of utopian and dystopian visions of the Internet (see, for example, Wellman, 1997). The medium is heralded for its democratic potential. One such example is provided by Tsagarousianou (1998, p. 3), who claims that the technology will offer "a new arena for communication, a new public sphere that can replace the old one now crippled by commodification and fragmentation." At the same time, others argue that it will only make it easier for people to remove themselves from public life and the sense of civic engagement that goes with it (see, for example Wilhelm, 2000). The question of whether the Internet will remain largely free of regulation or whether it will be commodified is an important one. Of even larger importance, however, is understanding this extremely bifurcated discourse surrounding the development and diffusion of the Internet and all of its many applications such as Napster.

This paper explains the varying responses to the Internet as depicted by the academic and popular literature on the topic. We argue that the utopian/dystopian dichotomy found in the discourse surrounding the Internet is consistent with what Ogburn (1964) describes as a cultural lag. This lag suggests that the effects of technology may not be visible to social actors until some time after its introduction. As a result of this lag between the introduction of a technology and its cultural adaptation, both utopian and dystopian accounts of technologies such as the Internet are more likely to reflect authors' own preferences and values rather than an account of the technology's impact on the material and social conditions of society.

The paper is separated into three sections. First, we present Ogburn's notion of the cultural lag and describe its strengths and weaknesses. Next, we provide a review of the literature on the Internet, focusing our attention on the literature that discusses potential utopian and dystopian effects on society. Finally, we explain what the notion of the cultural lag brings to our understanding of the academic literature to date. By looking back to this earlier theory of technological diffusion, we hope that we will have a better understanding of the exceptionally polarized discussion surrounding the technology, how it fits historically within the context of other communication technologies, as well as how we can use these debates to develop a more critical view of the

technology's potential effects on society.

Cultural Lag

One possible way to begin to understand the extreme interpretations of Napster and other applications of the Internet is to turn to William Ogburn's work on the cultural lag. Although the notion of the cultural lag provides a framework to discuss technology and society, it is not without critics (Fischer, 1992; Meyrowitz, 1985; Mumford, 1962; Segal, 1994; Toffler, 1970). As such, we will briefly discuss the model's limitations before describing its utility.

Perhaps the most potent criticism of the theory is that it is technologically deterministic (see, for example, Mumford, 1962). Although Ogburn does entertain the possibility that the effects of culture and technology are reciprocal, he proceeds as though technology is an autonomous independent variable affecting the dependent variable of culture. In Ogburn's own words, "in nearly all cases [of cultural lag] the independent variable proved to be a scientific discovery or mechanical invention" (1964, p. 90).

In addition to the strongly deterministic theme in his work, the cultural lag also suffers from a teleological bias. Specifically, the notion of the cultural lag suggests that the identification of a problem is carried out by a single, unified culture. The presence of such a telos in Ogburn's work may have contributed to the assumption concerning consensus that we see in academic circles today: scholars tend to be much more likely to argue over defining the problem to be studied than they are to decide how to alleviate the problem. Because of this shift in scholarship, theories such as that of the cultural lag have been overlooked. Although an important point to note, analyzing the relationship between the cultural lag and the theoretical scholarship that followed is beyond the scope of this study. It is important to recognize, however, the weaknesses in the theory that have contributed to its recent unpopularity. Even with these weaknesses, this theory of technological diffusion and adoption is very useful in understanding the extreme responses to applications such as Napster as well as other technologies of the Internet.

As a social theorist in the 1960s, Ogburn's project was to understand technology's adoption and the visions of its future. In *On Cultural and Social Change*, Ogburn writes about the theory of the cultural lag to explain the temporal difference in social causation (1964, p. 88). In other words, this theory explains the time lag between a technology's invention, its distribution to society, and the social adjustment that follows (Westrum, 1991, p. 53). While the lag exists, unrealistic interpretations of the technology abound. In Ogburn's theory, some technologies are quickly followed by social institutional change and others are not.

In the author's own words, cultural lags exist because "technology moves forward and the social institution lags behind in varying degrees" (1964, p. 133). They occur "when one of two parts of culture which are correlated changes before or in greater degree than the other part does, thereby causing less adjustment between the two parts than existed previously" (Ogburn, 1964, p.86). Ogburn not only believed that the cultural lag could best be seen with technology, he felt that technology was responsible for most social change. "In our times in the Western world, technology and science are the great prime movers of social change. That this is so is an almost universal observation"

(1964, p. 91).

The theory of cultural lag specifies that societies as a whole do not universally change in response to introductions of new technology. Ogburn points out that there are four stages to a cultural lag: technological, industrial, governmental, and social philosophical (1964, p. 134). With the introduction of a new technology, different sectors of society accept and adopt it at different speeds. The theory states that industry is the first sector to adjust to and acquire the technology.

After the industrial sector responds to the new technology, government structures adjust. One of the main ways that the state deals with new technology is by regulating it. Ogburn states that "technology cracks the whip, but because these extra liaison bodies do not develop rapidly and properly in the effort to make the lethargic governmental structure work, the institutions of society slip out of gear, and humanity suffers because of it" (1964, p. 143). Without governmental structures dealing with and regulating technology, the fourth stage of the cultural lag, that of social philosophies, cannot adjust. It is not clear that this lag inevitably causes suffering to humanity, however it does, in the words of Carey, cause the "satanic and angelic images that have surrounded, justified, and denigrated" technology without realistically assessing its actual capabilities and limitations (1988, p. 2). It is within this fourth stage of the cultural lag that scholarship understands technology. While the lag exists, academic discussions regarding the topic tend to be skewed.

Although conceptually simple, cultural lags are difficult to distinguish. Ogburn addresses why identification is so difficult. "In the long perspective of history, though, lags are not visible because they have been caught up. They are visible phenomena largely at the present time" (1964, p. 95). In contrast to mainstream historical theories that claim that the only way to see social and political phenomena is through hindsight, Ogburn's theory of cultural lag states that hindsight hinders identification of historic lags; once the lag has disappeared, the period of the cultural lag is forgotten.

Given the temporal qualities of the cultural lag, it is much easier to conceive of and distinguish lags in newer technologies than in older ones. Although it is no longer possible to see the actual cultural lags surrounding the diffusion of the earlier forms of communications technology, the four stages of cultural lag can be frequently identified. Examples of cultural lags in earlier communication technologies are provided by the telephone and the television. Both of these technologies were identified as tools for democracy, as well as artifacts that would bring about the loss of privacy, the homogenization of society, indecent communication, and even revolution (see, e.g. de Sola Pool, 1983; Fischer, 1992; Greenberger, 1964; Grossman, 1995; Jones 1997; Marvin, 1988; Meyrowitz, 1985). In both cases, business was the first to embrace these technologies and take advantage of their capabilities. Television, for example, "was construed--as both a commodified communications apparatus...and a market" (Breslow, 1997, p. 237; see also Moran, 1994).

More important to this paper, however, is the fact that both of these technologies have been perceived as being "variously imagined as harmless and harmful" in their social effects (Moran 1994, p. 38). On the positive side, for example, television was viewed as a utopian technology that would cause "equalization of many different types of people" (Meyrowitz 1985, p. 155). Because access to the television and its programming does not necessarily follow the traditional social stratification of society, it was seen as a

democratizing force that "would bring culture, education, and information to the masses" (Grossman, 1995, p. 167). On the negative side, however, television has been accused of homogenizing American culture and its "regional spheres" (Meyrowitz, 1985, p. 145).

The Internet has been said to be as powerful, if not more powerful than these older technologies. A 1999 *Time Magazine* article, in fact, claimed that the Internet is a "technological wonder, every bit as revolutionary as the light bulb or the telephone. [It] is going to shape our lives in the century ahead" (Okrent, 1999, p. 38). As such, the cultural lag and the extreme interpretations of the technology that follow may be more extreme as well.

Thirty-plus years after the notion of the cultural lag was first proposed, technology plays an even greater role in social change; and the Internet, as one of the newer and more diffused technologies, is having effects on societies around the world. Not only does technologically driven social change extend beyond the Western world, but it has also become the *product* of social change as well as the driving force behind it (see, for example, Haraway, 1997; Wellman et al., 1996). The Internet illustrates this point clearly: it not only drives society to change its behaviors but it responds to society as well. In fact, as the Internet's capabilities grow and its effects extend to more and more of the world's population, predicting how the technology will develop and how it will change society is a difficult task. Not only is it close to impossible to forecast the effects of the Internet on society, but also the medium itself continues to change at a remarkable rate. In the words of Leiner et al. (1997), "One should not conclude that the Internet has now finished changing." Napster provides an ideal case of the continuing changes on the Internet. This new technology, developed by a college dropout, is reported as having been downloaded by over 32 million people in one year. ²

Like the earlier technologies of the telephone and television, both utopian and dystopian visions of the Internet have been put forth. Computer and networking technology "is producing a sweeping set of transformations in every corner of social life" (Winner 1986, p. 99). The Internet has been heralded as the most powerful democratizing force in communications (Association for Progressive Communications, 1997). Not only does it have the capabilities to give a voice to the powerless, but it is also said to be able to give the powerless access to the world (Fisher, 1998). In addition to its democratizing forces, the Internet has been celebrated as a potential tool for American politics. Scholars such as Tsagarousianou claims that it is the locale of "a new public sphere" (1998, p. 3; see also, Buchstein, 1997; Dean, 1997; Mukerji & Simon, 1998; Rheingold, 1993; Schneider, 1996; Ward, 1997).

At this point in the diffusion of the Internet, it is important to identify what Carey (1988, p. 2) would call the "satanic and angelic images" within the discourse surrounding this new technology in order to fit these visions realistically into the technology's actual capabilities and limitations. Unique to the Internet is its ability to work like a number of different communications technologies. Because there are different resources on the Internet that use different modalities of communication, Ogburn's cultural lag is even more visible than it was in the older communications technologies. In the section that follows, we focus on the extreme interpretations of the Internet that inundate the literature on the technology during this period of the cultural lag.

Utopian and Dystopian Visions of the Internet

As we have already argued, one of the effects of a cultural lag are extreme and unrealistic interpretations of the technology within the discourse surrounding it. This antinomy pits the political utility of emerging information technology with the potential for that same technology to further fragment society and increase anomie among its members. In the section that follows, we describe this dichotomy in terms of utopian and dystopian positions.

Perhaps the most salient aspect of the utopian position is the implied notion that there are technological solutions to social problems (see, for example, Budge, 1996; Cox, 1999; Ward, 1997). These solutions are often described in terms of technology's effects on communitarian and populist forms of democratic participation. The communitarian argument suggests that the Internet will facilitate civic engagement by increasing the ease of communication among citizens by transcending geographic and social boundaries. The argument suggests that the bonds produced by this interaction will in turn encourage the formation of new deliberative spaces and new forms of collective action. The populist model, in contrast, emphasizes technology's role in altering the interaction between citizens and government. Ward (1997) points out that the mechanisms of change are typically described in terms of on-line referenda and initiatives.

The utopian position is largely premised on the notion that the communication medium is paramount in determining effects (McLuhan, 1964). This approach usually touts the democratic potential of computer-mediated communication by referencing the actual design of the network. Through this network that provides communicative interaction, democratic participation and a sense of community are facilitated (Rheingold, 1993). Stated simply, utopians posit that cyberspace will make it easier for people to communicate both politically and otherwise. The utopian position tends to follow through with one of Habermas's main interests (1992, 1989), arguing that the communicative action, which emerges as a result of this interaction, can limit the subversion of deliberative democracy at the hands of market-driven imperatives.

In contrast to the utopian perspective that focuses on the effects of the Internet on society, the dystopian position has its roots in understanding the phenomenon of the experience (see, for example, Barber, 1998; Slouka, 1995; Stoll, 1995). Rather than viewing the Internet merely as a tool, the dystopian position emphasizes the potential of the medium to affect communication in such a way that it may negatively alter the practices and spaces of communication that had previously nurtured democracy. One such interpretation can be seen in the work of Timothy Luke, who says that as a result of the Internet, "Power shifts focus, speed overcomes space, orders become disordered, time moves standards, community loses centers, [and] values change denomination as the settings of industrialized human agency are completely shaken" (1998, p. 125).

The dystopian argument claims that democracy crumbles as the social fabric of society becomes fragmented and people become more isolated from one another. Within many of the dystopian arguments, the influence of Arendt's arguments concerning totalitarian regimes are visible (Holub, 1991). In particular, the effect of society's reliance on communications technology will be the same results as Arendt's found in her work on the "iron band of terror" (1973). The dystopian position also argues that a similar fragmentation will

result if face-to-face interactions are supplanted by mediated ones (Barber, 1998).

In addition to the loss of strong bonds among members of a society, many critics agree that the Internet will limit connections between central and peripheral actors in society (see, e.g. Castells, 1998; Luke, 1998; Soros, 1998). Participants at the center of an information-based communicative structure and those on the periphery of that structure will be less connected than ever before. In addition, the Internet is expected to disturb political life through what Derrida calls "accelerated rhythms" (1994). Rather than facilitating political engagement among citizens, this accelerated rhythm is described by dystopians as impeding thoughtful deliberation.

Beyond these dominant themes of utopian and dystopian visions of the Internet, it should be noted that a third theme, which can be described as technorealism, is also represented in the literature (see, for example, Bimber, 1998; Calhoun, 1998; Monberg, 1998). This position tends to be held by journalists and technology professionals as well as academics and usually takes a more modest approach to claims concerning the Internet's potential impact (Wilhelm, 2000). It usually presents a more tempered view of the Internet's effects on society in comparison to the utopian and dystopian positions. Calhoun (1998, p. 381), for example, argues that ultimately the effects of the Internet "matter much more as a supplement to face-to-face community organization and movement activity than as a substitute for it." Technorealistic ideas are diverse, but they seem to be premised on the idea that is best expressed by Monberg (1998), who says that whatever questions we are asking about the Internet today, the only thing we can know for certain is that we are asking the wrong questions. This notion that the medium is too new for scholars to determine effects is consistent with Ogburn's idea of a cultural lag.

In addition to the academic predictions of the Internet's impact on society, there have been a number of popular pronouncements concerning the technology. Utopian and dystopian visions of technology are probably most clearly manifest in artifacts of mass culture such as novels, art, and the media. Ever since Gibson's *Neuromancer* was released in 1984, his work has embodied a dystopian vision of what the world is becoming with the advent of the Internet. His characters create the technology but are eventually trapped/controlled by it. Stephenson's *Snow Crash* (1992), in contrast, presents a mixed utopian/dystopian cyberworld in which people can possess superpowers through their Internet alter egos. In the end, the young and the hip save the day from the potential evil that has threatened to destroy the Internet as they know it. Like the novel, corporate advertising has also promoted utopian visions of the technology. In an MCI/Worldcom advertisement, for instance, different voices states "there is no race, there is no gender . . . I can be whoever I want to be."

Dystopian interpretations of the Internet are no less prevalent today. Both privacy and content on the Internet have been a subject of great social concern and represent two of the most dominant debates about the potential negative effects of this communication technology. Stories about cyber-lurkers and personal information being obtained through the Internet prevail. Questions about content on the Internet confront Internet users from all sectors of society. At a recent conference, for example, an academic argued that with all of the indecent information and cyber-smut on the Internet, it was an open question whether it was appropriate to use the Internet for publication or distribution of

scholarly work. Similarly, the popular media have recognized the dystopian aspects of the Internet. "All the trash, flotsam and spillage of our society gets its moment there, where the tiniest obsession has its spot on the shelf, right next to Bach and charity and sunsets" (Okrent 1999, pp. 39-40).

Discussion and Conclusion

As the technology diffuses across American society and more people log on to the Internet, dystopian and utopian claims about the technology's capabilities grow. In 1996 for example, the US Congress attempted to limit free speech on the Internet through the Communications Decency Act. Although the Supreme Court overturned the Act on the grounds of the First Amendment, criticism of the *indecent* speech in many different areas of the Internet are still widespread and come from organizations as diverse as the Anti-Defamation League and Roman Catholics (see, for example, Harmon, 1997). At the same time, people around the world are celebrating the democratizing capabilities of this new technology (see, for example, Fisher, 1998; Haraway, 1997; Sclove, 1995). The actual structure of the pending regulations have strong implications for the diffusion of the technology both throughout the United States and beyond it to other countries in the developed and developing world.

Ogburn's notion of a cultural lag points to the future while focusing on the present. In doing so, the idea also aids us in understanding the extreme responses to the technology and helps us to be more critical of the academic literature on the subject. James Carey (1988) states that new communications technologies repeat old patterns of diffusion. "We are dealing with an old story rather than a new one. Although the computer and satellite have reduced time to a picosecond, an instantaneous present, and the globe to a point where everyone is in the same place, this is simply the latest chapter in an old tale. The habits of mind and structures of thought that seem characteristic of our age, particularly the talk of communications revolution and exalted hopes and equally exaggerated fears of the media, are repetitions so predictable as to suggest undeviating corridors of thought" (1988, p.2).

The case of Napster provides a timely example of the latest chapter in this old tale. Although actors from all sides of the issue argue over the utopian and dystopian effects this technology will have on business and society, in time society will adjust to the cultural lag and interpretations will become more realistic. As was the case with the telephone, television, or even the fax machine, while society became used to the capabilities of the technology, claims about their effects on society became less extreme.

Whether one views the Internet and all of its technological trappings as a panacea for problems facing democracy or not, the truth about the Internet's capabilities, like most truth, lies somewhere in between these utopian and dystopian interpretations. In order to understand realistically this technology that is changing society, we must recognize the extreme readings of its effects as what they are; products of a cultural lag between the diffusion of the Internet across society and society's adoption of the technology.

Footnotes

- 1 www.thestandard.com/article/display/0,1151,16593,00.html
- 2 www.napster.com

References

- Arendt, H. (1973). *The origins of totalitarianism*. San Diego: Harvest.
- Association for Progressive Communications. (1997). *Global networking for change*. London: Association for Progressive Communications Women's Networking Support Program.
- Barber, B. (1998). *A passion for democracy: American essays*. Princeton, NJ: Princeton University Press.
- Breslow, H. (1997). Civil society, political economy, and the Internet. In S. G. Jones (Ed.), *Virtual culture: Identity & communication in cybersociety*. London: Sage Publications.
- Buchstein, H. (1997). Bytes that bite: The Internet and deliberative democracy. *Constellations*, 4, 248-263.
- Calhoun, C. (1991). The infrastructure of modernity. In Haferkamp & Smelser (Eds.), *Social change and modernity*. Berkeley: University of California Press.
- Carey, J. W. (1988). *Communication as culture: Essays on media and society*. Boston: Unwin Hyman.
- Castells, M. (1989). *The information city*. Cambridge: Basil Blackwell Ltd.
- Cohen, A. (2000). A crisis of content. *Time Magazine*, 2 October, 68-72.
- De Sola Pool, I. (1983). *Forecasting the telephone : A retrospective technology assessment of the telephone*. New Jersey : ABLEX Publishing.
- Dean, J. (1997). Virtually citizens. *Constellations*, 4, 264-281.
- Derrida, J.(1994). *Specters of Marx*, translated by Paggy Kamuf. New York: Routledge.
- Fischer, C. S. (1992). *America calling: A social history of the telephone to 1940*. Berkeley: University of California Press.
- Fisher, D. R. (1998). Rumoring theory and the Internet: A framework for analyzing the grassroots. *Social Science Computer Review*, 16, 2, 158-168.
- Gibson, W. (1984). *Neuromancer*. London: Gollancz.
- Greenberger, M. (1964). The computers of tomorrow. *Atlantic Monthly*, 213, 5, May, 63-67.
<http://www.theatlantic.com/unbound/flashbks/computer/greenbf.htm>.
- Greenfeld, K. T. (2000). Meet the Napster. *Time Magazine*, 2 October, 60-68.
- Grimaldi, J. (2000). Napster ordered to shut down: Piracy of music judge says. *The Washington Post*, 27 July, A01.

Grossman, L. K. (1995). *The electronic republic: Reshaping democracy in the information age*. New York: Viking Publishing.

Habermas, J. (1992). Further reflections on the public sphere. In C. Calhoun (Ed.), *Habermas in the public sphere* (pp. 421-461). Cambridge, MA: MIT Press.

Habermas, J. (1989). *The structural transformation of the public sphere*. Cambridge, MA: MIT Press.

Haraway, D. J. (1997). *Modest_witness@Second_millennium. Femaleman@_Meets_OncomouseTM*. New York: Routledge.

Jones, S. G. (Ed.) (1997). *Virtual culture: Identity & communication in cybersociety*. London: Sage Publications.

Leiner, B. M., Cerf, V. G., Clark, D. D., Kahn, R. E., Kleinrock, L., Lynch, D. C., Postel, J., Roberts, L. G., & Wolff, S. (1997). A brief history of the Internet. <http://www.isoc.org/internet-history/>.

McLuhan, M. (1964). *Understanding media: The extensions of man*. New York: McGraw-Hill.

Marvin, C. (1988). *When old technologies were new: Thinking about communication in the late nineteenth century*. New York: Oxford University Press.

Meyrowitz, J. (1985). *No sense of place: The impact of electronic media on social behavior*. New York: Oxford University Press.

Monberg, J. (1998). Making the public count: A comparative case study of emergent information technology-based publics. *Communication Theory*, 4, 426-454.

Mukerji, C., & Simon, B. (1998). Out of the limelight: Discredited communities on the Internet. *Sociological Inquiry*, 68, 258-273.

Mumford, L. (1939). *Technics and civilization*. San Diego: Harcourt Brace & Company.

Ogburn, W. F. (1964). *On cultural and social change: Selected papers*. Chicago: University of Chicago Press.

Okrent, D. (1999). Raising kids online: What can parents do? *Time Magazine*, 10 May, 38-43.

Rheingold, H. (1993). *The virtual community: Homesteading on the electronic frontier*. New York: Harper Perennial.

Schneider, S. M. (1996). Creating a democratic public sphere: A case study of abortion conversation on the Internet. *Social Science Computer Review*, 14, 373-393.

Sclove, R. (1995). *Democracy and technology*. New York: Guilford Press.

Segal, H. P. (1994). *Future imperfect: The mixed blessings of technology in America*. Amherst: University of Massachusetts Press.

- Stephenson, N. (1992). *Snow crash*. New York: Bantam Books.
- Toffler, A. (1970). *Future shock*. New York: Bantam Books.
- Tsagarousianou, R. (1998). Electronic democracy and the public sphere: Opportunities and challenges. In R. Tsagarousianou, D. Tambini, & C. Bryan (Eds.), *Cyberdemocracy: Technology, cities and civic networks*. London: Routledge.
- Tsagarousianou, R., Tambini, D., & Bryan, C. (1998). *Cyberdemocracy: Technology, cities and civic networks*. London: Routledge.
- Ward, I. (1997). How democratic can we get? The Internet, the public sphere, and public discourse. *JAC: A Journal of Composition Theory*, 17, 365-379.
- Wellman, B., Salaff, J., Dimitrova, D., Garton, L., Gulia, M., & Haythornthwaite, C. (1996). Computer networks as social networks: Collaborative work, telework, and virtual community. *Annual Review of Sociology*, 22, 213-38.
- Wellman, B. (1997). The road to utopia and dystopia on the information superhighway. *Contemporary Sociology*, 26, 4.
- Westrum, R. (1991). *Technologies and society*. Belmont, California: Wadsworth Publishing.
- Wilhelm, A. (2000). *Democracy in the digital age*. New York: Routledge.

About the Authors

[Dana R. Fisher](#) is a Ph.D. candidate in the Department of Sociology at the University of Wisconsin-Madison. Recently, her work has focused on the social impacts of post-industrialization both in terms of the adoption of new technologies and their effects on the natural environment.

Address: Department of Sociology/Rural Sociology, University of Wisconsin-Madison, 350 Agriculture Hall, 1450 Linden Drive, Madison, WI 53706

Larry Michael Wright is a Ph.D. student in the School for Journalism and Mass Communication at the University of Wisconsin-Madison. He is interested in the role of communication, particularly computer mediated communication, in facilitating civic engagement.

Address: 2 Langdon Street #25, Madison, WI 53703. Telephone: 608-255-9159

©Copyright 2001 Journal of Computer-Mediated Communication