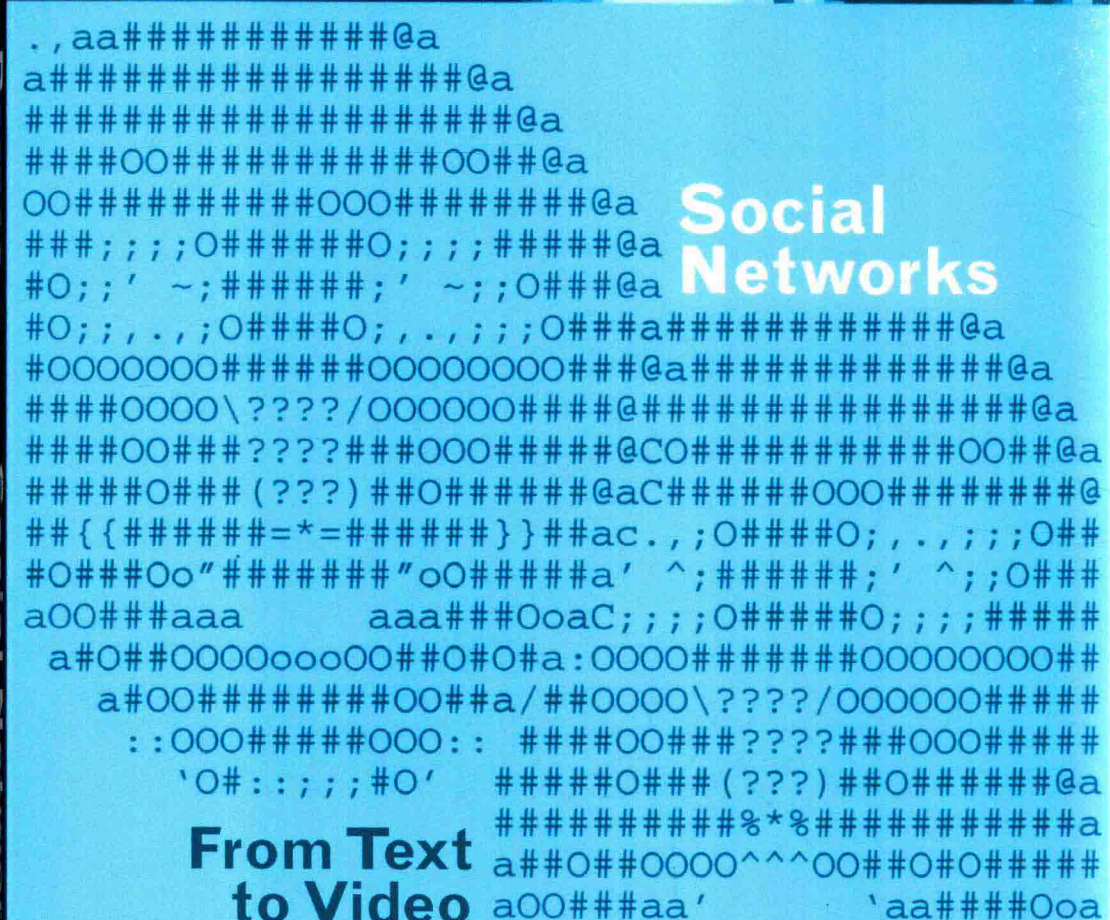
Social Networks



From Text to Video

SUSAN B. BARNES

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PETER LANG
New York • Washington, D.C./Baltimore • Bern
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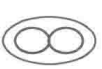

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Praise for

Social Networks

"For years now, Susan B. Barnes has functioned as an early warning system for new technological developments. With her years of experience in the business world, as a professor, and an internet researcher from the start, Barnes does not merely cheerlead for new technology, she asks important critical questions. From examining the way in which the internet has changed during different phases, from a text-based interface to the worlds of IRC, MUDs, MOOs and chat rooms, to the current popularity of social media and user-generated content, Barnes provides a lively and lucid discussion of how drastically the way we use the internet for communication has changed over the past few decades. With erudition (and useful discussion questions at the end of each chapter), Barnes provides not just an overview but a critical new tool suitable for students and professors alike."

—Brian Cogan, Associate Professor, Molloy College; Co-Editor of *Mosh the Polls: Youth Voters, Popular Culture, and Democratic Engagement* (Lexington, 2008)

Social Networks

Steve Jones
General Editor

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This book is an expansion of my book *Computer-Mediated Communication: Human-to-Human Communication Across the Internet*, published by Allyn & Bacon.

> Preface

People need to connect to other people, and this is the driving reason why programs such as e-mail and social networks are successful. Since the beginning of the Internet in the late 1960s people have always used the medium to communicate with other people. Although the software programs change, the idea of connection has not.

Software on the Internet has gone through three basic stages, and we can only use our imagination to speculate on what the fourth stage will be. The first stage was the text-based Internet where e-mail, discussion lists, chat, and MUDs were popular forms of communication. In stage two, the Web was developed. With the addition of a graphical interface, the Web became a way for businesses to market to consumers. On a personal level, individuals created home pages to promote themselves. Finding the Web sites required a new software tool called search engines. Search engines were established to help people find information on the Web and have gradually become more of an advertising medium.

In the current stage, blogs, social networks, and video have become popular methods to share information and contact friends. These three stages have been built on top of each other, and understanding social networks requires us to look at the past to understand the present and future. For instance, Instant Messenger is a popular application for talking to people in real time, and it appeared to be a big improvement to Internet communication. However, it was not a new idea. Professors, students, friends and relatives were using chat programs to communicate in the first stage of Internet development long before the creation of Instant Messenger.

All three stages of the Internet are covered in this book. Using literature from the time period of the development of Internet applications, the text provides an

overview of computer-mediated communication from e-mail to social networks and video.

Each chapter speaks to the characteristics and changes to communication that we are experiencing today. My earlier book on computer-mediated communication was written when the Web was becoming popular and is mostly about text-based interactions. The current book focuses on social networks, concepts associated with social networking, and how or why people use them.

> Contents

CHAPTER ONE

> Communicating Through the Internet

Computer-mediated communication first started at the end of the 1960s with the beginning of the Internet and has evolved from textual exchanges to the sharing of videos. This chapter will include: definitions, computer-mediated communication (CMC) genres, CMC as media environments, interactivity, conditions of attendance, synchronous and asynchronous communication, and hyperpersonal communication. Moreover, it will discuss the three phases of Internet development to better understand how the Internet has evolved as a communication medium.

In the beginning there was the electronic word. The Internet was a series of scrolling texts across the computer screen. For its first 25 years, the Internet was text-based. It was the first stage of the development of the network, and histories about the Internet's development include Abbate (1999) and Ceruzzi (1998). From the perspective of computer-mediated communication, the Internet has gone through three distinct phases—text-based, the World Wide Web, and social networking. However, once a new phase begins, people tend to forget about the earlier phases. Many of the ideas that the news media think are new actually were issues discussed in an earlier Internet phase. For instance, it was reported that using Twitter to exchange sexy photographs brings up the question, Are people cheating when they use electronic media to exchange messages? Twitter is a

microblogging program that allows subscribers to send brief messages about their activities.

However, this is not a new question. It came up when people started engaging in cybersex back in the 1990s. Cybersex was in the first phase of the Internet phenomena because it used chat to exchange text messages. The moral issue argued was that cybersex friends take affection away from a person's physical partner. Conversely, other people argued that reading cybersex messages was similar to reading a sexy novel. In contrast to reading a book, cybersex is sharing messages in close to real time through the Internet, which predated Instant Messenger (IM). Many of the linguistic shortcuts used in IM originated in chat. In this text, the three phases of the Internet will be used to help organize different research projects and theories about computer-mediated communication (CMC) and social networks.

"The term *computer-mediated communication* (CMC) is used to refer to a wide range of technologies that facilitate both human communication and the interactive sharing of information through computer networks, including e-mail, discussion groups, newsgroups, chat, instant messages, and Web pages" (Barnes, 2003, p. 4). Since the writing of this definition, social networks, Twitter, and YouTube need to be added to the list. In essence, the term *computer-mediated communication* refers to using the computer as an intermediary in the communication process.

» Characteristics

People need to be in contact with other people. This is the need behind killer online applications such as e-mail and social networks. The umbrella term for online discourse is computer-mediated communication, and it is a new form of communication that adds several characteristics to the process of communication. These influence the ways in which messages are shared. Dialog is changed and requires a new way of thinking about human exchanges. For example, the concepts of interactivity, time, and space are all ideas that need to be considered when using CMC as a method for communicating. "Interactivity is the condition of communication in which simultaneous and continuous exchanges occur, and these exchanges carry a social, binding force" (Rafaeli & Sudweeks, 1996, p. 3). Rafaeli and Sudweeks (1996) stated:

> Interactivity is a process-related, variable characteristic of communication settings. Like face-to-face communication, computer-mediated communication has the capacity of enabling high interactivity. One postulated outcome of interactivity is engage-

> ment. Interactivity can lead to sociability. We therefore propose that the concept of interactivity is a likely candidate to help in explaining how groups, especially CMC groups, stick together. (p. 3)

Interactivity is an important element of CMC because it fosters message interest and involvement. However, there are different types of interactivity—interpersonal interactivity, informational interactivity, and human-computer interaction (HCI) (see Barnes, 2003). Interpersonal interactivity enables people to exchange messages back and forth. Senders and receivers can exchange positions with the mediation of a computer, which also occurs in face-to-face situations. Programs that support interpersonal communication are extremely popular with Internet users. It is a type of interactivity that supports human communication through a computer network.

The second type of interactivity is informational interactivity, for example, when we search for an airline ticket on the World Wide Web or look up information on Wikipedia. A person is dealing with information stored in interactive databases; thus, the information is made to respond to the user's requests. The third type of interactivity, human-computer interaction, is how people deal with the computer itself and the software programs running on the system. For instance, it has been argued that the interface on the Macintosh made computers easier to use by the general public (see Levy, 1994). Software interfaces that are intuitive are more interactive because it is easier for individuals to access commands. For example, the graphical-user interface is easier to use than a text-based interface such as the old Disk Operating System (DOS) software used in the 1980s and 1990s.

Interactivity helps CMC to feel like a face-to-face conversation because it is part of the general process of communication. Interactivity enables people to communicate back and forth. With the added characteristics of space and time, people can talk to each other across geographic space at the same time or in delayed time. Chat, IM, Skype, and Second Life all interact with people at the same time or synchronous time. In contrast, e-mail, discussion lists, YouTube, and Web pages are all asynchronous. A message can be left and picked up when it is convenient for the receiver. All of these messages are shared in the electronic space of the Internet or cyberspace.

The term *cyberspace* is commonly used and focuses on the spatial aspect of Internet communication. Cyberspace is "the diverse experiences of space associated with computing and related technologies" (Strate, 1999, p. 383). Space no longer had to be a physical place; it could be the imagined space in which a telephone call exists or the imagined space of an Internet chat room. In the beginning, computers presented the idea of electronic space in the form of text-based

interaction. Then early computer games, such as Space Wars or Pong, provided a sense of space through simple graphics, which were written in the earliest stage of networked computer development. Space War projected a simple graphic representing a spaceship on the screen and the user had to shoot it down. In the next stage, the graphical interface was developed at Xerox Parc, and pixilated images of computer icons began to appear on the screen instead of text-based commands.

As the technology progressed, concepts of the difference between space and place emerged, for instance, when we speak about a place for a meeting rather than a space for a meeting. The space is the physical building in which the meeting will be held. The actual meeting is a place for the people to discuss business topics. If the group meets in different spaces, the idea of a meeting place does not change. The meetings are a continuous series of events that can take place in different spaces, whereas the notion of a series of meetings remains the same.

When we meet through the Internet, we meet in an imaginary space that we perceive to be a place of engagement. Strate (1999) states: "The sense of space generated through our experience of computing may in fact be entirely constructed and imaginary" (p. 389). Moreover, Williams and Dourish (2006) argue that "place is a process rather than an object or container" (p. 42).

Similarly, Harrison and Dourish (1966) argue, "We are *located* in 'space', but we *act* in 'place' (p. 69). In physical building spaces, humans behave in various ways. For instance, people will behave differently when they are in their house or home and when they are in their neighbor's house. On the Internet, people act as if there is a place where they go for online conversations because no physical building exists. This place is created by computer users and is not built into the system. As a result, it is place rather than space that defines human behavior.

Although the concept of place determines how an individual behaves online, the idea of time also influences the communication exchange. For instance, chat messages are short and fast with misspellings and letters as shorthand; in contrast, e-mail messages can be thought out because there is no time constraint. Referring to e-mail, Holmes (1995) states: "Communication media separate the location of time of message production from that of message reception" (p. 213). In contrast, Strate (2003) said, "Cybertime is absolute time, digital time, and it is quicktime" (p. 366). It is time that works at hyperspeed. Before the computer, did people think about nanoseconds? As a result, cybertime is as important as cyberspace.

From Bertman's point of view, hyperspeed—or, as they say in *Star Trek*, warp speed—tends to disengage people from their past. People ignore the past and focus on the future. Individuals frantically rush through time, while they forget to enjoy the moment. Cybertime and cyberspace are two characteristics of com-

puter-mediated communication that are different from face-to-face communication. Although people may act as if they are carrying on a continuous conversation through a computer network, the process of communication is influenced by time and space.

In addition to the characteristics of interactivity, cyberspace, and cybertime, the Internet has gone through three distinct phases of development—text-based, Web-enabled, and social networks. The earlier two stages have influenced the ways in which social networks are used today.

» Phase One: The Text-Based Internet

In the beginning, people first used e-mail, discussion lists, groupware, MUDs, and early forms of Internet Relay Chat (IRC) as methods of communicating through the Internet. The idea of communication through computer networks goes all the way back to 1968, when it was first discussed by J. C. R. Licklider and Robert W. Taylor in their seminal article "The Computer as a Communication Device." In the article they said:

> [The programmed digital computer,] its presence can change the nature and value of communication even more profoundly than did the printing press and the picture tube, for, as we shall show, a well-programmed computer can provide direct access both to information resources and to the *processes* for making use of the resources. (p. 22)

Licklider and Taylor essentially were predicting the future of accessing information on the Web and the creation of collaborative workgroups through the Internet. In the article, they used the work of Douglas Englebart as an example of how people could communicate through computers (see Barnes, 1997). Englebart helped to develop the first e-mail programs, and he was one of the first to be connected to the ARPANET (Advanced Research Project Agencies Network), which was the forerunner of the Internet.

E-mail

E-mail was the surprise activity of networking. From the very beginning people used the network as a method for communicating with other people. Abbate (1999) described the process:

> E-mail (initially called "net notes" or simply mail) made an inconspicuous entry onto the ARPANET scene. Since many time sharing systems [early computers] provided ways for users to send messages to others on the same computer, personal electronic mail was already a familiar concept to many ARPANET users. By mid 1971, when

> most of the sites had their host protocols in place, several ARPANET sites had begun experimenting with ideas for simple programs that would transfer a message from one computer to another. (p. 106)

E-mail was the first way in which people indicated an identity on the Internet. An e-mail address provided information about a person and often where they worked. For example, at the beginning of the network, most e-mail addresses had the name of a company or university in the address. As a result, people could tell where a person worked. Today, with Gmail and Yahoo, for example, anyone can set up an e-mail account and the work associations are not listed.

Discussion Groups

Once e-mail was established, it later took the form of discussion lists, where groups of individuals could carry on a conversation. These groups have existed since the founding of the network and were very popular. For instance, BITnet, originally an interuniversity network, established in the 1980s, used a software program called LISTSERV to organize discussion groups or lists (see Rafaeli et al., 1998). Groups on CompuServe, an early network, were called SIGs (Special Interest Groups,) and on the Usenet network they were called Newsgroups. These groups would be organized around a special topic of interest.

Some of the groups that form in CMC can develop into virtual communities. Howard Rheingold (1993) coined the term *virtual community* to describe the interpersonal relationships that were developing through computer networks. Virtual communities "can be described as informational and emotional support groups that form the same types of bonds as geographic communities where people share their experiences" (Barnes, 2003, p. 226). Births, deaths, and personal traumas were distributed to online friends.

Two examples of virtual communities were the Whole Earth 'Letronic Link (WE'LL) and Echo. The first was located in San Francisco and the second in New York City. A key difference between a discussion group and a virtual community is that people feel as if they know the other people in the virtual community. Stacy Horn (1998), the founder of Echo, states: "People are less likely to fly off the handle at every little thing in places like Echo or The WE'LL, where everybody knows who everyone else is" (p. 123). People are more tolerant of others in virtual communities and will not express rude remarks or flames to others as easily. Another online environment where people tend to be very civil is work groups.

Computer-Supported Cooperative Work (CSCW) or Groupware

In contrast to special interests, CSCW was first developed in the late 1980s to support teamwork. It "deals with the study and development of systems that encourage collaboration" (Engelbart & Lehtman, 1988, p. 245). Baecker (1993) defines CSCW as "computer-assisted coordinated activity such as problem solving and communication carried out by a group of collaborating individuals" (p. 1). The software that supports CSCW is called groupware. Johansen (1988) described groupware as follows:

> *Groupware* is a generic term for specialized computer aids that are designed for the use of collaborative work groups. Typically, these groups are small, project-oriented teams that have important tasks and tight deadlines. Groupware can involve software, hardware, services, and/or group process support. (p. 1)

An example of this is a group of product managers who need to make a decision about introducing an improved product to the market, or using group-writing software to design and revise a catalog. Johansen (1988) also contends that groupware can be used to enhance and document a group's performance.

In 1982, Kerr and Hiltz (1982) hypothesized that electronic groups would have the following cognitive impact on individuals:

1. Computerized communication creates group resources as individuals join on the basis of verbal output rather than traditional credentials.
2. It improves the quality of group decisions.
3. It increases understanding and appreciation of knowledge-based authority rather than hierarchical authority.
4. Greater awareness of the global situation changes organizational goals.
5. The creative process is more abstract.
6. Computerized communication provides a common framework and experience (a node for networks).
7. It creates opportunities to develop communities of interest rather than those based on geography, discipline, etc., and a redefinition of the meaning of "local." (p. 122)

Several of these speculations have definitely come true. Organizations are more aware of global situations as they share work with others around the world. Boeing America, for example, has a 24-hour workday. They pass their designs back and forth between Moscow and the United States. Boeing uses fiber optic cables, advanced compression technologies, and aeronautical workflow software to exchange information. Moreover, "there are videoconferencing facilities on every floor of Boeing's Moscow office, so the engineers don't have to rely on