

THE CHANGING MEDIA



Communication media are on the move, constantly evolving and changing the world we live in. It's no longer enough to learn about the conventional print, radio, television, and film mass media. This chapter examines how traditional mass media, computers, and telecommunications are changing to create new communications media. We'll also consider how culture and society affect the development of new technology and why the changing media pose new problems of their own.

THE MEDIA IN OUR LIVES

The average person spends 2600 hours per year watching TV or listening to radio. That's 325 eight-hour days, a full-time job! We spend another 900 hours with other media, including newspapers, books, magazines, music, film, home video, video games, and the Internet (Table 1.1). That's about 3500 hours of media use—more time than we spend on anything else, including working or sleeping.

The consumption of information sustains our economy. Most of the economic activity in the United States now involves producing, processing, or distributing information, including the output of the **mass media**, Internet, telecommunications, and computer industries. Information workers dominate the workforce, and the proportion of workers engaged in information work has more than doubled in a single generation (Schement & Curtis, 1997). Information workers include journalists, editors, computer programmers, movie actors, television producers, advertising account executives, Web page designers, rap singers, and public-relations specialists. Even in agricultural and manufacturing occupations, which dominated the world of work through the 1950s, information technologies

MEDIA THEN/MEDIA NOW

1948	Wilbur Schramm publishes SMCR model	1995	<i>Toy Story</i> , the first all-digital hit movie, released
1960	U.S. transitions to information society	1996	Telecommunications Act of 1996 reforms U.S. media policy; media studies “discovers” the Internet
1962	First digital phone line installed	1998	First V-chip introduced; first U.S. HDTV broadcasts introduced
1975	First personal computer introduced	2000	AOL acquires Time Warner; Microsoft found anticompetitive
1982	The CD, the first digital music recording medium, introduced		
1991	World Wide Web begins		

Table 1.1 Annual Media Consumption

Medium	Hours per person*
Television	1633
Radio*	961
Recorded music*	263
Daily newspapers	151
Internet*	124
Books	90
Magazines	107
Video games*	70
Home video	59
Movies in theaters*	12
Total	3470

Source: Veronis, Suhler & Assoc., 2000

*For all persons aged 12 and older, all others for persons 18+. Available at <http://www.tvb.org/rcentral/mediatrendstrack/tvbasics/basics10.html>.

Mass media is one-to-many communication delivered through an electronic or mechanical channel.

In an information society, the exchange of information is the predominant economic activity.

Convergence is the integration of mass media, computers, and telecommunications.

are increasingly important. It is fair to say that we now live and work in an **information society**.

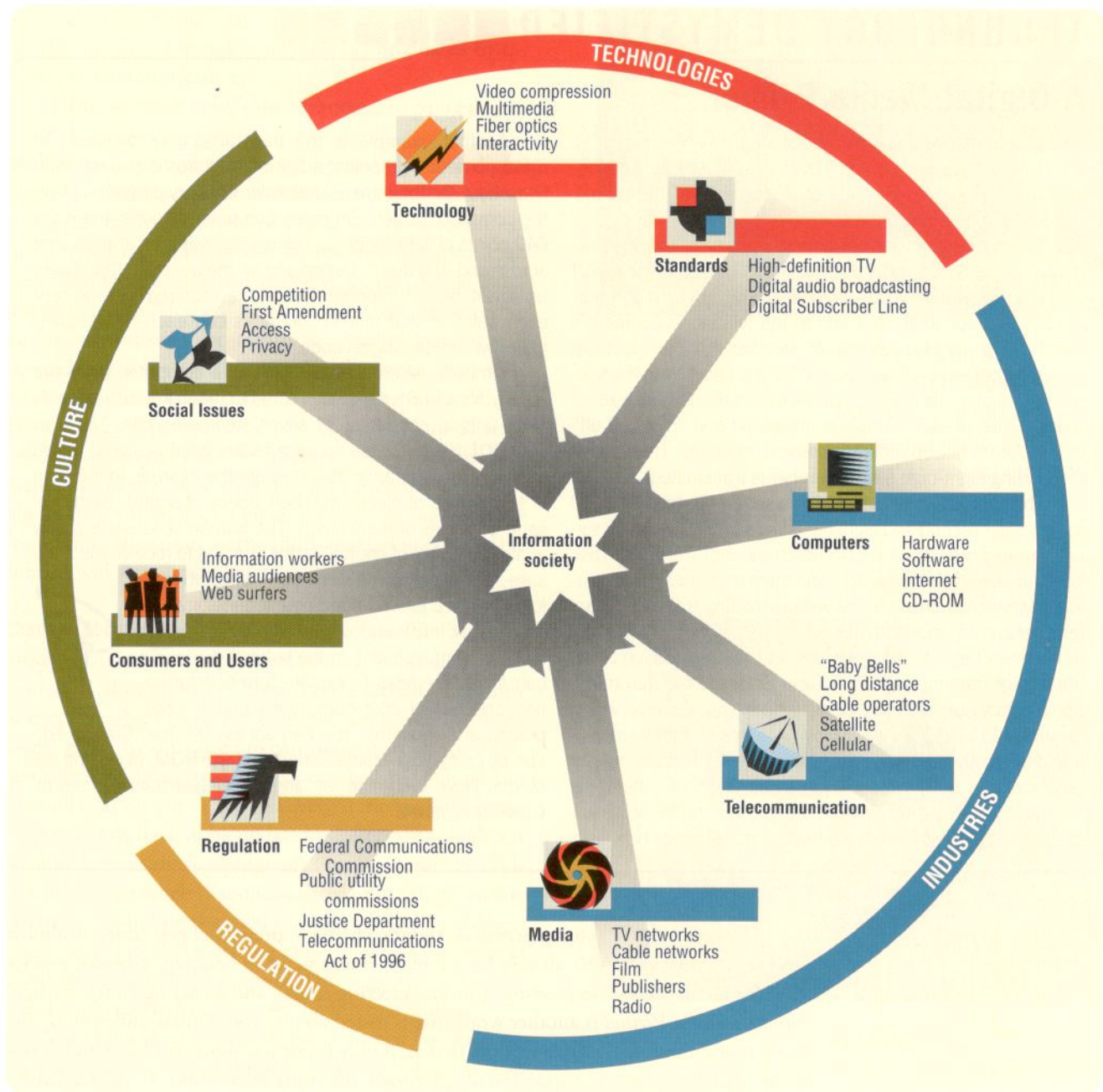
The transition to an **information society** is driven in part by rapid changes in technology. We should no longer think about the various media of communication—books, newspapers, magazines, radio, television, film, telephones, and computers—as completely distinct entities. Advances in computers and telecommunications networks have led to their merging, or **convergence**, with conventional mass media.

Today the media are changing our world in many ways, in the rise of the Internet, the integration of communications technologies, shifting media empires, new lifestyles, challenging careers, changing regulations, shifting social issues, and a new dynamic of power in society—we even see it in the way we study the media (see Figure 1.1, next page).

However, it's not a one-way street. The media themselves change in response to cataclysmic events like the September 11, 2001 terror attacks. And, the media respond to the culture that surrounds them as much, if not more, than they shape that culture.

Media in the Post-911 World

You have heard it so often the words have lost some of their impact: “the terror attacks changed everything.” Indeed they have changed the media in our lives in many ways, large and small. A small but highly visible change is the “newsticker” crawl at the bottom of the TV screen, which has become a permanent fixture on cable news channels. Since September, 2001 the media have turned their attention outward toward the events of the world and away from their obsession with scandals at home: The terror attacks removed a long-running story about the disappearance of a Congressional aide and persistent second-guessing of the 2000 Presidential election returns from the national agenda, for example. Behind the scenes, the attacks were a financial catastrophe for the mass media who ran coverage of the attacks without commercials and as consumers—and advertisers—stayed home in the aftermath. And, in its eagerness to crack down on terrorists, Congress passed the U.S.A. Patriot Act, legislation that stripped away many of the privacy protections that Americans took for granted when surfing the Internet and talking on the phone. In *Media Now* we will examine the implications of these changes.



■ **FIGURE 1.1**
Information technology and media are converging in the information society.

The Rise of the Internet

Terror attacks are not the only forces that are “changing everything” for the media in our lives, however. Recently, the Internet has become almost synonymous with the concept of new media. Many Web pages offer audio and video as well as text and graphics that exemplify the convergence of mass media and computer media. The Internet is thus the model for the new communications media environment: a high-speed computer network through which we can view news stories, watch video, listen to music, and converse with our family, friends, and coworkers with equal ease. With over 60 percent of the U.S. population now using personal computers and with the prices of computers plunging, the Internet is coming within the reach of most Americans, although a persisting **digital divide** still keeps a number of poor, minority, and elderly people away.

The digital divide is the gap in Internet usage between rich and poor, anglos and minorities.

A Digital Media Primer

All digital transmissions are composed of only two “digits,” 1 and 0. These are actually a series of “on-off” events. An electric current is turned on for a brief moment to indicate a 1 and turned off to indicate a 0.

To see how communications are translated into computer-readable data, consider a simple telephone call. The digital conversion that makes the call possible occurs on a computer card that connects your line to the telephone company’s switch. First, brief excerpts, or samples, of the electrical waveform corresponding to your voice are taken from the telephone line at a rate of 8000 samples per second. The size, or voltage level, of each sample is measured and “rounded off” to the closest of 256 different possible readings. Then a corresponding eight-digit binary number is transmitted.

The process is reversed at the receiving end. At 8000 samples per second and eight digits per sample, the on-off signals are very numerous: 64,000 each second! Thus, when two lovers are talking on the phone and there is complete (if meaningful) silence on the line, the voltage reading is 0. The binary number corresponding to this reading is eight 0s: 00000000. If the lovers begin to quarrel and start shouting at each other, the voltage reading might jump temporarily to the maximum, and a binary number corresponding to the highest level would be sent: 11111111. To the couple, it seems that they are talking to each other, but in reality they are listening to computer emulations of their voices. Digital recordings use the same methods, but they employ more numerous samples and allow more volume levels to improve the quality of the sound.

Another example is the transmission of pictures. To make computer graphics, a computer stores digital information about the brightness and color of every single point on the computer screen. On many computer screens, there are 640 points of light (or picture elements, *pixels* for short) going across and 480 down. Depending on the quality of the image, up to 24 bits of information may be required to represent each point so that millions of colors can each be assigned their own unique digital code.

Similarly, when we type text into a computer, there are no tiny A’s and B’s inside there; rather, each key corresponds to a unique sequence of seven computer bits (such as 1000001 for A). These sequences are what is stored inside the computer or transmitted through the Internet, in the form of tiny surges of electricity, short beeps of sound, flashes of light, or pulses of magnetism. The human senses are purely analog systems, of course, so for humans to receive the message, we must convert back from digital to analog. For more information about technology topics, consult InfoTrac College Edition. By entering “data communication” in the subject guide you can follow the links to explore further information about data communications codes, computers, and modems. You can access InfoTrac College Edition by using your Media Connection CD-ROM, or visiting the Media Now Web site at http://communication.wadsworth.com/media_now4.



The Internet is becoming pervasive, signified by the *e-* prefix that gets added to almost everything nowadays. We already have e-mail, e-commerce, e-banking, e-books, e-zines (electronic magazines), e-greetings (on-line greeting cards), and e-trading (stock transactions on-line). *Virtual* is another word that is tossed about, as in virtual universities, virtual corporations, and virtual realities that exist only inside a computer. That which is not e- or virtual is *cyber-* (a contraction of *cybernetics*, the study of computers), such as cybersex, cyberhate (Web pages run by hate groups), and cyberspace, a synonym for the Internet itself. How long before we hear about cyberchurches, virtual families, and e-motions?

Changing Media Technologies

As we begin the twenty-first century, communications media have entered a new era. The technological advances associated with our information society have resulted in a transition to digital transmission across all media forms—in fact, sometimes it seems that the entire world is “going digital.”

By **digital** communication we mean the conversion of sound, pictures, and text into computer-readable formats by changing them into strings of electronic 1s and 0s that carry information in encoded form (see *Technology Demystified*, above). In contrast, **analog** communication relays all the information present in the original message in the

Digital means computer-readable.

Analog communication uses continuously varying signals corresponding to the light or sounds originated by the source.

form of continuously varying signals that correspond to the fluctuations of sound or light energy originated by the source of communication.

There are some significant advantages to going digital.

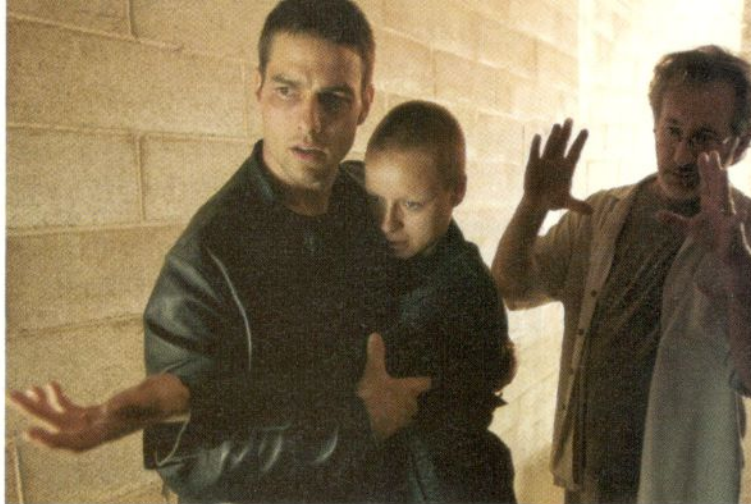
Quality. Transmission quality is improved because digital signals are less susceptible to interference and distortion. As long as the basic pattern of 1s and 0s can be identified, the original transmission can be restored in crystal-clear form. Unlike old-fashioned analog systems, a digital transmission can be “cleaned” of any noise that may creep in during transmission or recording. Analog systems just keep adding to the noise, and even make any existing noise louder each time a media transmission is reproduced. For example, if a tape recording of a concert is copied from one audiocassette onto another the final version will include all of the “hiss” introduced by each of the recording heads it passed over. Digital systems can make perfect copies time after time, so the third-generation copy of the concert will sound exactly like the original.

Channel Abundance. Digital messages can also be compressed. **Digital compression** eliminates redundant information to allow multiple channels to be carried where only one was possible before. For example, when broadcasting a soccer game, we only need to continuously transmit information about the motion of the soccer ball and players, but the information about the relatively static stadium backdrop does not have to be updated as often. That makes it possible to transmit five programs simultaneously on digital cable TV channels that once carried only a single analog program, expanding the total number of viewing choices. Many users can also share the same transmission channel simultaneously by taking turns. This approach, which is called **packet switching**, is how the Internet works.

Not only can more content be crammed into existing channel space, but the supply of channel space is also increasing. **Fiber optic systems** use light rather than electricity to communicate information at unprecedented speeds. Newer technology is multiplying the capacity of fiber optic networks by placing multiple streams of data in each cable. The culmination of these developments is possibly a system of media on demand. There will be so many channels available that users will be able to “call up” virtually any media product from anywhere in the world at any time without making a trip to the newsstand or the video store (Negroponte, 1996).

User Control. This abundance of choices has created a new challenge: how to navigate through all your options. Digital radio broadcasts include a digital format code, making it possible to program radios for such functions as “heavy metal seek.” The search engines on the World Wide Web are indicative of the degree of user control that will probably be available in all media some day. So, too, are the filtering programs that allow parents to

The Kobal Collection/Ambler/Dreamworks



■ JUST ANOTHER INFORMATION WORKER?

Movie stars distribute and process information, so they are information workers, just like the rest of us.

Justin Pumphrey/Getty Images



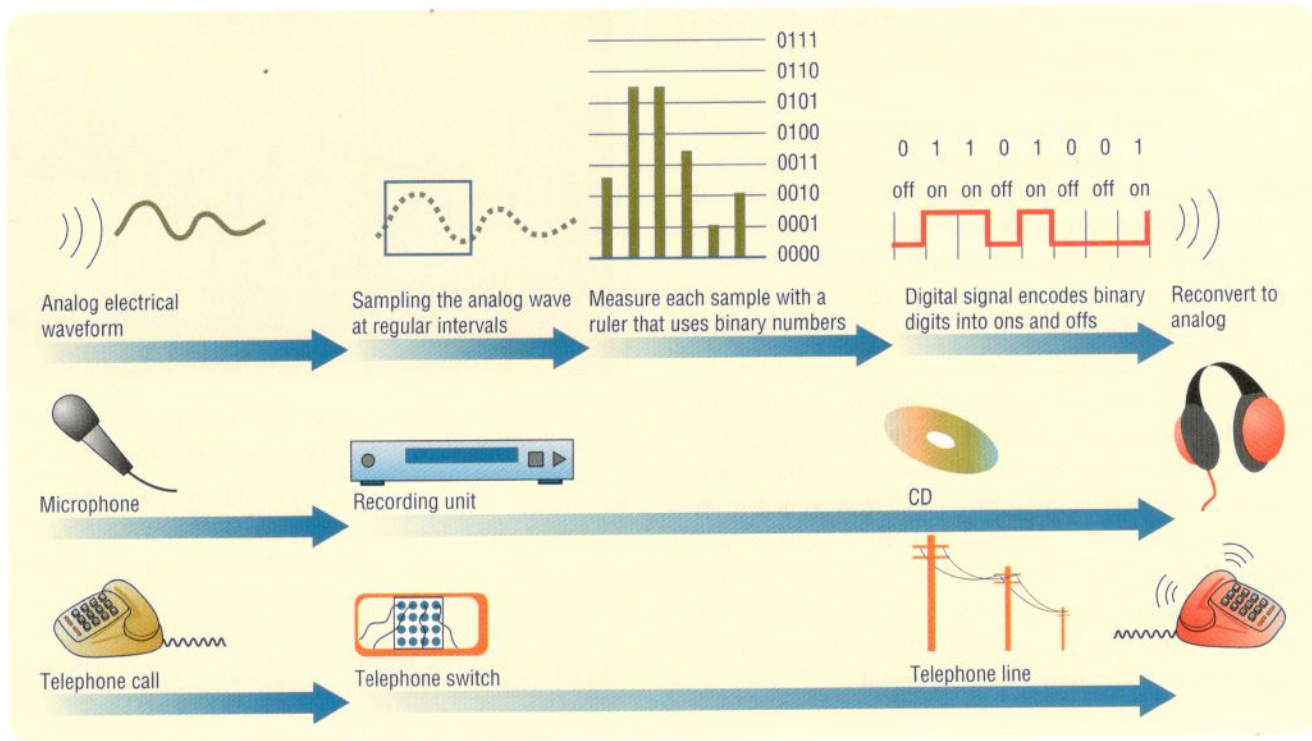
■ FUTURE TV

Digital TV promises wider and better pictures, improved sound, more channels, and interactivity.

Digital compression reduces the number of computer bits.

Packet switching breaks up digital information into individually addressed chunks, or packets.

Fiber optic systems use light instead of electricity to communicate.



■ **FIGURE 1.2**
The analog-to-digital conversion process occurs in a variety of media.

program their computers so that their children are shielded from explicit sexual content on the Internet. Similarly, the **V-chip** is an electronic tool for automatically filtering out violent or adult programming on television. Many Web sites ask you to log in and then address you by name or tailor their contents to your preferences, adding a personal dimension to **mass communication**. New variations include “agent” software that looks for information on the Web for you, and avatars that let you construct images of yourself that interact with other avatars.

Old Media, New Media

These advantages have prompted a gradual transition from traditional, “old” analog media to “new” digital media. The changes are evident everywhere we look across the media landscape.

Telephone. The first consumer communications medium to be digitized was the telephone. That began in 1962 with the installation of high-speed digital *T1* lines that carried two dozen conversations simultaneously. Today, most telephone conversations are converted to digital form before they leave your neighborhood and travel as computer data throughout the long-distance telephone networks (Figure 1.2). Now the telephone is also the connection to the Internet for most users. The *T1* lines that launched the digital revolution 40 years ago are now often used as high-speed Internet connections by businesses. A high-speed transmission technology, **digital subscriber line (DSL)** makes the telephone line a practical medium for high-speed Internet access for consumers as well. The latest digital mobile phones convert your voice to digits inside the handset and provide wireless Internet connections as well.

The **V-chip** is a computer chip that automatically filters out objectionable TV programs.

Mass communication is one-to-many, with limited audience feedback.

Digital subscriber line (DSL) is a high-speed digital phone service.

Print Media. Digitization first hit the production rooms of print media in the late 1960s. Now it is only in the final printing process that the words and images are converted from computer code to print image. Thousands of newspapers and magazines are available electronically through the World Wide Web, bypassing the final print step. E-books display electronic versions of books on handheld readers, including personal organizers. New high-speed printing technologies make it feasible to print books on demand and to include personalized information in publications that appear, on the surface, to be conventional mass media.

Film. In Hollywood the computer movement started with the special effects created for *Star Wars* in 1974. Now most of the editing of big films is done on computer, and the first completely computer-generated hit film, *Toy Story*, debuted in 1995. Movie theater sound systems are changing over to digital audio and the latest Digital Light Projection (DLP) systems use digital technology to project the images as well. On the home front, the newest in home video is the digital versatile disc (DVD), which is fast becoming a common storage medium for movies, video, audio, and computer data.

Recordings. The evolution to digital media in the recording industry first reached the consumer in the form of the compact disc (CD) in 1982. Most recording studios also utilize digital formats. An increasingly important source of recorded music is the Internet, through which fans “share” digital music files of the latest releases in the **MP3** format or subscribe to one of the growing number of pay music services. They then listen to the songs on portable players with computer disc drives inside, which are replacing the Walkman and Discman.

Computers. The first personal computer dates back to 1975. By the late 1980s, compact disc drives were introduced for personal computers, serving as high-capacity storage devices for audio, video, and graphics as well as computer programs. With the CD-ROM, multimedia, combining text, graphics, audio, and video in a single presentation became a reality. The biggest push for computer multimedia came from the advent of the World Wide Web in 1991. More and more Internet users are finding music files, radio stations, movies, and videos on the Web, and reproducing, or “ripping,” their own copies with the latest recordable CD/RW (read/write) drives.

Cable and Satellite Television. Cable TV was the next to go digital. In 1998 cable companies began to convert their video to digital form as a way to increase the number of channel offerings on their systems—through digital compression. Cable went digital in part to meet competition from **direct broadcast satellites (DBS)** that began beaming hundreds of channels of digital programming directly to home

Courtesy of DLP Image Library



PR Newswire/SPRINT PCS

■ WIRELESS WEB

Cell phones that provide wireless Internet access could be the next phase of media convergence.

MP3 is the digital format used to send music files over the Internet.

Direct broadcast satellites (DBS) transmit television signals from satellites to compact home receivers.

■ COMING SOON TO YOUR LOCAL THEATER

Digital Light Projectors (DLP) using CD-like digital storage media instead of film represent the digital revolution at your local movie theater.

dishes in 1995. And now many cable subscribers enjoy high-speed Internet access by installing **cable modems**.

Broadcasting. After years of wrangling over standards, **high-definition television (HDTV)**, which uses digital formats to transmit wider and clearer pictures, went on the air in the United States in 1998. The battle over standards for **digital television** continues even as the first interactive television services make their debut. The next generation of radio, **digital audio broadcasting (DAB)**, reached the air in 2003, completing the transition from the old analog media to the new digital media. The digital radio stations will compete with new digital satellite services that transmit CD-quality music to miniature dishes on the roof of your car for a monthly fee.

As we move into the future we are likely to see a continuation of the digital revolution that may lead to new media forms. Future media of all kinds will almost certainly have multimedia extensions so that we can view the lyrics of the songs we are listening to on our computer screen or view video clips from the latest plane crash in the middle of our electronic newspaper. More and more media will have interactive features that will offer the consumer new options for selecting and personalizing content and audience participation. As that day dawns, the mass media of radio, television, newspapers, and film as we once knew them will no longer be quite the same.

STOP & REVIEW

1. List four examples of the convergence phenomenon.
2. What is meant by the term *information society*?
3. What are three traditional electronic mass media?
4. What are three advantages of “going digital”?
5. Explain how far each of the following has progressed in making the transition to digital media: radio, recorded music, cable television.

CHANGING MEDIA IN A CHANGING WORLD

The changing media have important implications for media industries, individual lifestyles, careers, national policy, social issues, and the balance of power in society. Later we will discuss how the new media even challenge our basic ways of conceptualizing the relationship between media and society.

Merging Technologies

Technological change is beginning to shake up conventional media, although the “old” mass media sometimes resist the changes that are sweeping over them. The Napster Web site that allowed users to share digital music files over the Internet was used by over 40 million people at its peak, but the recorded music industry got the courts to shut it down for failing to compensate record companies for the music that was shared. Thousands of on-line radio stations sprang up around the world and posed a new challenge to conventional broadcast radio, but on-line stations were also forced to pay fees to record companies and many, including some run by college radio stations, had to close down.

The introduction of digital television raises the same issues for film and television. Any personal computer with a DVD drive and the right software can play digital movies and videos, while new personal video recorders store video on a computer disk for later viewing—and for automatic deletion of television ads. Digital movie files have already begun to move across the Internet in much the same way as digital music files.

Technological convergence is already well advanced in the world of work, where high-capacity corporate networks freely mix digitized phone conversations, electronic

Cable modems connect computers to cable television systems.

High-definition television (HDTV) is digital television that provides a wider and clearer picture.

Digital television is television that is transmitted in a digital format.

Digital audio broadcasting (DAB) is digitally broadcast radio.



■ RICHARD PARSONS

Erik Freeland/Corbis SABA

PROFILE

AOL Time Warner Chief

Name: Richard Parsons

Born: Brooklyn, New York

Education: University of Hawaii, Albany Law School

Current Position: Chairman and Chief Executive Officer, AOL Time Warner

Style: Statesmanlike yet accessible, a self-styled “lunch pail manager” who rolls up his sleeves and pitches in to get things done behind the scenes.

Greatest Achievements: Brought the Dime Savings Bank back from bankruptcy; tapped to take over AOL Time Warner in May 2002; appointed to the committee to overhaul social security by President Bush in 2002.

Entry Level: Assistant counselor to N.Y. governor Nelson Rockefeller

How He Got to the Top: He served as a White House aide when Rockefeller became Vice President in the Ford Administration, then worked for a Wall Street law firm for a decade before the Dime Savings Bank job. He was added to Time Warner’s Board of Directors in 1991 and joined the company himself as President in 1995.

Where Does He Go from Here? His challenge now is to either make the AOL Time Warner merger work or else undo it. He also wants to open his own corporation’s upper management ranks more to minorities (his own success is a rare exception at AOL TW).

Source: Derek T. Dingle; Allan Hughes (February, 2002). A time for bold leadership: Richard Parson’s deal-making prowess and diplomatic touch has catapulted him to become CEO of AOL Time Warner, the world’s largest media powerhouse. *Black Enterprise*, 32(7) 76–81.

documents, computer data, and video transmissions. The future evolution of the Internet may allow all of us access to the same array of services in our homes.

But the new digital media will coexist with conventional newspapers, books, magazines, television, and radio for many years. The switch to new media like digital television often lags as the old media try to cope with the enormous expense of new technology. The high cost of technological innovation must be shared by consumers, and many do not see the advantage to adopting expensive new technologies such as digital television.

Merging Industries

Telephone, computer, cable television, and media firms are merging and forming partnerships—and sometimes going out of business—at a dizzying rate in an effort to get the upper hand in the race to control the future of the media and to fight off challenges from upstart competitors who threaten their dominance (see Figure 1.1 on page 5).

Some examples:

- The mass media were rocked when the new media company America Online acquired the old media giant Time Warner.
- Computer software giant Microsoft Corporation has invested in the videogame, broadcasting, cable television, satellite, publishing, and Internet industries.
- Long-distance telephone titan AT&T bought cable television giant Tele-Communications, Inc. (TCI).

Watch the Industries Merge and Converge

New mergers, acquisitions, and partnerships in the multimedia industry are forming all the time, while old ones fall apart. Perform your own “convergence watch” by conducting an electronic search to track the action in the communications media industry.

To track convergence in television, enter “television industry” as a search term into InfoTrac College Edition (see below) and check “subject guide.” A new page pops up with “television broadcasting industry” as one of the options. Select the “subdivision” link. You will find thousands of recent articles pertaining to convergence in the television broadcast industry.

Then continue on with the other communications media industries. For industry names, you can use the chapter titles in the media sections of this book (for example, newspaper, television, radio, film, Internet) and the related subtopics found in the “industry structure” sections in each chapter (for example, cellular radio, home video, Internet Service Provider). An easy way to track convergence activity is to jot down the number of items listed in the “acquisitions, mergers, and divestments” category in each industry. Or, you can tabulate the number and size of specific deals by listing them in a table next to the dollar values of each transaction. (Note that many of the articles are duplicates about the same deals, appearing in different publications.) You can access InfoTrac College Edition by using your Media Connection CD-ROM, or visiting the Media Now Web site at http://communication.wadsworth.com/media_now4.



- Newspaper publisher Tribune Company is transforming itself into a multimedia news company by combining newspaper, television, cable, and Internet operations in major cities.

It makes sense to forge alliances across once-rigid industry boundaries, because formerly distinct channels of communication, such as telephone and television, can now be integrated into a single digital network. Meanwhile, regulatory barriers that separated many industries, such as film and television, have been lowered. So large businesses and public institutions are reinventing themselves to take advantage of new ways of doing business made possible by the resulting industry and technological changes (see Media Impact).

However, not all of these new combinations are proving successful. NBC Television stumbled in its efforts to colonize the Web by acquiring an Internet search engine. AT&T resold its cable systems when profits from innovative services were slow to materialize. Long-distance telephone giant MCI Worldcom faded into a cloud of debt and scandal after miscalculating the profitability of the Internet. The AOL Time Warner merger has failed to yield the hoped-for synergies between new media and old. Others in the old media are actively resisting inroads from the new media—just witness the pitched battle between the recording industry and the digital music sites on the Web. The bursting of the stock market “bubble” that fueled the growth of the Internet and the telecommunications industries in the 1990s and an advertising slump have left communications companies with mountains of debt and failed business plans.

Changing Lifestyles

When new media enter our homes, media consumption patterns tend to change. According to one study, a third of Internet users actually spent less time watching television than they did after they started using the Net (Miller & Clemente, 1997), and the Internet

ON-LINE BUZZ

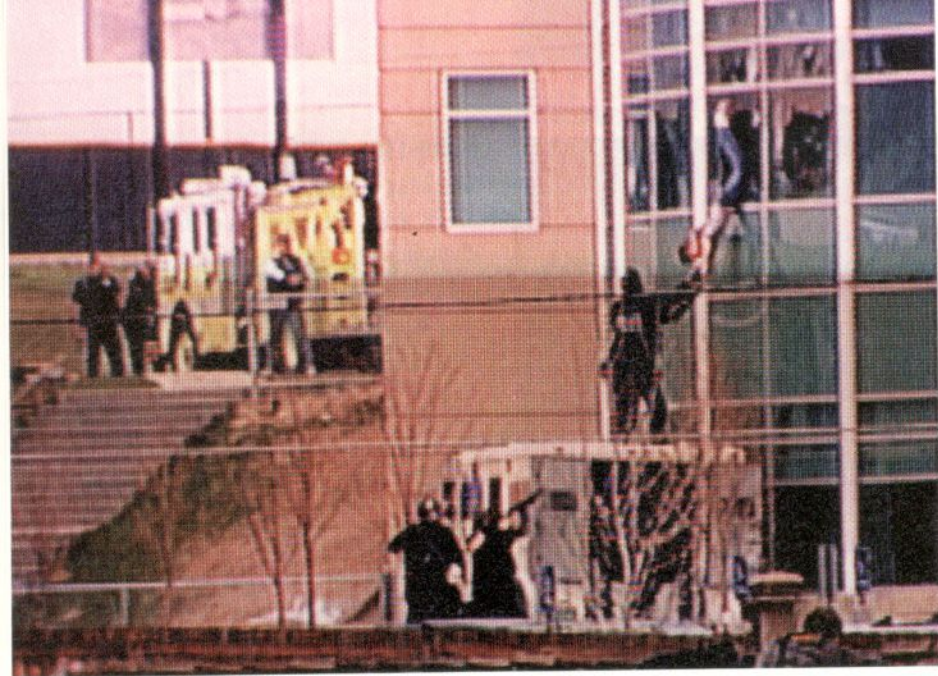
Web sites that generate “buzz” for TV shows are examples of the changing relationships between old media and new.

now rivals conventional media like newspapers and television as a news source for many people (Pew Research Center, 2000). After the terrorist attacks of September 11, 2001, some people used the Internet to see what people around the world were saying, while others went back to TV news to see the visual images and keep up with rapidly moving events. In other respects, Internet use complements, rather than competes with, conventional media consumption. According to a poll conducted for MTV, about a fourth of TV viewers go on-line while they are watching TV, and a like percentage visits the Web sites of favorite TV shows. Conventional mass media are learning to take advantage of these changing patterns by using new media to build larger audiences for themselves. For example, they run Web sites that sustain interest in popular “reality” shows such as *The Osbournes*, create “buzz” on the Internet for movies such as *The Lord of the Rings*, or add audio, video, and live discussion forums to printed stories. Adding Web activities to conventional media benefits advertisers who can complete sales transactions at their Web sites and gather valuable information about consumer habits from Web visits.

In addition to changing established ways of living, the changing media introduce us to new ways to live, as millions now work (Dizard, 1997), form social relationships (Parks & Floyd, 1996), shop (Gartner Group, 2000), forge new identities (Turkle, 1995), and develop new cultures (Dery, 1996) on the Net. All this could mean more life choices, lower prices for goods and services, and a better quality of life for the average family. But new media might also degrade human relationships by replacing them with impersonal computer transactions, or might lower the quality of public discourse by substituting Internet rumors for professional journalism.

Challenging Careers

Convergence will make jobs and careers highly volatile as companies continually re-engineer themselves and compete on a global scale. Most people entering the workforce today will have four or five different careers—not just jobs, but *careers*—in their future. That means that the student considering a professional career in journalism, radio, film, or television (or even computer science) will eventually have to acquire new skills for several very different professions, because old career tracks will disappear and others will require dramatically different skills. Blue-collar jobs, such as prepress technicians who set



AP/Wide World Photos

■ MEDIA EFFECT?

High school shootings raise concerns about the effects of violent movies, television programs, and video games.

old counterparts did. Furthermore, mass media occupations are highly competitive at the entry level, and high turnover rates, rather than expansion in the number of jobs available, will provide most of the openings.

However, digital multimedia production skills will be in great demand in television and film. Traditional typesetters are becoming obsolete, but the demand for desktop publishing skills is growing. Steady growth is expected for visual artists and designers as Web designers and Webmasters who create and maintain multimedia Web sites on the Internet. Computer skills may also hold the key to finding a second career for those who don't become media stars—as many as one in 50 of all jobs are now dependent upon the Internet (University of Texas, 2000).

Shifting Regulations

The convergence of mass media with telephone and computer technologies is also now the official policy of the U.S. government. In the **Telecommunications Act of 1996** (discussed in Chapter 13), Congress stripped away the regulations that had protected publishing, broadcasting, cable television, telephone, and other media companies from competition with one another. With the new law, lawmakers hoped to spark competition, improve service, and lower prices in all communications media. But so far, the main impact has been a flurry of corporate mergers, buyouts and bankruptcies, while the consumer benefits appear slowly. Countries around the world are inviting competition in their own communications industries as they race to build advanced communications networks that they hope will give them a competitive advantage over the United States in the global economy of the Information Age. Another piece of Information Age legislation, the Copyright Term Extension Act of 1998, has perhaps had a more immediate impact on media consumers. This legislation broadens the **copyright** protection enjoyed by writers, performers, and songwriters—and the giant media corporations that own the rights to such valued properties as Mickey Mouse and Bugs Bunny. However, the same legislation weakens the rights of students and professors to reproduce copyrighted printed works for their own educational use. And it doesn't solve the problem of how to protect the rights of the owners of creative works in the freewheeling Internet environment—where anyone can copy and distribute illegal copies with ease—without dismantling the Internet itself. For example, this law is what brought

The **Telecommunications Act of 1996** deregulated the communications media.

Copyright is the legal right to control intellectual property.

Table 1.2 Occupational Outlook in Communications

Occupational category	Number of jobs	Typical salary	Growth by 2008	Explanation
Actors, producers, directors	158,000	\$25,920 (actors) \$41,030 (producers)	Faster than average	New media growth and high turnover
Advertising, marketing, promotions, and public	707,000	\$57,360	Faster than average	Rapid growth in information-related fields, increased globalization. Demand highest for those with new media skills
Announcers	71,000	\$19,000	Decline	Industry consolidation
Broadcast and sound technicians	87,000	\$26,950	About average	Automation offsets growth in broadcast hours
Computer programmers	585,000	\$57,590	About average	Computers can write programs, too, reducing demand
Electrical and electronic engineers	288,000	\$64,910	About average	Growth in computers and consumer electronics, fastest in service industries
Systems analysts	887,000	\$59,330	Faster than average	Demand for webmasters, web designers.
Motion picture production and distribution	287,000	\$40,000	Above average	More programming needed to fill channels
News Analysts, Reporters and correspondents	78,000	\$29,110	Slow growth	Most growth from new media, high turnover
Prepress technicians and desktop publishing workers	162,000	\$30,000	Decline	Automation offsets gains for desktop publishing workers
Photographers	131,000	\$22,300	About average	More portrait and new media photographers needed
Writers and editors	305,000	\$42,270	Faster than average	New media, niche publications and small market media

Source: U.S. Department of Labor, Occupational Outlook Handbook, 2001–2002 Edition (Washington, DC: U.S. Government Printing Office). (<http://www.bls.gov/oco/>)

the crackdown on Napster, the popular Internet music-sharing site. Now it legitimizes efforts to make universities crack down on who “share” music and videos on-line.

Rising Social Issues

The mass media have long been social issues in themselves. They are criticized for their impacts on violence, sexual promiscuity, racial stereotypes, economic exploitation, mindless consumption, and irresponsible government. Now new media content such as Internet pornography, violent video games, and cyberhate contend with television violence as the leading focus of concern about the media’s effects on society. Converging technology also raises new concerns about the mental and physical health of those who overuse them: Do cell phones cause brain cancer? Is the Internet as addictive as a drug? Does it isolate people from real social interaction? Does it shift power in society? (See Media and Culture:

A New Balance of Power?

Concerns about the social impact of the new media go well beyond the roster of conventional media effects. They extend to the very underpinnings of the social order, to questions of who holds power in society and how they keep it.

Changes in media ownership may put us all at the mercy of “digital robber barons” who dominate the new digital media to enrich themselves at our expense. Their dominance threatens to reduce the diversity of content available and to raise the cost of information. The courts ruled that Microsoft unfairly dominated the market for Internet browser software and the company now stands accused of trying to dominate music and video player software. AOL Time Warner dominated Internet instant messaging and tried to keep Microsoft out of that arena. Meanwhile, innovative upstarts like Napster are crushed by entrenched old media interests. With these Information Age giants looking to control access to the new media, the information society may just be a breeding ground for inequality where the rich get richer and the poor get poorer.

The digital divide describes the gap in Internet access between whites and minorities, rich and poor (NTIA, 2002). As the Internet grows into an important source of employment, education, and political participation, that digital divide could translate into widening class division and social upheaval. Equal opportunity in the information economy already lags for both minorities and women, who are underrepresented in both the most visible (that is, on-camera) and most powerful (that is, senior executive) positions in the media. And although the gap in Internet access for women has closed, women are still excluded from a male-dominated computer culture, denying them access to the most powerful and rewarding careers in the information society (AAUW, 2000).

The issue is global. The flow of information across international boundaries and trade in information technologies and content are growing sources of international tensions. The nations of the world once divided according to their alliances with global superpowers. Now they divide between those with access to advanced communication technology and those without it, those who produce information and those who consume it.

However, others see the new media as a catalyst for a power shift away from powerful nation states, traditional ruling classes, and large corporations. For example, an alliance of social movements against the excesses of global corporations orchestrates demonstrations via the Internet. Similarly, on-line news sites raise issues that are ignored by the mainline press. Furthermore, the diverse and lively communities of the Internet may contribute to the fragmentation of culture and power (see Chapter 12)—for a growing number, identity is defined as much by the Internet communities in which we participate as by the countries we live in or the colors of our skins, characteristics that are invisible on the Internet.

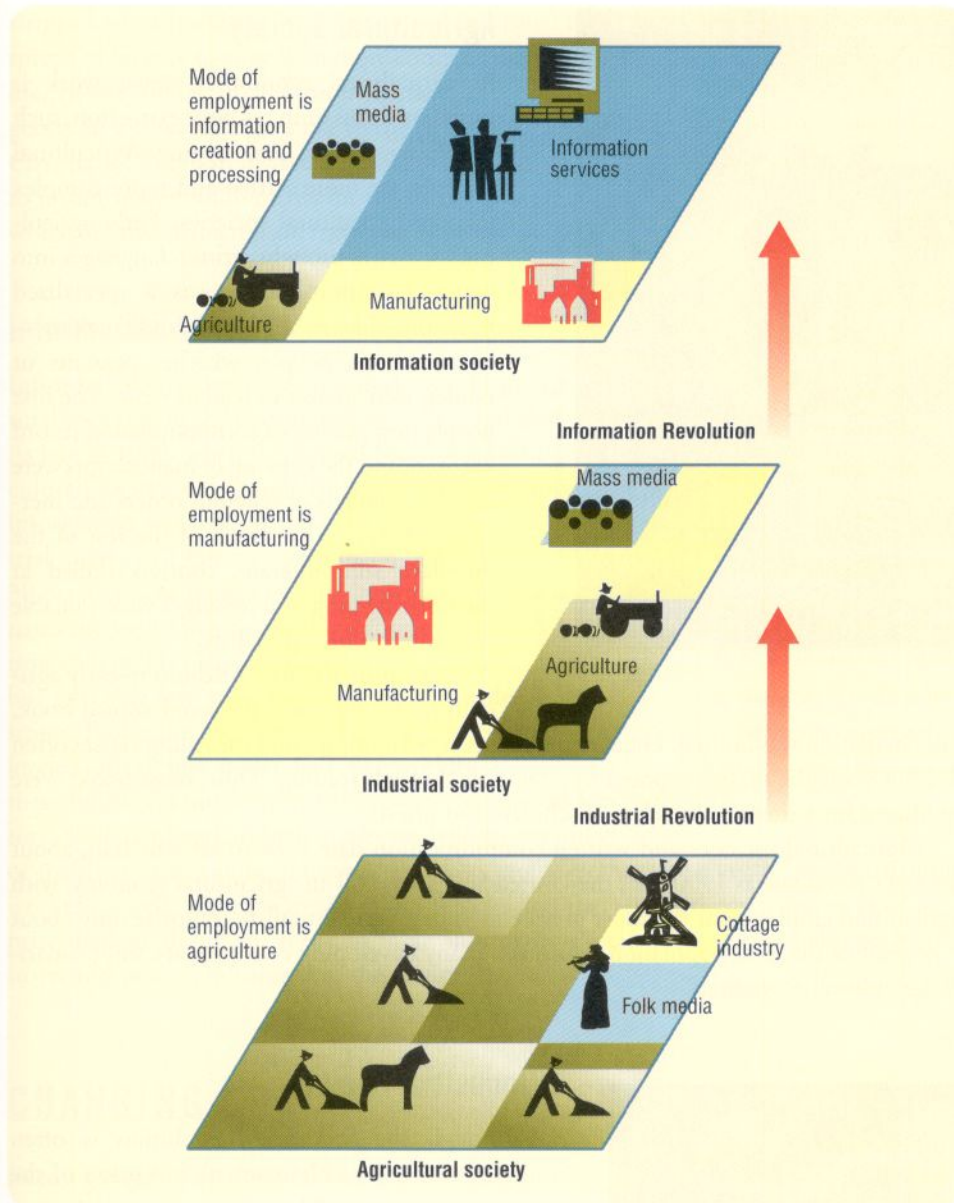
InfoTrac College Edition can help you track power shifts in society. Using “digital divide” as our keywords, we found this article about how college students can help close the gap between rich and poor: Carnegie Mellon students bring top-notch computing skills to homeless children in shelters, easing the digital divide; National Homeless and Hunger Awareness Week is Nov. 17-23, *Ascribe Higher Education News Service*, Nov 15, 2002 pNA. You can access InfoTrac College Edition by using your Media Connection CD-ROM, or visiting the Media Now Web site at http://communication.wadsworth.com/media_now4.



A New Balance of Power?) On the other hand, the melding of computers and conventional mass media holds out hope for new ways to correct old media ills. The V-chip allows parents to shield children from offensive TV programs. The Internet offers access to many diverse political viewpoints, comparison shopping for consumers, new educational opportunities, and active information seeking instead of passive media consumption—qualities that many critics have found lacking in the old media.

CHANGING MEDIA THROUGHOUT HISTORY

Although the changes in the media, and the changes in society that accompany them, may sometimes seem to be something radically new and different, in broader historical context they are really nothing new at all: The media and society have always evolved

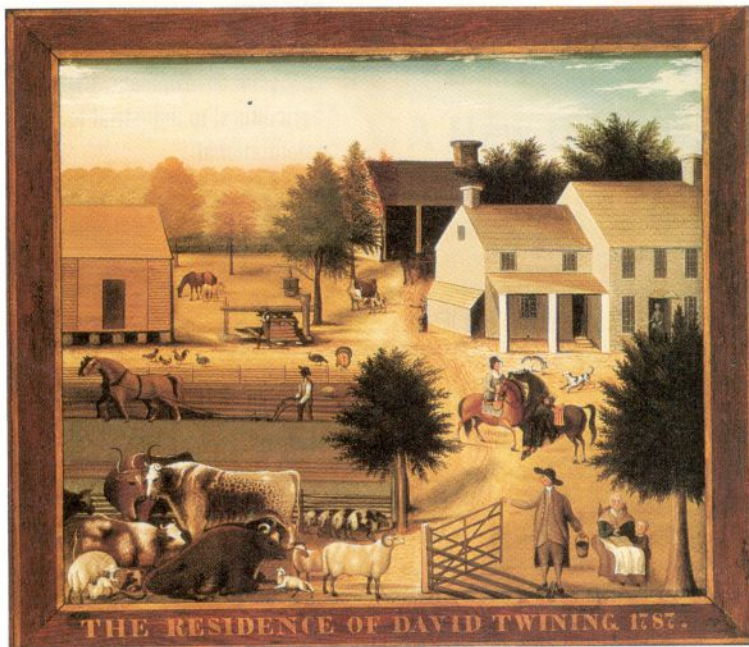


■ **FIGURE 1.3**
The three basic stages of economic development, from agricultural to industrial to informational.

together. In this section we will examine how the role of the media has evolved as society developed from the dawn of history. We will approach this topic by relating communications media developments to three stages of economic development (shown in Figure 1.3): agricultural, industrial, and information societies (Bell, 1973; Dizard, 1997).

Preagricultural Society

In preagricultural societies, most people lived in small groups as hunters and gatherers. These cultures depended on the spoken word, rather than writing, to transmit ideas between generations. This oral tradition lives on in contemporary societies. Many people who are illiterate and unable to read books, newspapers, or street signs depend on friends and relatives to tell them how to cope in the urban jungle.



Edward Hicks. Residence of David Twining, 1987. Courtesy of Abbey Aldrich Rockefeller Folk Art Center, Williamsburg, VA.

■ DOWN ON THE FARM

Agricultural societies are characterized by resource extraction. Written communication evolves as a specialized function.

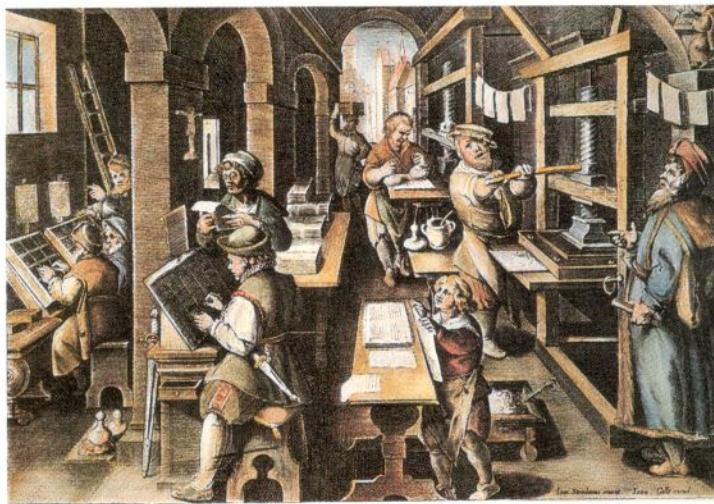
but circulation was limited. Hand copying was very laborious, and the ruling classes often did not want the masses exposed to new ideas through reading. Thus, most books were produced for a literate elite class of scholars and priests.

Agricultural societies and written communication date back to ancient Iraq, about 4000 B.C.E. As late as 1900 C.E., the United States was still an agricultural economy, with agricultural employment the most prevalent. Today, agriculturalists comprise only about 2 percent of the U.S. population. However, many developing countries are still primarily agricultural economies.

Agricultural Society

In agricultural economies, most work is found on farms or in resource extraction, such as mining, fishing, and logging. Agricultural societies are more settled and more complex than preagricultural societies. Early agricultural societies brought written languages into being. Communication was a specialized function—like medicine or candlemaking—because most people, whether peasants or nobles, were unable to read or write. The first people to specialize in correspondence, record keeping, and the copying of manuscripts were usually members of religious orders and merchant classes. With much of the rest of the populace still illiterate, couriers skilled at memorizing long oral messages were valuable communications specialists.

The primary mass medium in early agricultural societies was the hand-copied book,



The Granger Collection, New York

■ START THE PRESSES!

The advent of the printing press in the late fifteenth century was a precursor to mass literacy and the Industrial Revolution.

virtually all types of goods. Industrial production was centered in large cities, triggering a mass migration from country to city and from agricultural jobs to manufacturing. By 1910, the United States had become an industrial society: Manufacturing had out-

Industrial Society

Although the Industrial Revolution is often dated to Thomas Newcomen's invention of the steam engine in 1712, an important precursor of the industrial method is found in the field of communication: the publication of the Gutenberg Bible in 1455. Johannes Gutenberg was the first in Europe to use movable metal type, dramatically improving the speed of book production and eliminating the need for time-consuming hand-copying methods. Eventually, thousands of identical copies of a book could be printed relatively cheaply, and mass production led to larger audiences as new types of books were printed.

In a sense, the Industrial Revolution extended Gutenberg's methods to the manufacture of

stripped agricultural employment for the first time. Industrialization also encouraged the spread of literacy to cope with more complex job requirements and the demands of urban life. In the 1830s, urbanization, literacy, and the need to advertise new manufactured goods on a mass scale gave rise to the first truly mass medium, the urban newspaper (see Chapter 4). Soon, industrial methods were applied to speed up the printing process and to invent newer amusements for the urban masses, including film, radio, and television, which are the characteristic media of industrial societies.

Information Society

Information workers may be found even in preagricultural societies, in the persons of storytellers and shamans. As late as 1900, when the United States was still an agricultural society, only about 10 percent were employed as information workers. At the pinnacle of the U.S. industrial society in 1950, this proportion had grown to about 30 percent. The point at which information work dominates the workforce marks the transition to an information society. This happened in the United States in 1960, but relatively few other nations have yet made the transition. Today, the proportion of information workers has leveled off at just under half the workforce, although these figures do not include the growing number of factory, retail, and agricultural employees who spend much of their day at computer terminals and who should perhaps be classified as information workers as well. Since the media reflect the societies that spawn them, it comes as no surprise that the dominant medium in an information society is one that helps to create, store, and process information: the computer.

STOP & REVIEW

1. What are some of the ways that new media are changing society?
2. What are some of the “hot” careers in the information society?
3. What is the significance of the Telecom Act of 1996?
4. Give examples of convergence in media industries.
5. How does the role of the media differ between industrial and information societies?

CHANGING CONCEPTIONS OF THE MEDIA

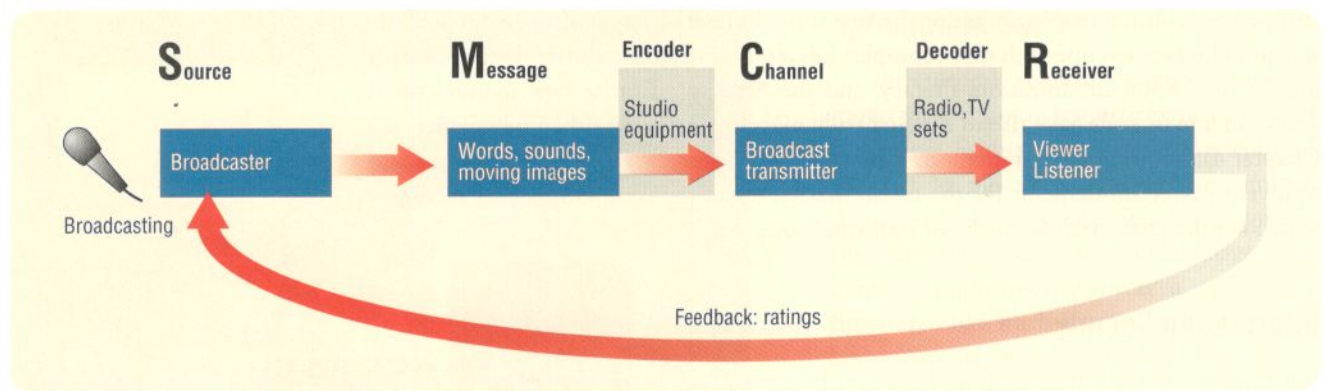
Reading highly encapsulated accounts of the evolution of the media, such as the above, you might get the mistaken impression that society has always followed a logical, linear progression driven by changes in communication technology. However, many aspects of society must come together for technologies like movable type or computers to develop. Economies, cultures, political systems, and communication technologies develop together in complex ways. This raises a fundamental question: Do the media determine culture, or does culture determine the media?

Here we will begin by examining conventional views that developed when the old media seemed all-powerful. Next we will consider critical views of the media that emphasize the importance of class, gender, and culture when trying to understand the media. Finally, we will consider how the new media challenge basic assumptions of the conventional views of the media.

The SMCR Model

The classic model that stresses the dominance of the media was developed by Wilbur Schramm (1982), often credited as the founder of mass communication studies. He created what is known as the **Source-Message-Channel-Receiver (SMCR)** model (Figure 1.4).

The **Source-Message-Channel-Receiver (SMCR)** model describes the exchange of information as the message passes from the source to the channel to the receiver, with feedback to the source.



■ **FIGURE 1.4**

The SMCR model is one way of describing the communication process.

The *source* is the originator of the communication.

The *message* is the content of the communication, the information that is to be exchanged.

An *encoder* translates the message into a form that can be communicated—often a form that is not directly interpretable by human senses.

A *channel* is the medium or transmission system used to convey the message from one place to another.

A *decoder* reverses the encoding process.

The *receiver* is the destination of the communication.

A *feedback* mechanism between the source and the receiver regulates the flow of communication.

Noise is any distortion or errors that may be introduced during the information exchange.

This model can be applied to all forms of human communication, but here we will just illustrate it with mass communication examples. When you are at home watching a television program, the television network (a corporate source) originates the message, which is encoded by the microphones and television cameras in the television studio. The channel is not literally the number on the television dial to which you are tuned, but rather the entire chain of transmitters, satellite links, and cable television equipment required to convey the message to your home. Although we sometimes call a TV set a “receiver,” it is really the decoder and the viewer is the receiver. Feedback from viewers is via television rating services. Electronic interference with the broadcast and the distractions of barking dogs are possible noise components in this situation. The source of a Web home page is the person who authored the page, and the content of the page is the message, which the author encoded with the software she used to compose the page’s content. The channel is the Internet, including the computer that the Web page is stored on, and the network connections between that computer, called a server, and your own. Your computer acts as the decoder. It decodes the message with your browser software (such as Netscape or Internet Explorer), and you are the receiver.

In this classic view, mass communication is one-to-many communication, and the mass media are the various channels through which mass communication is delivered. That is, through newspapers, radio, TV, or film, the message is communicated from a single source to many receivers at about the same time, with limited opportunities for the audience to communicate back to the source.

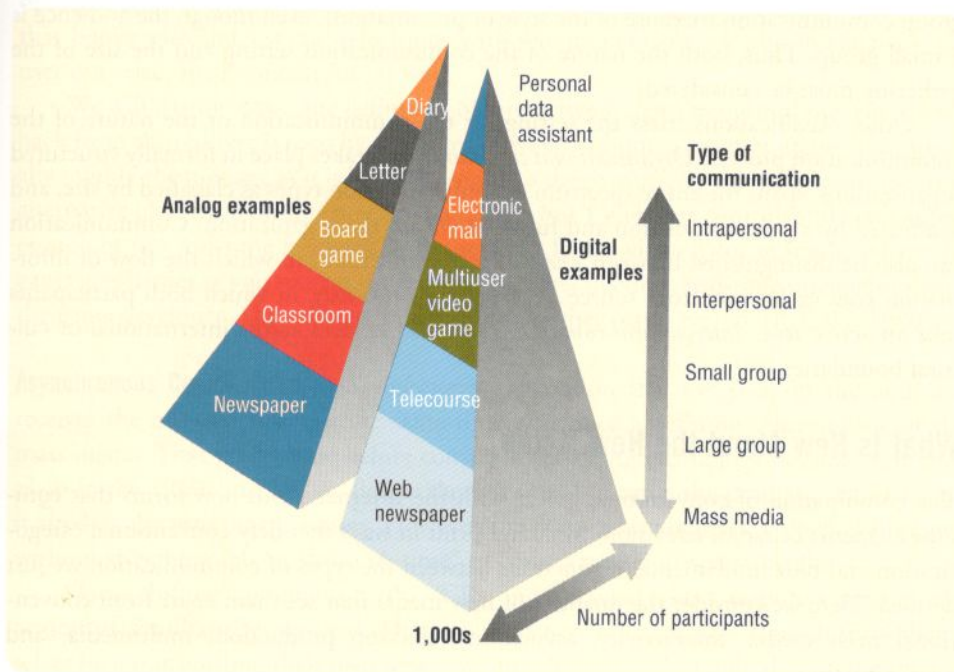
A **channel** is an electronic or mechanical system that links the source to the receiver.

In Wilbur Schramm's time, from the late 1940s to the early 1980s, mass media were produced by large media corporations. There an elite corps of media commentators and professional producers acted as **gatekeepers**, deciding what the audience should receive. These editors and producers, recognizing their own power, were aware of themselves as shapers of public opinion and popular tastes (Schramm, 1982).

Mass media messages were addressed to the widest possible audience. The underlying motive was to homogenize tastes and opinions to further the goals of a mass market industrial economy. For example, hundreds of thousands of people would want to buy the shiny new two-tone persimmon red and classic white 1956 Mercury advertised on popular television programs such as *The Ed Sullivan Show* and in popular magazines like *Life*. The car manufacturer could then produce vats of persimmon red paint and tons of chrome at a time, lowering production costs and boosting profits. Audiences of millions were needed to attract the advertising dollars needed to create and sustain mass media systems. Feedback was largely limited to reports from audience research bureaus, which took days or weeks to compile. The audience was an undifferentiated mass, anonymous to the source and a passive receptacle for the message. Social critics like Adorno and Horkheimer (1972) called this the industrialization of culture.

Types of Communication

Mass communication is only one of the possible modes of communication. Another hallmark of the classical approach is to classify communication according to the number of people communicating and to examine processes that are unique to each mode. The basic categories include *intrapersonal*, *interpersonal*, *small group*, and *large group*, as well as mass communication (Figure 1.5). When a mechanical or electronic medium is used to transmit information we say that the communication is *mediated*. Now we can also distinguish between analog and digital forms of communication in each category.



Bettmann/COBIS

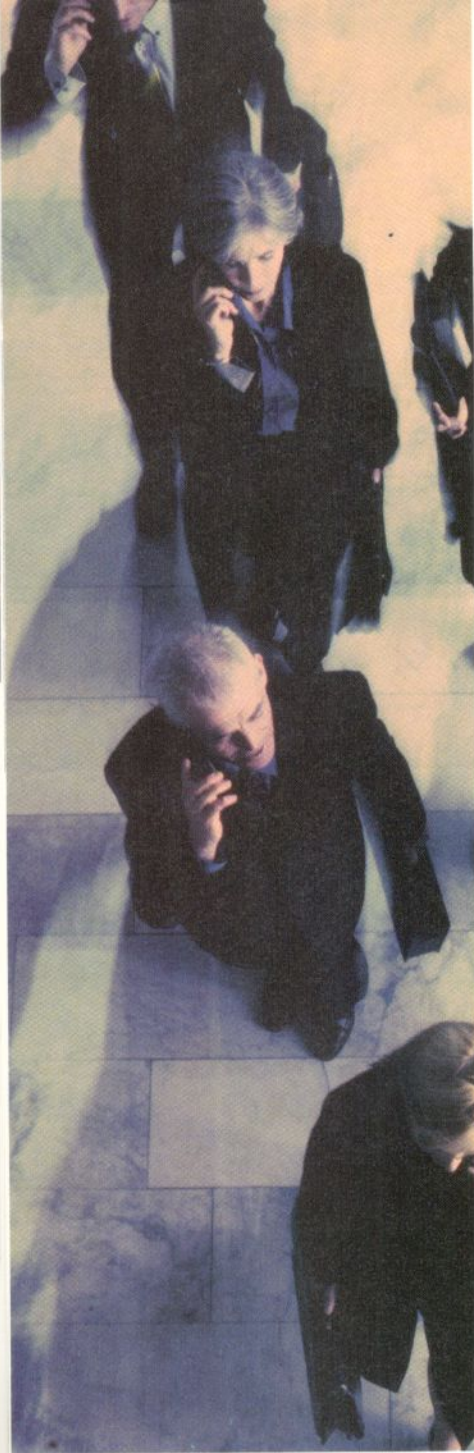
■ A BIG MASS

In the conventional mass media view, the audience was an undifferentiated mass of receivers for the message.

Gatekeepers decide what will appear in the media.

■ FIGURE 1.5

Types of communication may be distinguished according to the number of participants and the nature of the communication process.



Anthony Redpath/CORBIS

■ WHICH TYPE?

Here we see a small group of people, but they are not talking to each other, so this is interpersonal communication via cell phone.

Narrowcasting targets media to specific segments of the audience.

Intrapersonal communication is an exchange of information we have with ourselves, such as when we think over our next move in a video game or sing to ourselves in the shower. Typing into a computer or Palm Pilot is electronically mediated intrapersonal communication.

Interpersonal communication includes exchanges in which two or more people take part, but the term is usually reserved for situations in which just two people are communicating. Having a face-to-face conversation over lunch and writing a letter to a friend are everyday examples. When interpersonal communication is electronically mediated, as in a telephone conversation, the term *point-to-point* communication is sometimes used.

Group communication is when three or more people communicate with one another. Not all communication that takes place in a group setting is included, however. When pairs of students talk to each other in a classroom before the start of a lecture, for example, they are engaged in *interpersonal* communication.

Small-group communication, usually involving fewer than a dozen people, extends interpersonal communication into situations where group dynamics become important. For example, when students get together to “scope out” an exam, their interaction is likely to follow one of several well-known patterns of small-group interaction as they define a study plan.

Large-group communication involves anywhere from a dozen to several hundred participants, and the communication situation restricts active involvement to only a few of the parties. However, large-group communication still involves immediate feedback from the receivers of the message, which is not the case with mass communication. Examples are lectures, concerts, and live theatrical performances.

Of course, many communication situations do not fit neatly into these categories. Are talk-radio shows, in which audience members provide instant communication back to the source—and even, in a sense, become sources themselves—still true mass media forms? The number of participants is not always a reliable indicator. A college lecture delivered on the last day before spring break to only six students would still be a large-group communication (because of the style of presentation), even though the audience is a small group. Thus, both the nature of the communication setting and the size of the gathering must be considered.

Other classifications stress the setting for the communication or the nature of the communication process. *Organizational communication* takes place in formally structured organizations, spans the entire spectrum of communication types as classified by size, and is affected by a person’s position and function within the organization. Communication can also be distinguished between *one-way* communication, in which the flow of information goes exclusively from source to receiver, or *two-way*, in which both participants take an active role. *Intercultural communication* takes place across international or cultural boundaries.

What Is New About the New Media?

The combination of conventional media with the Internet yields new forms that combine elements of radio, television, film, and print in ways that defy conventional categorization and blur fundamental distinctions between the types of communication we just defined. Here we consider the qualities of new media that set them apart from conventional mass media: interactivity, asynchrony, desktop production, multimedia, and **narrowcasting**.

Interactivity. We hear about **interactive** television, interactive Web sites, interactive commercials, but just what is this “interactivity”? Sometimes the word *interactive* is used as a synonym for *two-way*, but few “interactive” media are truly two-way in the same sense that a conversation between two people is. In a conversation, two people not only take turns responding to each other but also modify their interaction on the basis of preceding exchanges. Computer games that get harder as you score more points come close to this sense of being interactive because the information exchange between you and the game is continually modified depending on your responses. The ultimate form of interactivity would pass the so-called Turing test for artificial intelligence, named after the British computer pioneer Alan Turing. For example, if you played computer chess on the Internet and became so impressed with your opponent that you sent her an e-mail, and an e-mail came back from the system operator tactfully explaining that you had been playing a computer, that would be artificial intelligence, at least as far as you were concerned.

At the other extreme, the term *interactivity* is applied broadly to any situation in which the content of a media system is selectable or customizable by the user. For example, on-line novels that allow readers to select alternative plot developments are called interactive novels. However, this broad use of the word would mean that books with indexes and televisions with remote controls, are also interactive—the user can select their content just as well.

We will narrow down the definition of interactive systems to mean those where feedback from the receiver is used by the source—whether human or computer—to continually modify the message as it is being delivered to the receiver. By this definition, selecting alternative plots in an on-line novel *is* interactive, but TV remote controls and book indexes are not (no real-time feedback to the source). In the video game example, where the game gets harder as you score more points, there are, in effect, real-time interactions with the game developer. The software acts just like another player would. (Rafaelli, 1988).

Asynchronous Communication. *Simultaneity*, the notion that everyone in the audience receives the message at about the same time, was once a defining characteristic of the mass media. That made sense before consumer recording technology became commonplace in the 1960s and 1970s. Before then, you had to catch the program the first time it aired or else wait for the reruns. However, the term never applied very well to film, not without stretching “about the same time” to cover a period of several weeks.

“Time-shifting” programs with VCRs and personal video recorders renders the notion of simultaneity obsolete. The television networks are now time-shifting themselves by retransmitting their own programs on cable channels within days of the time of



Courtesy of TiVo

■ TIME SHIFTER

Personal video recorders allow viewers to rearrange the TV schedule to their liking.

Interactive communication uses feedback to modify a message as it is presented.

their original broadcast. These are examples of *asynchronous* communication that is distributed across time, so that not all participants have to attend at a particular point in time. Postal mail and answering machines are two common examples of asynchronous interpersonal communication.

Desktop Production. Behind the scenes, new technologies have made it possible to strip away the middle layers of media organizations and to shrink the minimum size of media enterprises back to that of small cottage industries. Giant media corporations are still with us, and indeed they are getting bigger than ever, but the number of people required to turn out a media product within them is shrinking. In the case of material produced on a desktop computer, such as an MP3 recording of a local band, a staff of one may be sufficient. Or, consider Lara Croft, who gets a little more lifelike with every new release in the *Tomb Raiders* video game series, blurring the distinction between the movie version made with live actors and the video game version. Lara reminds us that technology may eventually allow a single individual sitting at a powerful computer workstation to produce an entire movie without a studio, set, or actors.

Affordable portable TV cameras, audio recorders, and digital editing technology put people from all walks of life in the producer's chair. You no longer have to work for a huge media corporation to create professional media products, as the producers of the 1999 cult film *Blair Witch Project* proved. The dividing line between media sources and the receiver is getting weaker. TV programs based on home videos and Internet newsgroups are assembled from user contributions. In the process, the professionalism and authoritativeness of mass media sources is eroding, as may their ability to define culture and dictate popular opinion.

Multimedia Forms. Converging technologies also break down convenient distinctions between categories of communication. Consider personal data assistants (PDAs), like the Palm Pilot. They fill the functions of notepad, personal computer, and telephone. *Teleconferencing* systems allow groups of users at three or more locations to interact with one another via electronic means, as do the many chat rooms and newsgroups on the Internet. These are examples of *multipoint-to-multipoint* communication, in which participants at multiple locations contribute equally to an information exchange. And in the world of work, the social and emotional content of e-mail exchanges may undo the power of corporate rank and the formality of structure.

Narrowcasting. New technologies target media toward smaller and smaller audiences, a practice sometimes called narrow- (as opposed to broad-) casting. Advanced audience research methods have helped the media cater to smaller audiences by enhancing the richness and speed of audience feedback. The result is that narrowcasting—dedicating channels to specific audience subgroups, or market segments—is now practical. Demographic characteristics such as sex, age, and income, once the sole means of defining audiences, are being replaced by a focus on lifestyles and user needs and even on individual preferences. Rather than homogenize audiences, the new communications media cater to specialized groups and define new niches. Furthermore, interactive technologies hold the promise of making the feedback virtually instantaneous and addressing audience members as individuals rather than as an anonymous mass. Perhaps more than any other change in the media, this strengthening of the feedback link alters the fundamental nature of the mass communication process, making the audience far more important as discussed in the section on cultural determinism (see page 27).

The Web epitomizes these new media characteristics. It is interactive by virtue of the direct and instantaneous feedback it delivers from the receiver to the source. Although it



Courtesy of Eidos Interactive

■ IMMATERIAL GRRRL

Lara Croft, star of the popular *Tomb Raiders* computer game, is an example of a computer-synthesized character, an entirely new mode of media production. Do characters such as this empower or objectify women? Such issues are raised in the pages that follow.

is usually invisible to the user, there is a constant stream of feedback inside the Internet, confirming the arrival of information and signaling readiness for the next block of data. You continuously modify the content of the media presentation as you select the parts of the site you wish to visit. Web pages are there for you at all times of the day and night so there is no need to synchronize your activity to theirs. Many Web pages combine print, audio, and video multimedia. On the Internet, communication jumps freely between mass, large group, small group, and interpersonal modes with a few keystrokes. One minute we read about rising college tuition in the on-line version of the *New York Times* (mass communication), the next minute we send a clipping to a friend in an e-mail (interpersonal), and then we join an on-line chat session with our friends about the article (small group), or comment about the article in an on-line discussion group (large group). Many sites keep track of your interactions with them, and record that information secretly so that they “get to know you” and can then narrowcast content and advertisements to you personally.

Technological Determinism

Another way that conceptions of the media are changing is our understanding of the relationship between media and society. Some social critics maintain that communications media change everything else in society. The underlying idea is that technology drives social change, which is sometimes called *technological determinism*. Variations on this theme stress the social effects of media messages and the technological culture that gives rise to them.

The Medium Is the Message. The most famous media technological determinist, Marshall McLuhan, argued that print (*The Gutenberg Galaxy*, 1962) and electronic media (*Understanding Media*, 1964) were truly revolutionary, an idea captured in his famous aphorism “The medium is the message.” He proposed that new communication technologies determine culture and that it is the form of the media rather than their content that matters. For example, in McLuhan’s view, the invention of the printing press led to the rise of the scientific method, and later to our technological society, by forcing thinkers to put their words in linear order and their arguments in a logical progression—just like the words on a printed page. This led to thinking about the natural world in the same linear fashion, instilling the notion that it, too, had a beginning and an end, causes and effects.

McLuhan did not live to witness the Internet, but he coined a phrase that perhaps describes it well. The *global village* draws the entire world together into an electronically mediated small town. “By electricity we everywhere resume person-to-person relations as if on the smallest village scale” (McLuhan, 1964, p. 255). When he wrote that in the 1960s, he was thinking of broadcast television and the telephone, long before the Internet—or CNN—was a reality.

Technology as Dominant Social Force. Other critics focus on social systems and worldviews that promote technology and dominate culture. Neil Postman (1992) argued that computers foster *technopoly* in which technology is deified and extends its control to all aspects of life. Technopoly compounds the excesses of *technocracy*, in which the scientific method is applied by experts to technology for the improvement of life, but also to the destruction of culture.

Similarly, French sociologist Jacques Ellul (1990) argued that the pursuit of technological improvement led to the social dominance of an elite of scientists, engineers, and managers for whom technology became an end in itself, devoid of moral foundation. But for Ellul, the technologists' efforts were ultimately ineffective. Technology is a bluff in his words. Technologists promise a great deal to assure their status in a society conditioned to welcome technological progress. But, they deliver very little, not even a truly satisfying evening's entertainment on TV or a true relationship on the Internet.

Media Drive Culture. Other views of culture assign a preeminent role to the media, but emphasize media content over technology. In the early nineteenth century, the so-called English School, led by Matthew Arnold, held that culture should be taken from the best that has been thought in the world. For him, that meant elite "high culture" media from Western Europe, such as painting, the novel, ballet, opera, and the symphony. People moving from the countryside into the cities would become refined by consuming these media. Implicit was the idea that media should exist to educate, not entertain. Some present-day critics, such as Neil Postman (1992), still argue this.

In the twentieth century mass media reached ever deeper into society, cutting alienated and isolated mass audiences off from their cultural roots. Theodore Adorno (Horkheimer & Adorno, 1972) argued that mass-produced cultural goods of low quality replaced high culture and traditional folk culture. If people were easily entertained by pop music, would they ever attend a classical opera? As mass audiences consumed popular culture, would everyone begin to think and act alike? For example, they might believe that the antiseptic 1950s family portrayed in *Leave It to Beaver* was a realistic model for their own family (Real, 1989). Another view is that mass media overwhelm the "true" culture of the people in the interest of perpetuating class hegemony (Carey, 1972). Neil Postman argues that literacy and reasoning skills decline as a result of overexposure to popular culture. In his words, we are "amusing ourselves to death" (Postman, 1986).

Cultural Determinism

Some scholars believe conventional and technological thinking of the media is still too media centric. Perhaps the media merely reflect culture but do not create it, or the media merely present us with the symbols that we use to construct culture.

The notion that culture shapes the media is by no means a new one. In the nineteenth century Ralph Waldo Emerson (Storey, 1993) contested the preeminence of European high culture; he saw the American people building a unique culture of their own. Walt Whitman described culture as the authentic expression of the "grand common stock" (of American people) that taps the "measureless wealth of latent power and capacity" of the people. These thinkers celebrated the rise of popular media that were a genuine reflection of the people. And the image of a passive audience swayed mindlessly by mass media eventually proved incomplete.

Contemporary scholars, such as Fernand Braudel (1994), interpret history in terms of deeper economic, psychological, and cultural factors in which great leaders, epic battles, and new media are but superficial manifestations. Their views fall into several distinct schools of thought but we will briefly consider two of them here as examples of how culture may determine the media and their impacts on society: political economy and **cultural studies**.

In the cultural studies view, the source and the receiver jointly create meaning.

These critical perspectives, as they are also known, focus on the need for media literacy, a critical understanding of media. That means that we should not just accept the media, their dynamics, and their impacts as part of daily life, almost a natural phenomenon like the weather. We should try instead to understand the causes underlying media changes; to be literate about media. We should be skeptical about media industry explanations, *looking into economics, social structure, technology, political power, and our cultures* to see why media act as they do, why changes occur, and how media affect (and are affected by) these other social forces.

Political Economy. This perspective focuses on the relationships between economic structures, media industry dynamics, and the ideological content of media. (Chapter 2 explains more about its main concepts.) Political economists are concerned that those who own media industries, like Rupert Murdoch, have too much power to shape news agendas, as Murdoch's Fox News has been accused of doing. They also criticize the effect of turning information and culture into commodities and the effect of social stratification on access to the media. In this view, media content and media technology are driven by the desire of the ruling classes to dominate society.

Cultural Studies. Feminists have criticized media for under-representing or misrepresenting women, such as portraying women in stereotypical roles such as bimbo or gold digger. Similarly, many scholars (and political groups like La Raza) have criticized media for disproportionately showing African-Americans, Latinos, and Arabs in such stereotypical roles as maids, criminals, or even terrorists.

These perspectives stress the importance of the cultures that people belong to as a determining factor in their interpretation of the media. Even before new digital technologies appeared, both mass communication and cultural studies researchers were discovering that audiences were selective in choosing, paying attention to, remembering, and interpreting media (Curran, 1990). The narrowcasting phenomenon we described earlier (see page 22) is a good example of how the media have been forced to respond to the cultures in their audiences. In the terms of the SMCR model, the cultural studies approach emphasizes the feedback link and an active process of the human receiver "decoding" the messages that the human source encodes. The creator may intend the codes to mean one thing, but the receiver may interpret them quite differently (see Chapter 2). Note that unlike the cultural studies approach, the conventional SMCR model

regards encoding and decoding as mechanical processes, performed by machines. In the cultural studies approach, the interpretation of meaning resides in people: the source and the receiver.

The differences in terminology between the conventional SMCR model and the critical studies perspective are indicative of an on-going debate between technological determinists and cultural determinists. As we learn more about the relationship between media and society, scholars continue to debate which perspective is most valid. Throughout *Media Now* we will try to present both sides of the debate so that you, the reader, can decide for yourself which is the best explanation.

STOP & REVIEW

1. What do the letters SMCR stand for?
2. Use the SMCR model to describe what happens when you watch TV.
3. Is an automated teller machine interactive? Explain.
4. Which makes more sense to you: technological determinism or cultural determinism? Explain.
5. How does the cultural studies approach differ from the SMCR approach?

SUMMARY AND REVIEW

WHAT IS THE INFORMATION SOCIETY?

The information society is one in which the production, processing, and distribution of information are the primary economic and social activities. In an information society, an ever-increasing amount of time is spent with communications media and in using information technologies such as the telephone and the computer. More and more people are employed as information workers, people who produce, process, or distribute information as their primary work activity. The information society is a further step in the evolution of society from its former bases in agriculture and manufacturing.

WHAT DO WE MEAN WHEN WE SAY THAT MASS MEDIA AND INFORMATION TECHNOLOGIES ARE CONVERGING?

More and more communication is created and distributed in computer-readable digital form. This means that the same basic technologies can be used to transmit all forms of communication—text, audio, or video—in an integrated communication system such as the Internet. Thus, separate channels are no longer needed for each medium. The organizations that produce and distribute communication are also merging as part of the convergence trend. Laws and public policies governing the media, career opportunities in communications industries, social and personal issues arising from media consumption, and even theories of the media and their role in society are all changing.

WHAT ARE THE CHARACTERISTICS OF EMERGING COMMUNICATIONS MEDIA SYSTEMS?

Channels are proliferating not only to reach the new audience segments but also to target specific locations. However, the long-term trend is to integrate the many specialized channels into a single, all-purpose digital network that will provide access at the convenience of the audience. The new communications media systems that are emerging are digital, as opposed to analog. Familiar mass media forms such as newspapers, radio, and television are evolving into, or learning to coexist with, new forms that are all-digital, such as high-definition television (HDTV) and the World Wide Web section of the Internet. Technical advances such as digital compression, broadband media, and fiber optic networks will greatly increase the number of channels coming into the home. New interactive capabilities will give users a new measure of control over the channels they view and the content of those channels, including the ability to order the media presentations they wish, on demand. Digital technology also makes it possible to mix text, audio, computer graphics, and video into integrated multimedia networks to produce entire media presentations from computer workstations, as with desktop publishing.

WHAT ARE THE COMPONENTS OF THE COMMUNICATION PROCESS?

All communication processes can be described in terms of a simple model in which a corporate or individual source encodes a message and transmits it through a physical channel to the person for whom the message is intended, the receiver. We call this the SMCR model. In most communication situations, feedback is also provided between the receiver and the source. Contemporary views of the process stress that it takes place in the context of a culture shared by the source and the receiver, and that both source and receiver contribute to the creation of meaning.

WHAT IS MASS COMMUNICATION?

The conventional view is that mass communication involves large professional organizations, hundreds or thousands of people, and no immediate feedback between source and receiver. Newspapers, magazines, radio, television, and film are all examples of mass media.

WHAT ARE SOME OTHER TYPES OF COMMUNICATION?

When the communication channel is an electronic or mechanical device—such as a radio station or a movie projector—we call it mediated communication. Mediated communication may be point-to-point, one-to-many, or multipoint-to-multipoint. Communication can be characterized according to the number of people involved. Intrapersonal communication involves one person, interpersonal communication usually includes only two people, and small-group communication encompasses fewer than a dozen participants. Large-group communication involves dozens or hundreds of persons, but feedback is still immediate. Communication can also be characterized according to the setting in which it takes place. For example, organizational communication happens inside a formally structured organization.

WHERE DID THE MASS MEDIA COME FROM?

While mass media had forerunners in agricultural and preagrarian societies, they are generally regarded as creations of the Industrial Age. Mass production methods coupled with the rise of large urban audiences for media during the Industrial Age led to the rise of print and later mass media.

WHAT IS INTERACTIVITY?

A variety of meanings have been attached to the term *interactive*, ranging from the simple ability to select content from a large number of options to devices that could pass the Turing test by faithfully mimicking human interaction. The term should be reserved for communication situations in which the user modifies the content by providing feedback to the source in real time.

HOW ARE MEDIA CHANGING IN THE INFORMATION SOCIETY?

The convergence of computer, telecommunications, and conventional mass media systems is bringing about some fundamental changes in the way the media function. Mass media sources are becoming more numerous and also less authoritative and professional, and their ability to act as gatekeepers who set the agenda for public opinion is diminishing. Messages are customized for smaller and smaller specialized audience segments, sometimes even using personal forms of address, and are narrowcast to these segments rather than broadcast to a homogeneous audience. Audiences are likewise becoming smaller and less anonymous than they were formerly, and they have improved and more expeditious means of providing feedback to the source of the media content—and even of participating in the creation of that content. In the process, the power of audiences increases as we move away from passive mass media to interactive new media.

WHAT IS THE DIFFERENCE BETWEEN TECHNOLOGICAL DETERMINISM AND CULTURAL DETERMINISM?

Technological determinists argue that important changes in society are dictated by media technology and the information technologies dominate culture. Cultural determinists argue that culture dominates the development of technology.

WHAT ARE THE MAIN CRITICAL VIEWS OF MASS COMMUNICATION?

Political economists tend to criticize the media role in supporting power structures and in perpetuating social and economic inequities. Feminists focus on media images of women and gender inequities. Cultural studies scholars stress the interpretive power of audiences.

MEDIA CONNECTION



Use your Media Connection CD-ROM for quick access to the electronic study resources that accompany this text. Included on your CD-ROM are CNN video clips with study questions, InfoTrac College Edition links, related chapter Web Links, Media in Motion video animations, and chapter quizzes. Also included are career profiles of former media students like you who have landed a job in the diverse field of media communication.

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The Media Connection CD-ROM main menu.

KEY TERMS

- Mass media 3
- Information society 4
- Convergence 4
- Digital divide 5
- Digital 6
- Analog 6
- Digital compression 7
- Packet switching 7
- Fiber optic systems 7
- V-chip 8
- Mass communication 8
- Digital subscriber line (DSL) 8
- MP3 9
- Direct broadcast satellites (DBS) 9
- Cable modems 10
- High-definition television (HDTV) 10
- Digital television 10
- Digital audio broadcasting 10
- Telecommunications Act of 1996 14
- Copyright 14
- Source-Message-Channel-Receiver (SMCR) 19
- Channel 20
- Gatekeepers 21
- Narrowcasting 22
- Interactive 23
- Cultural studies 27