

How polling is eventually employed, and its impact on American democracy, will depend in the long run on whether, becoming cognizant of the potential power of polling, government establishes

democratic norms and rules for its use. Of critical importance will be who does the polling, how extensively it is used, and whether or not it is meant to provide a substitute for other political processes.

Chapter 7

Communication and the Production of Culture

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Communication and the Production of Culture

INTRODUCTION

Societies are bound together and adapt to changing circumstances by virtue of the wealth of cultural resources on which they can draw. Communication and information technologies have often played a critical role in developing and enhancing these resources. Throughout American history, technologies such as the telegraph, telephone, radio, and television have facilitated the Nation's expansion westward; its transformation from a rural, agriculture society to an urban, industrialized one; and the integration of a wide variety of diverse ethnic groups into one, unified Nation. Today, many people look to the new communication and information technologies to help solve some of the social and cultural problems associated with a postindustrial era, such as illiteracy, personal isolation, crime, and the breakdown of families and communal groups.

From a technical standpoint, it is clear that many of these new technologies have considerable potential. Given their networking capabilities, they can provide an expanded infrastructure for information sharing and exchange. In addition to generating more information and new kinds of cultural forms, they can also be used to make this knowledge more accessible and to provide it in more convenient and suitable ways. Because they are decentralized and can thus be made more widely available, the technologies may create opportunities for many new people to become actively involved in creative activities. Given their ability to store and retrieve vast quantities of information, they can also serve as a storehouse of cultural resources, making them accessible and available for generations and civilizations to come.

However, just as history testifies to some of the positive benefits that communication technologies can provide in the cultural realm, it also illustrates some past disillusionments and points to some of the unintended cultural problems and consequences often associated with the introduction of new technologies. Above all, it is a reminder that the

impact of new technologies in the realm of culture depends as much, if not more, on social and economic factors as it does on technological ones. With this experience in mind, this chapter will seek to identify and analyze the cultural opportunities that new communication technologies engender, and the factors or obstacles that might limit or preclude their optimal use.

THE CULTURAL REALM

Culture can be defined as a system of symbols, beliefs, behaviors, and institutions that define and reflect the social reality of members of a community. It refers to the realm of "sensibility of emotion, moral temper, and of the intelligence [that] seeks to order these feelings."¹ It comprises all of those imaginative and spiritual activities (such as painting, poetry, or music, as well as litany, liturgy, and ritual) whereby men and women seek to understand their natures—who they are, as well as their relationship to others and to the universe.²

Providing a consistent moral and aesthetic frame of reference, culture serves to develop and sustain the identities of both individuals and societies. Without a cultural tradition, individuals' interactions would be meaningless. In order to define themselves and to take purposeful action in different situations and in relationship to others, individuals need reference to a relatively stable construct of shared symbols.³ As such, culture can be thought of as the "glue," the shared values and practices, that holds a society together.

To be effective in this role, however, a culture must sustain a delicate balance between constancy and change, and between diversity and integration. An overemphasis on homogeneity, for example, can lead to repression or stagnation; a lack of integration can bring divisiveness and disarray. On the other hand, protecting diversity while encouraging integration allows a society to adapt to change and to maximize the advantages of its cultural richness. Reflecting this delicate balance we find, therefore, that new art forms and new ideas do not replace old

¹Daniel Bell, *The Cultural Contradictions of Capitalism* (New York, NY: Basic Books, 1976), p. 12.

²*Ibid.*

³Talcott Parsons, *The Social System* (Glencoe, IL: Free press, 1964), pp. 11-12.

ones; they become a part of an ever-expanding source on which individuals can draw to recreate and reinterpret experience. Thus, although the ways that people have dealt with their concerns about life may have changed considerably over time and in different eras, the themes that have preoccupied mankind—death, tragedy, love, sacrifice, heroism, obligation, and redemption—have remained constant.⁴

Looking at diversity and integration, we see that cultures are really nested subcultures—groups that, while sharing a common set of beliefs at one level, also display distinctive characteristics. Thus, diversity and integration occur on a number of levels and dimensions, and subcultures can be defined by many factors, including geographic location, urban/rural lifestyle, gender, ethnicity, sexual preference, age, political affiliation, social interest, class, religion, and race.

In an open and democratic society, the balance between integration and diversity and the relationship among subcultures are determined by the degree to which there is access to a wide variety of cultural forms, as well as by the extent to which the opportunities to participate in the production of culture are widely available.⁵ It should be noted, moreover, that people can be passive or active in their participation.⁶ They can partake of and produce their cultures through institutions like the family, work, education, community, religion, and entertainment. These institutions coordinate individuals' actions, provide role models, inculcate values, and

proscribe behaviors. As people's experiences are structured by the institutions in which they live, their behavior and actions reinforce and reenact their cultures.

COMMUNICATION TECHNOLOGIES AND CULTURAL ACTIVITIES

Communication is the process by which culture is developed and maintained. Only when people develop language, and thus a way of communicating, can a culture emerge and be imparted.⁷ Information, the content of communication, is the basic source of all human intercourse.⁸ Over the course of human history, it has been embodied and communicated in an ever-expanding variety of media, including spoken words, graphics, artifacts, music, dance, written text, film, recordings, and computer hardware and software. Together, these media and the channels through which they are distributed form the web of society that determines the direction and pace of social development.

From this perspective, the communication of information permeates the cultural environment and is essential to all aspects of social life.⁹ It is the means by which knowledge is created and shared, roles are negotiated, and social relationships are legitimized. Through communication, culture is both maintained and changed; behaviors, and the values that underlie them, are accepted, questioned, or reinterpreted according to circumstances.¹⁰

Because communication is linked to all social activity, it is clear why the emergence of new communication technologies has, throughout his-

⁴Bell, *op. cit.*, footnote 1, p. 15.

⁵For other discussions about how groups create, maintain, and alter their norms, social practices, and institutions, see Michele Barrett et al. (eds.), *Ideology and Cultural Production* (New York, NY: St. Martin's Press, 1979); Alvin Gouldner, *The Dialectic of Ideology and Technology* (New York, NY: Seabury, 1976); and John Dewey, *Human Nature and Conduct* (New York, NY: Holt, Rinehart and Winston, 1922).

⁶See A.M. Thunberg, K. Norvak, K. Rosengren, and B. Sigurd, *Communication and Equality: A Swedish Perspective* (Stockholm: Almqvist & Wiksell International, 1982).

⁷*Ibid.* For a discussion of the role of language in cultural formation, see also James R. Beniger, *The Control Revolution: Technology and the Economic Origins of the Information Society* (Cambridge, MA: Harvard University Press, 1986), pp. 84-91.

⁸Lucian Pye (ed.), *Communications and Political Development*, Studies in Political Development (Princeton, NJ: Princeton University press, 1965), p. 4.

⁹*Ibid.*

¹⁰When people communicate, meaning is both assumed and negotiated—some things are taken for granted, and others are interpreted in new ways or brought up for explicit discussion. When people communicate, they are both differentiating and integrating—displaying their distinctiveness as well as demonstrating their commonality.

tory, had a considerable impact on societies.¹¹ In her analysis of the impact of the printing press on European culture,¹² Elizabeth Eisenstein describes how printing-by greatly increasing the speed and reducing the costs of reproduction—facilitated the dissemination of ideas. By increasing the general level of literacy, it also made more people susceptible to, and eager to partake of, such ideas. As a result, the market for information products and literary works grew, and their economic value was greatly enhanced. Later, as books and manuscripts ceased to be isolated on monastery shelves and became available to many people simultaneously, they began to serve as an important forum for public discussion. Printing and the widespread distribution of books also fostered new relationships among scientists, artists, intellectuals, and their geographically distant counterparts. As Eisenstein has pointed out:

The fact that identical images, maps, and diagrams could be viewed simultaneously by scattered readers constituted a kind of communications revolution itself.¹³

Looking in particular at the effect of communication technologies on the balance between diversity and integration, and among dominant cultures and subcultures, we see that communication technologies exhibit two basic, and contradictory, tendencies.¹⁴ On the one hand, mass communication technologies (notably radio, television, and film) have served to foster unity by providing disparate groups with a common experience. On the other hand, some means of communication allow individuals isolated in thousands of different and distant

towns who have kindred interests to associate with one another and coordinate their activities, encouraging the development of specialized communities. When the various media allow these dual tendencies to exist in equilibrium, there is sufficient social cohesion to sustain a national community, as well as enough variety to protect the pluralistic quality of modern societies.

THE IMPACT OF COMMUNICATION TECHNOLOGIES ON AMERICAN CULTURE

The dual tendencies toward diversity and integration are in evidence throughout American history as new communication technologies were developed and evolved. The trade routes that bound the American Colonies to England constituted a communication network, and, naturally, many of the messages dealt with commerce. Although transports of the 1600s and 1700s were primitive by today's standards, the British merchant fleets forged a fairly cohesive community that bridged the "English Atlantic."¹⁵ Thus, at least initially, communication tended to strengthen transatlantic feelings of community within the British Empire.

By the mid-1700s, however, communication among the American colonies was growing more intensively than communication with England. Newspapers, which featured nonlocal news, increasingly focused on matters of common interest to colonists. Thus it has been argued that improved

¹¹In his book, *The B@ of Communication*, Harold Innis made the case that the communication regime is the key variable determining the nature Of any culture and society. At one extreme, according to Innis, are bulky, durable media that foster civilizations of limited extent and permit tight control by a hierarchy of religious and political leaders, often one and the same. These media emphasize the preservation of information over time and are associated with cultures that treasure religion, stability, tradition, and history. At the other extreme are light, ephemeral media. They foster expansive civilizations in which control over provinces is centralized in a distant capital. These media emphasize the dissemination of information over wide areas and are associated with cultures that prize secular matters, trade, and scientific inquiry. Communication technologies, in Innis's shorthand, have either a time or a space bias. See Harold Innis, *The Bias of Communication* (Toronto: University of Toronto Press, 1951).

¹²Elizabeth L. Eisenstein, *The Printing Press as an Agent of Change Communications and Cultural Transformations in Early Modern Europe*, vols. I and II (Cambridge, England: Cambridge University Press, 1982).

¹³*Ibid.*, p. 56.

¹⁴John Carey, "The Communication Revolution and the Professional Communicator," *Sociological Review Monograph*, vol. 13, January 1969, pp. 23-38.

¹⁵Despite the vast distances separating members, specialized associational communities of different religious groups, political interests, and merchants enjoyed regular, albeit slow, transatlantic correspondence. Quakers, for example, exploited the available means of communication to maintain their sense of community with the faithful in other North American colonies as well as in England, Ian K. Steele, *The English Atlantic 1675-1740: An Exploration of Communication and Community* (New York, NY: Oxford University Press, 1986), pp. 263-265.

intercolonial communication—a function of better roads and more coastwise shipping—heightened inhabitants' sense of American community.¹⁶

Revolutionary propagandists did more than just wait for changing patterns of communication to foster a new consciousness; they actively took part in restructuring the communication system to accelerate the emergence of a truly American community. Three years before the Declaration of Independence, revolutionaries wrested control of the American posts from the British. By transmitting news from New Hampshire to Virginia, the “Constitutional Post” was designed to fuse colonists, whose interests and experiences varied widely, into a unified whole.¹⁷

Throughout most of the 19th century, the United States was a society of “island communities”—cities and towns with limited interaction.¹⁸ The postal system provided one bridge, probably the most important, that connected a widely dispersed population. People wanted access to national news and market information, but they increasingly realized that potential economic and cultural influence followed communication routes. A cultural debate erupted concerning how to foster national integration through communication without undermining the viability of local communities.

With improvements in printing technology and the postal delivery system, a new kind of community was built, bound not by space but by specialized interests. Thus, for example, as American society developed different political groups, partisan papers became:

... a major force for factional or party cohesion, communicating partisan information and views from the centers of power to the outlying communities.¹⁹

Similarly, the various social movements of the 19th century developed communication mechanisms to engender a sense of community among adherents.

The telegraph, on the other hand, made social existence more uniform. Because of high costs, telegraph use was confined largely to businesses and the press; few people used it for social communication, at least in the United States.²⁰ However, by fostering the standardization and the central processing of news reports, the telegraph meant that, for the first time, Americans were able to read essentially the same national and international news stories, a development presaging true mass communication.²¹

On another level, the telegraph brought a uniformity and large-scale coordination to people's everyday existence. Before the railroad and telegraph, society's “island communities” geared their time to local rhythms. For example, Michigan had 27 time zones, Indiana 23, and Wisconsin 39.²² The advent of the railroad required the coordination of schedules over large areas, and conducting business via telegraph required knowledge of precise times around the world. Hence, standard time zones were established in 1883. As Carey notes:

The telegraph facilitated the temporal coordination and integration of the entire system for business, government, and social life.²³

The telephone also had a major impact on American culture. It was the only innovation since the mails to effectively increase opportunities for individuals, as opposed to institutions, to send and

¹⁶See Richard L. Merritt, *Symbols of American Community 1735-1775* (New Haven, CT: Yale University Press, 1966). Analyzing newspaper content between 1735 and 1775, he found growing coverage of colonial affairs. More important, perhaps, colonial newspapers used more words and symbols associated with America and fewer associated with England and empire.

¹⁷Ward L. Miner, *Goddard: Newspaperman* (Durham, NC: Duke University Press, 1962). PP. 111-136.

¹⁸Robert Wick, *The Search for Order, 1877-1920* (New York, NY: Hill and Wang, 1967), p. xiii.

¹⁹William Chambers, *Political Parties in a New Nation* (New York, NY: Oxford University Press, 1963), p. 42.

²⁰In European countries, where the telegraph was a government monopoly supervised by the postal authorities, people made greater use of the wires for personal correspondence.

²¹Before the telegraph, editors obtained nonlocal news through the mails essentially cost-free. They culled their exchanges and selected accounts deemed suitable for local readers. News-gathering by wire, in contrast, entailed more costs; press associations, such as the New York Associated Press, were organized to spread the expense of news-gathering and transmitting among many users. News was converted into a commodity to be sold, discounted, and marketed just like any other product. See Frederick Hudson, *Journalism in the United States* (New York, NY: Harpers, 1873), for a history of early news associations. For other discussions of the impact of the telegraph on news-gathering, see F.B. Marbut, *News From the Capital* (Carbondale, IL: Southern Illinois University Press, 1971); and Robert Thompson, *Wiring a Continent: The History of the Telegraph Industry in the United States 1832-1866* (Princeton, NJ: Princeton University Press, 1947).

²²James Carey, “Technology and Ideology: The Case of the Telegraph,” *Prospects*, vol. 8, 1983, pp. 303-325.

²³*Ibid.*, p. 323.

receive messages. This radical potential, however, was only slowly realized. The telephone, much like the telegraph before it, was initially used only by business. Ultimately, the telephone vastly increased personal communication within towns and metropolitan areas and, by all accounts, it was especially instrumental in enhancing rural life. This success in fostering local communities was partly the result of Federal policy mandating universal access.²⁴

The trend toward the national distribution of printed matter culminated with the emergence of inexpensive popular magazines. Entrepreneurs launched national magazines in the 1880s and 1890s expressly to serve as vehicles for advertising brand-name consumer items featured by mass retailers.²⁵ This new genre of magazines, epitomized by Curtis Publishing Co.'s *Saturday Evening Post*, *Ladies' Home Journal*, and *Country Gentleman*, cut subscription rates to attract a mass middle-class audience.²⁶ With advertising-filled periodicals blanketing the Nation, the heavily subsidized second-class mailings grew 20 times faster than the population in the four decades after 1880.²⁷

Motion pictures also did much to shape a national community of tastes, style, and culture. Although films are not tied directly to the marketing system,

they have nonetheless served as a powerful tool to promote consumer goods and services. Indeed, they became one of the first communication instruments to project American culture throughout the world.²⁸ Some governments reacted to the flood of U.S. films with quotas as early as 1927, justifying them on the grounds of protecting their national cultures from the incursions of the values and products purveyed by Hollywood. At the other extreme, some foreign observers welcomed the Americanization of film as the first step in the development of a true world community.

Films quickly established themselves as a principal form of entertainment. Weekly attendance in the United States rose from an estimated 40 million in 1922 to 115 million 8 years later.²⁹ With this explosive growth, which cut across geographic and socioeconomic lines, came concerns about the effects of the new medium.³⁰ While the censors watched for scenes that seemingly encouraged crime or sexual promiscuity, they missed a more subtle yet pervasive effect: film's power to nationalize tastes for cultural fare as well as consumer goods.³¹

Radio augmented the effects of magazines and motion pictures as agents of national culture. Although radio was originally envisioned as a local

²⁴Telephony, more than earlier technologies, increased opportunities for social communication at the 10CSJ level and had dramatic consequences for residents of rural areas. While AT&T promoted the development of the long-distance network, towns and cities launched their own systems, especially after Bell's major patents expired in 1894. See Malcolm Willey and Stuart A. Rice, *Communication Agencies and Social Life* (New York, NY: McGraw-Hill, 1935). See also Michael Olsen, "But It Won't Milk the Cows: Farmers in Colfax County Debate the Merits of the Telephone," *New Mexico Historical Review*, vol. 61, January 1986, pp. 1-13; and Ithiel de Sola Pool, *Forecasting the Telephone: A Retrospective Technology Assessment* (Norwood, NJ: Ablex Publishing Co., 1983), pp. 48-54.

²⁵Theodore Peterson, *Magazines in the Twentieth Century* (Urbana, IL: University of Illinois Press, 1964), pp. 1-43.

²⁶The mails, of course, were crucial in delivering these publications, and the inauguration of Rural Free Delivery (RFD) in the 1890s enabled magazines to flow from publishers to country lanes. See Wayne E. Fuller, *RFD: The Changing Face of Rural America* (Bloomington, IN: Indiana University Press, 1964).

²⁷The explosive growth of popular magazines intensified competition for advertising among segments of the publishing industry and corresponded to shifts in the Nation's marketing system. The small, local retailers that had once served their communities with little competition faced a succession of challengers—department stores, mail-order firms, and chain stores. See Alfred D. Chandler, *The Visible Hand: The Managerial Revolution in American Business* (Cambridge, MA: Harvard University Press, 1977), pp. 224-235.

²⁸See Thomas H. Guback, "Theatrical Film," Benjamin Compaine (ed.), *Who Owns the Media? Concentration of Ownership in the Mass Communications Industry* (White Plains, NY: Knowledge Industry Publications, Inc., 1979), p. 181. According to Guback, World War I disrupted the European film industry and paved the way for American dominance of this medium. As he says: "It was possible for American films to achieve this dominance because, in part, investments in them were recouped in the home market, which had about half the world's theatres, and thus films could be rented abroad at rates often undercutting those of foreign competitors."

²⁹Willey and Rice, op. cit., footnote 24, p. 179.

³⁰Daniel Czitrom, *Media and the American Mind* (Chapel Hill, NC: University of North Carolina Press, 1982), pp. 30-59. See also Robert E. Davis, "Response to Innovation: A Study of Popular Argument About New Mass Media," Ph.D. dissertation, University of Iowa, 1965.

³¹Observers in the United States and abroad noticed that trends in manners, furnishings, toiletries, clothing, and even hairstyles followed the cinema. Styles and fads that had diffused slowly and unevenly in the age of print now pervaded the Nation in a matter of weeks, if not days. Marketers of nationally distributed consumer goods naturally capitalized on the possibilities presented by film. Willey and Rice, op. cit., footnote 24, pp. 181-184. The ability of film to foster a national community of tastes and consumption was abetted by the tight economic controls that lasted through the medium formative years. A relative handful of companies controlled film production, distribution, and exhibition—especially distribution. Producers forced independent exhibitors to accept certain films (the studios also owned many of their own theaters) through a practice known as block booking. To get highly popular films, theaters had to accept several others. Garth Jowett, *Film: The Democratic Art* (Boston, MA: Little Brown and Co., 1976), p. 202.

medium, a number of factors promoted the development of national networks. Among these factors were:

- agreements made among key industry players to divide up the responsibility and opportunity to develop and exploit the new technology;³²
- the audience demand for more expensive productions, which only networks could afford;³³
- the development of a system of financing based on national advertising, which called for national programming;³⁴ and
- regulatory decisions made in radio's formative years that inadvertently prompted the formation of national networks.³⁵

Data on station affiliation, programming, and advertising revenue confirm the national orientation of radio. As Daniel Czitrom has noted:

In 1937 NBC and CBS owned or controlled 210 of the 685 total stations, but these accounted for more than 88 percent of the total wattage power of American broadcasting.³⁶

Ten years later, 97 percent of all radio stations were affiliated with a network.³⁷ Through the 1930s and 1940s, radio was the preeminent medium of mass impression, eclipsing newspapers, magazines, and even film.³⁸

In its centralizing/decentralizing tendencies and accompanying policies, television's history reprised that of radio. As with radio, technical problems encountered in interconnecting stations initially spawned a great deal of local and regional programming. While AT&T was laying coaxial cables for television networking, Chicago and other cities developed distinctive, innovative programs that were picked up for national distribution. As Baughman notes:

Critics spoke of a "Chicago touch"—a creative, detached, and continually bemused style quite apart from that of New York or southern California.³⁹

Like radio, television was also conceived in a regulatory environment that emphasized localism. According to Nell, Pick, and McGowan, the FCC's:

... vision of broadcasting . . . foresaw a local television station in as many communities as possible . . . Larger communities would have several *stations*, but only to the extent that channels were available for small communities as well. Stations would be owned and managed by local residents, and would devote considerable broadcast time to information and commentary on important local issues. The stations would be instruments for community enlightenment and cohesion, much like the hometown newspaper of an earlier era.⁴⁰

³²Susan Smulyan, "The Rise and Fall of the Happiness Boys: Sponsorship, Technology and Early Radio Programming," paper presented at the 1985 annual meeting of the Society for Historians of Technology.

³³Listeners demonstrated a fascination with tuning in distant stations. At first, this reflected interest in the technical novelty of radio, but later it stemmed more from the ability of high-power stations or networks to offer well-known talent in alluring productions. Ibid.

³⁴Once radio discovered advertising as its economic base, sponsors exerted a great deal of influence on programming. Indeed, sponsors created the most popular programs and controlled the talent. Ibid.

³⁵Localism, as conceived by regulators, actually impelled the growth of national networks. When most cities were assigned two, three, or four stations, licensees began looking for a source of programming. Most stations realized that affiliation with one of the three or four networks was the profitable choice. Control over radio content, therefore, was ceded to New York. The networks capitalized on their relationships with affiliates and forced onerous contractual obligations on licensees that further circumscribed their choice. Thus, radio did not begin to fully realize its potential as a medium affording local self-expression until the advent of television altered the media environment. See Bruce Owen, *Economics and Freedom of Expression: Media Structure and the First Amendment* (Cambridge, MA: Ballinger Press, 1975). See also Christopher Sterling, "Television and Radio Broadcasting," *Compaine* (cd.), op. cit., footnote 28.

³⁶Czitrom, op. cit., footnote 30, p. 80.

³⁷Sterling, op. cit., footnote 35, p. 66. Affiliate and even network owned-and-operated stations could, of course, originate local programming. But in 1938, the FCC reported that national networks furnished 29.2 percent of all programs; regional networks 3.8 percent; local stations 30.8 percent; electrical transcriptions 20.8 percent; records 11.67 percent; and announcements 3.8 percent. Nearly two-thirds of all radio programs, therefore, came from national or regional suppliers, and probably a disproportionate share of this aired during prime-time evening hours. C.B. Rose, *National Policy for Radio Broadcasting* (New York, NY: Harper and Brothers, 1940), p. 145.

³⁸A well-known sociologist of the time enumerated 150 effects of radio, some trivial, others profound. Several dealt with radio's capacity to promote uniformity and diffusion of culture—the "homogeneity of people increased because of like stimuli"; "regional differences in cultures become less pronounced"; "penetration of the musical and artistic city cultures into villages and country"; "standards of the city made more familiar to the country"; "isolated regions are brought into contact with world events." See W.F. Ogburn, "The Influence of Invention and Discovery," Recent *Social Trends in the United States: Report of the President's Research Committee* (New York, NY: McGraw-Hill, 1933), pp. 122-166.

³⁹James L. Baughman, "Television in the 'Golden Age': An Entrepreneurial Experiment," *Historian*, vol. 47, February 1985, pp. 175-179.

⁴⁰Roger Noll, Merton J. Peck, and John J. McGowan, *Economic Aspects of Television Regulation* (Washington, DC: The Brookings Institution, 1973), p. 100.

As with radio, attaining localism in television was partly frustrated by the economics of programming. With two or three local stations serving most communities in television's formative years, only three networks attracted enough affiliates to thrive. By 1969, the networks supplied 82 percent of their affiliates' prime-time programming, and a good share of the remaining time was filled with "nonnetwork films and other national programming."⁴¹

Television's failure to realize its potential as a local medium was also reflected in its advertising. From the mid- 1950s to mid- 1970s, local advertising furnished only between 15 percent and 25 percent of television's revenues. The rest came from network advertising as well as national and regional spot advertising. Moreover, television's national advertising had some anticompetitive effects through discounts to heavy users and the cost barriers erected by high rates, both of which favored large established firms.⁴²

Network television, then, has become the national forum without equal, the principal communication mechanism for maintaining a sense of national community. Television coverage of certain events—such as the Super Bowl and major congressional hearings—focuses people's attention on the same subject regardless of location or class.

Television significantly preempted the role of newspapers, magazines, motion pictures, and radio as purveyors of information and entertainment to mass audiences. As a result, the established media found narrower niches in the communication environment. The trend toward fragmenting the mass audience was abetted, at least modestly, by the advent of cable television.

Responding to television, and radio before it, newspapers emphasized their traditional strength—

local and regional service. National and international news continued to be produced centrally in a few locations, but in terms of marketing strategies newspapers increasingly identified their immediate community as the principal service area.

In its appeal to a large, heterogeneous audience, television displaced many of the large-circulation popular magazines.⁴³ *Life* (at least in its original incarnation) and *Look* succumbed when television became a more cost-effective vehicle to deliver the mass audience to advertisers. Like newspapers, the magazine industry has continued to thrive by developing one of its long-standing dimensions—specialized publications. But unlike newspapers, which are defined by geography, magazines reflect continuing differentiation in the realms of work, cultural interests, religious and ethnic backgrounds, and the like. Specialized magazines sustain these interest communities by providing information and symbolic reinforcement missing in the more general media.⁴⁴

Television's effects on the existing media environment were nowhere more pronounced than in the radio industry. Radio's role as a national force declined, but in the process it became more like the regulators originally envisioned—a vehicle for local self-expression. Advertising provides an accurate barometer of this shift. In radio's heyday before World War II, it derived roughly one-fourth of its revenue from local advertising; now about three-fourths of its advertising dollars comes from local sources.⁴⁵ For its programming, radio divided the mass audience along the lines of age, interest in news, musical tastes, and activities. The specializa-

⁴¹*Ibid.*, p. 109. The perceived dominance of the networks triggered recurrent FCC inquiries and led to the adoption of two remedies. First, the FCC considered proposals to deintermix ultra high frequency (UHF) and very high frequency (VHF) stations in the same market. Although the most ambitious deintermixture proposals encountered roadblocks, Congress did empower FCC to require the production of sets that could receive both VHF and UHF. For a discussion, see Erwin G. Krasnow, Lawrence D. Langley, and Herbert A. Terry, *The Politics of Broadcast Regulations*, 3d ed. (New York, NY: St. Martin's Press, 1982), pp. 176-191. Another policy initiative, the Prime-Time Access Rule, was aimed more directly at the excessive standardization and national orientation of television fare. The FCC launched this policy in 1970. It required affiliates in the 50 largest markets to broadcast at least 1 hour of nonnetwork programming, with some exceptions, during prime-time. The effect of the rule has been hotly debated.

⁴²Noll et al., *op. cit.*, footnote 40! pp. 37-39.

⁴³Peterson, *op. cit.*, footnote 25.

⁴⁴See Benjamin Compaine, "Magazines," in Compaine (ed.), *op. cit.*, footnote 28. See also James L.C. Ford, *Magazines for Millions: The Story of Specialized Publications* (Carbondale, IL: Southern Illinois University Press, 1969). In this sense, the magazine's function has changed little since abolitionists, feminists, and other 19th-century activists launched some of the first specialized magazines. Marketers also find special-interest publications a cost-effective way to reach specific consumers.

⁴⁵Christopher H. Sterling and John M. Mitross, *Stay Tuned: A Concise History of American Broadcasting* (Belmont, CA: Wadsworth Publishing Co., 1978), pp. 516-517.

tion forced on radio by television opened the doors to more educational and public broadcasting, and to a closer realization of FM's potential.⁴⁶

Motion pictures took the longest to rebound from the effects of television. Although still a mass medium, film also underwent some specialization of function.⁴⁷ Film developed technologies to distinguish itself from the small screen. More important, it provided more variety, for example, by importing and emulating foreign motion pictures. Some films were aimed largely at children, others at teenagers, still others at adults.

Originating as a means to extend the reach of television, cable television has grown to supplement broadcast fare. Its success in providing complementary programming, however, has thus far been limited. Without a doubt, cable increased the viewer's choice. Much of the choice, however, consisted of Hollywood-made films or former network series in syndication. To some extent, then, cable has just augmented the supply of nationally available programming aimed at a general audience. In other words, it has operated as another medium conveying material produced far beyond the viewer's community.

OPPORTUNITIES FOR USE OF NEW TECHNOLOGIES IN THE CULTURAL REALM

Communication technologies have had a significant effect on the cultural realm in the past, and new technologies are likely to have a major impact in the future. Communication technologies can serve to fragment groups as well as bind them together. Moreover, experience illustrates that although some technologies appear to foster unity, and others differentiation, the actual impact they will have in the cultural realm will depend as much on the social, economic, and political circumstances in which they emerge as on the particular attributes of the technologies themselves. Thus, government can take some steps to affect the outcome if it has an approximate picture of the alternatives available.

To provide such a picture, this section will examine applications of new communication technologies in four major cultural settings and institutions: community, education, religion, and popular culture and entertainment. The focus of analysis in the cultural realm is on institutions because systems of symbols, objects, and actions alike are generally developed, produced, and maintained through institutional frameworks.⁴⁸ Although any number of social institutions might have been chosen for analysis, these four were selected because of their primacy in terms of issues of national culture and public policy, and because of the significant changes that communication technologies are making possible in these areas.

Community and Culture

A community can be defined as a group of people who are recognized by outsiders and by members as having a commonality of purpose, who share common patterns of attention and interest, and who coordinate their activities through patterns or structures of interaction.⁴⁹ This definition includes traditional communities based on geographic, historical, and ethnic ties, but also includes "communities of interest" that grow up around shared activities and concerns. It also allows us to look at communities not just as places, but also as social products and processes.⁵⁰

Communities have been the traditional building-blocks of American culture. As historian Daniel Boorstin has pointed out:

Americans reached out to one another. A new civilization found new ways of holding men together—less and less by creed or belief, by tradition or place, more and more by common effort and common experience, by the apparatus of daily life, by their ways of thinking about themselves. Americans were now held together less by their hopes than by their wants, by what they made and what they bought, and by how they learned about everything. They were held together by the new names they gave to the things they wanted, to the things they owned, and to themselves. These everywhere communities

⁴⁶Ibid., pp. 248-314.

⁴⁷Jowett, *op. cit.*, footnote 31, pp. 347-359.

⁴⁸Karl Erik Rosengren, "Linking Culture and Other Social Systems," Sandra J. Ball-Rokeach and Muriel G. Cantor (eds.), *Media, Audience, and Social Structure* (Beverly Hills, CA: Sage Publications, 1989), pp. 88-90.

⁴⁹This definition condenses a number of definitions found in Merritt, *op. cit.*, footnote 16, pp. 15-16.

⁵⁰See James W. Carey, *Communication as Culture: Essays on Media and Society* (Boston, MA: Unwin Hyman, 1989), especially ch. 1, "A Cultural Approach to Communications."

floated over time and space, they could include anyone without his effort, and sometimes without his knowing . . . Americans lived not merely in a half-explored continent of mountains and rivers and mines, but in a new continent of categories. These were the communities where they were told (and where they believed) that they belonged.⁵¹

However, as the United States evolved from an agricultural to an industrial society, and more recently to a postindustrial one, American communities have undergone considerable change. In their classic works, *Middletown: A Study of Contemporary American Culture*⁵² and *Middletown in Transition: A Study in Cultural Conflicts*,⁵³ Robert and Helen Lynd traced, for example, how the town of Muncie, IN, changed in response to industrialization. They found that industrialization had led to a division between the business and working classes, and a breaking down of the quasi-religious ethos of the individual citizen, which previously had knitted many diverse groups and interests together. With the rise of the business class, a new ethic of utilitarian individualism began to emerge.⁵⁴

More recent works on American culture trace the continuation of this trend. As described by Bellah et al.:

Perhaps the crucial change in American life has been that we have moved from the local life of the nineteenth century—in which economic and social relationships were visible and, however imperfectly, morally interpreted as parts of a larger common life—to a society vastly more interrelated and integrated economically, technically, and functionally. Yet this is a society in which the individual can only rarely and with difficulty understand himself and his activities as interrelated in morally meaning-

ful ways with those other, different Americans. Instead of directing cultural and individual energies toward relating the self to its larger context, the culture of manager and therapist urges a strenuous effort to make of our particular segment of life a small world of its own.⁵⁵

A number of demographic trends are likely to reinforce these developments, critically affecting the nature of American communities in the future. Among these trends are:

- an increase in the percentage of the population accounted for by immigrants, and especially by those immigrant groups that previously were not strongly represented within the population;⁵⁶
- changing family and lifestyle patterns, and a growing diversity among households. Today, for example, there are fewer American couples living with children than ever before, more people live alone or with unrelated adults, and more children will live at least part of their childhood with a single parent;⁵⁷ and
- a changing work force, with an increase in the proportion of women, especially among those in their prime child-bearing years; as well as an increase in the age of the work force population, which will lead, in turn, to blurring of the boundaries between the workplace and the home.⁵⁸

Together, these structural changes within society are likely to have a radical impact on community life. Although there is some disagreement with respect to the nature and extent of these changes, most observers agree that they will lead individuals

⁵¹Daniel Boorstin, *The Americans: The Democratic Experience* (New York, NY: Vintage Books, 1974), p. 2.

⁵²Robert and Helen Lynd, *Middletown: A Study of Contemporary Culture* (New York, NY: Harcourt Brace, 1929).

⁵³Robert and Helen Lynd, *Middletown in Transition: A Study of Cultural Conflicts* (New York, NY: Harcourt Brace, 1937).

⁵⁴These findings were reinforced by the work of the sociologist, David Riesman. See, for example, David Riesman with Nathan Glazer and Reuel Denney, *The Lonely Crowd: A Study of the Changing American Character* (New Haven, CT: Yale University Press, 1950). See also the study by Herve Varenne of a small town in southern Wisconsin, entitled *Americans Together: Structured Diversity in a Midwestern Town* (New York, NY: Teachers College Press, 1977).

⁵⁵Robert N. Bellah, Richard Madsen, William M. Sullivan, Ann Swidler, and Steven M. Tipton, *Habits of the Heart* (New York, NY: Harper and Row, 1985), p. 50. See also Richard M. Merelman, *Making Something of Ourselves: On Culture and Politics in the United States* (Berkeley and Los Angeles, CA: University of California Press, 1984).

⁵⁶Joseph F. Coates and Jennifer Jarratt, "Forces and Factors Shaping Education," prepared for the National Education Association (Washington, DC: J.F. Coates, Inc., 1989), pp. 4-5. As the authors note: "Many of the new immigrants will have unfamiliar attitudes toward government, education, work, social behavior, and other social values. As political power accumulates to these new Americans, there will be effective challenges to schools, public officials, employers, media, laws, rules, and customs."

⁵⁷*Ibid.*

⁵⁸*Ibid.*

to find new **ways** of establishing community ties and of fulfilling some of the positive functions performed by traditional communities.⁵⁹

What will provide a sense of continuity, belonging, and responsibility in the “information age?” One author conjectures:

... although the yearning for the small town is nostalgia for the irretrievably lost, it is worth considering whether the biblical and republican traditions that small towns once embodied can be reappropriated in ways that respond to our present need. Indeed, we would argue that if we are ever to enter that new world that so far has been powerless to be born, it will be through reversing modernity’s tendency to obliterate all previous culture. We need to learn again from the cultural riches of the human species and to reappropriated and revitalize those riches so that they can speak to our condition today.⁶⁰

Capable of strengthening and reinforcing human interactions, and of extending the reach of people beyond their immediate geographies, communication technologies have played a critical role in maintaining community in the context of a rapidly changing and highly mobile society. New communication technologies offer some potential to ameliorate, or at least help people cope with, the loss of many traditional communal ties. Two kinds of communication applications will be considered here: the possibilities for establishing “virtual communities,” and for extending community-access programming and distribution facilities.

Virtual Communities Supported by Electronic Networks

Virtual communities, supported by electronic networks, create the opportunity for providing new sources of contact and interaction among people, widening their circle of friends and making it easier to connect with others like themselves. Like the “communities of interest” supported by the postal system and the telephone, virtual communities comprise groups of geographically dispersed peo-

ple, united by a common interest or purpose and supported by computer communication such as bulletin boards, conferences, and electronic mail.⁶¹

In the United States, virtual communities have grown up among people with access to computers and modems. The largest conferencing systems are on commercial services such as The Source. However, any individual with a personal computer and conferencing software could establish a gathering place for others who have personal computers, modems, and communication software.

The Whole Earth ‘Lectronic Link (WELL), for example, supports a virtual community in the San Francisco Bay area. With a local telephone call from many local communities, subscribers can participate in hundreds of topically based conferences. Although people from all over the country can and do participate by paying long-distance charges or using one of the national data networks, most of the conversation has a “northern California” perspective. References to local establishments and events abound, and participants meet periodically for parties and picnics.

The Community Memory Project, also in San Francisco, has put coin-operated terminals in local supermarkets and bookstores, allowing users to post and read messages organized in a relational database.⁶² The explicit goal of this project is to revitalize the traditional notion of community as a locus of sharing, support, and responsibility, and to provide a new means for participating in the production of community-based culture.⁶³

As in the past, communities with specialized needs are also linking via electronic networks. Recently, for example, a number of antipoverty organizations joined online in a network called HandsNet.⁶⁴ By paying an initial fee of between \$95 and \$125, a monthly fee of \$25, and an \$8-per-hour online fee, antipoverty organizations trade statistics and program information. Among the groups in-

⁵⁹Orring Klapp, *Collective Search for Identity* (New York, NY: Holt, Rinehart, and Winston, 1968), p. 17.

⁶⁰Bellah et al., op. cit., footnote 55, pp. 282-283.

⁶¹For a discussion, see Howard Rheingold, “Virtual Communities,” *Whole Earth Review*, No. 57, Winter 1987, p. 78. In the computing community, “virtual” is a technical term referring to functions realized via computers and software, rather than hardware.

⁶²Lee Felsenstein, co-founder of the Community Memory Project, personal communication, Feb. 25, 1988.

⁶³Ibid.

⁶⁴See Spencer Rich, “computer Network Links Antipoverty Groups,” *The Washington Post*, July 6, 1989, p. A15.

volved are the Low Income Housing Coalition, the Food Research and Action Center, and the National Coalition for the Homeless.⁶⁵

To participate in a virtual community does not necessarily require a familiarity with computers and computing. The French Minitel system, for example, is extremely user-friendly, linking people through networks of dumb terminals and providing them with easy-to-use gateways and menus.⁶⁶ As a result, many French people take advantage of the system.

One appeal of virtual communities is their relative anonymity. Users do not encounter the usual nonverbal cues to help them interpret messages from others.⁶⁷ Because members of virtual communities can be anonymous, some believe that such electronic communication can be a "medium without prejudice."⁶⁸ Anonymity also allows users "the risk-free opportunity to become someone else," and/or to let down barriers and face-maintaining behaviors that exist in face-to-face conversations.⁶⁹ Online interactions allow individuals to share life concerns and participate in debates and discussions for which there is no neighborhood forum. Members sometimes arrange face-to-face meetings, further supporting their relationships.⁷⁰

Virtual communities, however, are neither a panacea nor a perfect substitute for face-to-face contact.⁷¹ To the extent that they replace neighborhood ties, they could contribute to the loss of sharing, interdependence, and mutual concern that neighborhoods have traditionally provided. Moreover, if they required users to have a sophisticated technical knowledge or were available only in a text-based form, their usefulness would be limited to those with the requisite skills.

The anonymity of virtual communities also makes it easier for some people to disregard social norms, which, if history is a good indicator, will give rise to issues concerning what constitutes acceptable content and who should be responsible for assuring that content is within the bounds of propriety. Such problems have already emerged, for example, in the case of 976 telephone chat lines.⁷² Cases of fraud and issues of liability might also become more frequent, insofar as electronic communication makes it possible to present a false persona.

To what extent, and under what circumstances, virtual communities will become more popular and more prevalent in the future will depend on a number of factors.⁷³ Cost is an important one. Generally speaking, telecommunication charges are paid either by individual callers (on their telephone bills or through one of the data network providers) or by the sponsoring organization, if it purchases a toll-free number. Most commercial services charge an hourly connection fee to users. This cost would be higher if information-providers were charged an access fee equivalent to that charged by other users of the communication network. To date, users have successfully resisted such a charge, arguing that it would discourage the development of an information-services industry.⁷⁴

When they are financed primarily through advertising, however, some network services can be provided free. In Boston, for example, Citinet offers users free online information about special interest groups, hearing schedules for State government, and financial information on local businesses. Electronic mailboxes on Citinet cost \$19.95 per year.⁷⁵ The

⁶⁵Ibid.

⁶⁶Philippe Perron, "Minitel: The Technology of Success," presentation to OTA, Washington, DC, Oct. 6, 1987.

⁶⁷Alfred Glossbrenner, "A New Medium in the Making: How People Are Shaping (and Being Shaped by) On-Line Communication," *Rain*, November-December, 1985, pp. 28-31.

⁶⁸Ibid., p. 29.

⁶⁹Ibid. See also Roxanne Hiltz and Murray Turoff, *The Network Nation: Human Communication Via Computer* (Reading, MA: Addison-Wesley, 1978). It should be noted, however, that as communities form and users begin to develop stakes in them, norms and sanctions, equivalent to those governing traditional communities, will emerge.

⁷⁰Charles W. Steinfeld and Janet Fulk, "Computer-Mediated Systems as Mass Communication Media," paper presented to the Telecommunication Policy Research Conference, Airlie House, VA, October 1988. See also Rheingold, op. cit., footnote 61.

⁷¹See Amy F. Phillips, "Computer Communications: Success or Failure?" *Human Communication Technology*, vol. 7, 1983, pp. 837-855.

⁷²For on discussion, see "Dial-a-Porn Case Argued as Preview of Indecency Case," *Broadcasting*, Apr. 3, 1989, p. 57.

⁷³For a discussion of some of these factors from a comparative perspective, see Anne W Branscomb, "Videotex: Global progress and Comparative Policies," *Journal of Communication*, vol. 38, No. 1, Winter 1988, p. 59.

⁷⁴Access Charges for Enhanced Services, 3 FCC Red. 2631 (1988).

⁷⁵Melissa Calvo, "Boston-Citinet refers Users Free On-line Information," *Infoworld*, Apr. 28, 1986, p. 23.

Prodigy Service, offered through a joint venture of IBM and Sears, is also partially financed through advertising.

Access to electronic networks can also be facilitated through the use of gateway services, which help users to identify and connect with groups with whom they want to communicate. And, in fact, it was to encourage the development of such services that Judge Harold Greene relaxed the line-of-business restrictions on the regional Bell operating companies, allowing them to develop and provide videotex gateways. The first two such gateways to be developed are the Transtext-T-Universal Gateway, set up by BellSouth and now operating in Atlanta, and Info-Look, established by Nynex in Burlington, VT.⁷⁶

BellSouth's gateway constitutes part of an adjunct and enhanced network infrastructure inserted into the basic local exchange network. Not only does it give users unlimited free access; it also provides some services free. Moreover, aimed at user-friendliness, the system allows customers equipped with personal computers and a modem to enter the system by using a 10-digit telephone number. In addition, it provides simple menus listing databases and services and handles all billing.

Nynex's Info-Look is less fancy, but many of the customer-services are also less expensive. However, there is a \$3 hourly charge for use. Among the services available on Info-Look are:

... a list of biking trails, for 10 cents per minute; news, interviews, classified ads and ski and travel information from the Burlington Free Press for 15 cents per minute; condensed news from Vermont Business Magazine for 10 cents per minute; interactive political debate for 10 cents per minute, a cat lover's forum for 10 cents per minute; a mailing list of Vermont businesses for 10 cents per minute; skiing conditions for 10 cents per minute; Vermont travel information for 20 cents per minute; and a Vermont hunter's guide for 20 cents per minute.⁷⁷

The lack of both familiarity and technical skills has also served to discourage the general public's use of electronic networks. These kinds of barriers can eventually be overcome, however, as is clearly

evident from the successful development of Minitel in France, cultural differences notwithstanding. What was critical in France was the government's proactive efforts to move the country forward into the information age by subsidizing and supporting the development of a national information infrastructure.⁷⁸ Having access to easy-to-use terminals provided by the government, French citizens have not hesitated to establish online connections.

Cable Community-Access Services

Government policy to encourage the creation and development of local community-based information has a history going back as far as the early postal service. Postal subsidies in the form of letters of exchange were designed to encourage and support the development and viability of local newspapers. In like fashion, early broadcast policy sought to foster the development of local programming. However, given the economies within communication industries, most of these policies proved unsuccessful. One after another, each new media industry that emerged assumed a concentrated and vertically integrated form.

Cable, however, unlike its media predecessors, appeared to be an exception, insofar as it provided an abundance of channel capacity. Thus, with its development, the hope of fostering local programming reemerged. Having access to cable, anyone, anywhere, could be a programmer, or so it seemed.⁷⁹ As Michael H. Dann, a consultant to the cable industry, characterized his hopes for cable:

... nearly all the information services that cable will specialize in providing will have nothing to do with watching television as we have known it. You'll be using your monitor for something else—for taking academic courses or for using any or all of the other information services available. And whether this takes the form of something with ethnic appeal or of cooking channels it's something that you would not be getting on commercial television. . . . There are no rules in the cable industry requiring you to have only so many minutes for commercials, with every minute so precious, as it is in broadcasting; the cable companies can be so much looser about the length of commercials, because they have so much channel capacity. Everybody can be on cable longer—the

⁷⁶See Fredric Saunier, "The Public Network Goes On-Line," *Telephony*, Apr. 3, 1989, pp. 26-37.

⁷⁷*Ibid.*, p. 27.

⁷⁸Branscomb, op. cit., footnote 73, p. 83.

⁷⁹James Martin, *The Wired Society* (New York, NY: Prentice Hall, 1976), p. 46.

performer can be on longer, the writer can write longer, the cook can cook longer, the talker can talk longer. And cable is so cheap in comparison to broadcasting that in most communities if you want to get on a public-access channel and hum you can go on.⁸⁰

To bring such aspirations to fruition, many local franchise agreements originally required that local cable systems provide channels for community programming.⁸¹ The different kinds of programming that can be required in such agreements are outlined in box 7-A.

According to one recent survey, 57 percent of all cable operators offer public-access channels, about one-half of which are managed by cable operators.⁸² Independent, nonprofit organizations manage an additional 30 percent, and the rest are run by local governments, schools, libraries, and for-profit corporations. An estimated total of between 5,000 to 10,000 hours of original programming is produced for such public access channels each week. One of the most successful local access channels, located in Austin, TX, carries 60 to 70 hours of original programming each week.⁸³ Community-access facilities are usually funded through a combination of revenues from commercial operations, grants, and donations. About two-thirds are under \$100,000, and one-third have annual operating budgets of less than \$25,000.⁸⁴

Because community-access channels give local citizens an opportunity to create programs for their communities, they can provide an opportunity to influence the local culture and strengthen communal ties. Broadcasts of local high school sports events,

for example, can garner support for local teams and reinforce identification with the local community. Local politicians can increase public awareness by airing local meetings and public events. Community members can reinforce their relationships, joining together to produce media events.

Community-access channels can be especially helpful to minority groups. Much as the foreign language press served to both integrate foreign immigrants and enhance their self-esteem, the production of materials by local ethnic groups can serve to promote community understanding and create a sense of pride in local traditions.⁸⁵ This kind of access to production and transmission facilities is critical to minority groups because all too often they have been unable to gain an economic foothold in the media,⁸⁶ and as a result they have been either very poorly represented or simply ignored.⁸⁷

Young people can also make particularly good use of local-access channels. As Action for Children's Television has pointed out:

For young people, community cable is an opportunity for service that is disappearing from commercial broadcasting. At a time when the commercial TV networks fail to provide one daily or even weekly children's show Monday through Friday, local cable channels can supply a fertile environment for breeding a new variety of children's television.⁸⁸

Despite the distinct benefits of local access, many community-access channels have been underutilized. Moreover, where they have been in operation, they have often been unable to draw the kinds of audiences required to have a significant impact. A

⁸⁰As reported to, and cited by, Tom Whiteside, "Onward and Upward With the Arts, Cable HI," *The New Yorker*, June 3, 1985, pp. 84-85.

⁸¹ Congress approved such access rules in section 611 of the 1984 Cable Communications Policy Act, codified at 47 U.S.C. sec. 531.

⁸²Gregory Epler-Wood and Paul D'Ari, *Cable Programming Resource Director 1987* (Washington, DC: National Federation of Local Cable Programmers, 1987), p. D147.

⁸³Sharon Ingraham, National Federation of Local Cable Programmers, personal communication, Feb. 23, 1989.

⁸⁴Epler-Wood and D'Ari, op. cit., footnote 82, p. D144.

⁸⁵See Hanno Hardt, "The Foreign Language Press in American Press History," *Journal of Communication*, vol. 39, No. 2, Spring 1989, pp. 114-131.

⁸⁶At present, there is only a small number of minorities and women in ownership and management positions in the communication industries. This situation has been attributed to many factors, including: 1) minorities were not "at the table" when radio and television licenses were given out; 2) majority owners and managers continue to discriminate; 3) minorities lack the funding to support stations; and 4) minorities are inadequately trained. For a discussion, see Vernon A. Stone, "Women Gain, Black Men Lose Ground in Newsrooms," *RTNDA Communicator*, August 1987, pp. 9-11; Dwight M. Ellis, "Communications at the Crossroads: Parity and Perceptions of Minority Participation," paper presented at the Invitational Conference on Minorities and Communication, Howard University, Washington, DC, June 18, 1987; James Forkay, "Time to Speak Up?" *Advertising Age*, Jan. 4, 1988; and Craig Kuhl, "Corporate America's Color Line," *Cablevision*, June 6, 1988, pp. 34-43.

⁸⁷For the treatment of minority groups in the media, see Eric Barnouw, *A Tower In Babel*, vol. 1 (New York, NY: Oxford University Press, 1966); Herman Gray, "Television and the New Black Man: Black Male Images in Prime-Time Situation Comedy," *Media, Culture and Society*, vol. 8, 1986, pp. 233-242; Susan H. Wilson, "The Missing Comic Strip," *Editor and Publisher*, Apr. 23, 1988, p. 164; and "Women Are Disappearing From TV," *Broadcasting*, Nov. 23, 1987, pp. 52-53.

⁸⁸"Community Cable for and by Children: An ACT Handbook," Action for Children's Television, Newtonville, MA, 1983.

Box 7-A—Forms of Community Cable

- . Public access-programming initiated and created by members of the community; the cable company should not interfere in the content of the shows. Public access programming is noncommercial.
- . Educational access—schools, colleges, and libraries can produce their own cable programs; students are usually involved in the production.
- . Government access—local officials can use access to increase citizen awareness by cablecasting town meetings and important public messages.
- Religious access—synagogues and churches can publicize activities and spread their views by producing access programs.
- . Leased access—a kind of rent-a-channel, leased access gives companies or individuals a voice on cable TV. Program content is controlled by those who pay for channel time to get their message out.
- . Local origination (LO)—LO programs are produced by the cable company, which controls the content; young people may or may not be involved in production. LO programming can carry advertising.

SOURCE: Reprinted with permission from "Community Cable for and by Children: An ACT Handbook," by Action for Children's Television (ACT), Cambridge, MA.

number of factors account for this situation, including the lack of funds, skills, technical expertise, and adequate equipment. While most community-access systems receive some funding from local governments or commercial operators, providing additional support for production equipment and distribution may be one way of promoting wider access.

Cable community-access networks may also be underutilized because people are either unaware of their existence or unfamiliar with their use as a public media. Opportunities to participate do not translate into actual participation until community members are motivated to become more active in promoting their cultures. People will have to see themselves as producers as well as audiences, and as publishers as well as readers. For many people, accustomed to the passivity of traditional media, this shift can be very difficult. To bring about the requisite change in attitude, young and old alike will need to be taught critical viewing skills, and to learn their way around the technical, social, economic, and political processes of public and commercial communication systems.⁸⁹ Action for Children's Television provides some tips on how to get started, as outlined in box 7-B.

Administrative and political battles can further impede access, especially in cases where there are disputes about content.⁹⁰ In some instances, there have been efforts to censor unpopular messages, and in other cases groups have requested time to respond

to the messages prepared by opposing groups. In Kansas City, for example, efforts by local Ku Klux Klan members to air controversial programming brought attempts to change the cable franchise agreement to give the cable operator more discretion in selecting programming.⁹¹

Also discouraging the use of public-access channels is the intense competition with commercial media. On average, amateurs are unlikely to produce exceptional television programming. And even when they do, they generally have insufficient resources to adequately promote their work. The problem that newcomers face is one of differentiating their work, and of gaining the attention of the appropriate audience at a time when the traditional media are spending more and working harder to attract a viewing audience that is becoming increasingly selective and sophisticated.

What role the Federal Government might play in promoting the use of community-access services in the future is open to question. Despite its long commitment on behalf of the development of local programming, the Federal Government has, of late, been much less inclined to impose carriage requirements on local cable companies. However, were the telephone companies to enter the field in competition with cable companies—and perhaps on a common-carrier basis—the hope for local-access channels will certainly be rekindled.

⁸⁹Ibid.

⁹⁰Retha Hill, "P.G. Cable Performers Await Cue in Off-Camera Dispute," *The Washington Post*, June 25, 1988, p. B1.

⁹¹"Public Access in Kansas City Heads for Showdown," *Broadcasting*, June 13, 1988, p. 58.

Box 7-B--Steps for Making Cable TV

The first step for anyone interested in any aspect of making community cable TV is to find out what is offered by the local cable system. Is there a separate access facility, or is the cable studio open to the public? Are formal training sessions held, or do newcomers learn by apprenticeship? Does the cable system provide the videotape, or is that up to the access user? After getting an overview of how access works in your community, you might want to:

- . Speak with others who have been involved in access productions.
- Volunteer to work on an *already existing program* for a better idea of what *goes* into cable production.
- . Check the local library for any media-related materials, especially 'how-to' guides.
- . Enroll in a media workshop, run either by the cable system, the local access foundation, or other community groups (check schools, youth groups, religious organizations, video clubs, and so on).
- Think about what's missing from the community cable lineup that you might provide. What interests could you explore and share by making your *own* cable show?
- . Write a detailed proposal and present it to the access coordinator or the head of local programming. Outline specific ideas and how you would present them. Describe the potential audience for your show.
- Round up a cast and crew. Friends, neighbors, and relatives can all play a part.

SOURCE: Reprinted with permission from "Community Cable for and by Children: An ACT Handbook," by Action for Children's Television (ACT), Cambridge, MA.

Education and Culture

All societies educate, and education is necessary to maintain and to structure the social order. Education mediates between individuals and society. It is the means by which societies transmit acquired knowledge, attitudes, values, skills, sensibilities, and symbols from one generation to the next—and thus the means by which individuals learn the skills and roles necessary to function in and to influence their society.⁹²

In the United States, there has always been support for the idea that education plays an essential societal role. Contrasting the attitude of Americans toward education with that of Europeans, Alexis de Tocqueville, the well-known commentator on American society, noted in 1831:

Everyone I have met up to now, to whatever rank of society they belong, has seemed incapable of imagining that one could doubt the value of education. They never fail to smile when told that this view is not universally accepted in Europe. They agree in thinking that the diffusion of knowledge, useful for all peoples, is absolutely necessary for a free people

like their own, where there is no property qualification for voting or for standing for election. That seemed to be an idea taking root in every head.⁹³

The public benefits that Americans have associated with education have changed over time and in different historical circumstances. In the earliest years of American history, education was considered essential for the survival of the new democratic Nation. Later, with the need to acculturate immigrants and to unite a divided Nation in the aftermath of the Civil War, it was considered the means for building a Nation of citizens. At the turn of the century, education was expected to train and socialize American youths for participation in a modern, industrialized society. More recently, Americans have seen in education the solutions to some of the Nation's thorniest social problems.⁹⁴

Throughout its history, the American educational system has been quite successful in adapting to meet the changing needs of society. It has been transformed from a system designed to meet the needs of an agrarian society to one tailored to the needs of an urban, industrialized society. It has been changed, moreover, from a system structured to meet the

⁹²See Herbert A. Thelen and Jacob W. Gretzels, "The Social Sciences: Conceptual Framework for Education," *The School Review*, vol. XV, No. 3, Autumn 1957, p. 346. See also Charles E. Bidwell, "The School as Formal Organization," James G. March (ed.), *Handbook of Organizations* (Chicago, IL: Rand McNally & Co., 1965), pp. 969-972.

⁹³Alexis de Tocqueville, *Journey to America*, translated by George Lawrence (New York, NY: Anchor Books, 1971).

⁹⁴For a discussion of the social goals attributed to public education, see Rush Welter, *Popular Education and Democratic Thought in America* (New York, NY: Columbia University Press, 1963). See also David Tyack and Elizabeth Hanson, "Conflict and Consensus in American Public Education," *America's Schools: Public and Private*, *Daedalus*, Summer 1981.

educational needs of a privileged few, to one more structured to meet the diverse and sometimes conflicting needs of a growing and heterogeneous population.

Today, however, the American educational system is undergoing a number of stresses. Some originate within the educational system itself; others stem from the profound changes taking place in the larger social environment. Among these developments are:⁹⁵

- an increase in the level of education that individuals need to participate effectively in society;
- an extension of the period of time during which individuals can and need to be educated;
- an increase in the diversity of clientele for education, and thus an increase in the diversity of the demand for education;
- a decline in the public resources available for education, resulting in part from:
 - an increase in the cost of producing education,
 - a questioning of the public benefits associated with public education, and
 - a loss of confidence in the institutions providing education; and
- a general decline in educational achievement, especially when measured against education achievement levels attained in other countries.

Because communication technologies can serve as specialized educational tools, they have always been valued as educational resources. With the

development of the penny press, for example, a number of early communication scholars, among them Charles Horton Cooley, John Dewey, and Robert E. Park, conceived of it, above all, as a source of public education and enlightenment.⁹⁶

The radio was also appreciated for its educational potential, although in allocating spectrum the Federal Radio Commission (FRC) gave a clear preference to commercial stations.⁹⁷ As Czitrom describes:

The FRC consistently chose not to view advertisers as special interests. It gave preference to commercial stations while discouraging what it termed "propaganda stations," particularly those run by labor and educational organizations. The FRC thus reduced the 'public interest, convenience, and necessity' phrase to mean the needs of commercial broadcasters.⁹⁸

Given this experience, educators quickly learned that if educational broadcasting was to be successful, educators would need to have a number of channels specifically reserved for such a purpose.⁹⁹ Moreover, by the time television came along, educators and others interested in educational broadcasting were much more organized and aggressive in making their demands known.¹⁰⁰ As a result, educators were more successful than they had been with radio in gaining the FCC's support for educational broadcasting. In March 1951, the FCC announced its intent to reserve 209 channels for noncommercial television stations.

⁹⁵For discussions of these stresses, see U.S. Congress, Office of Technology Assessment, *Informational Technology and Its Impact on American Education*, OTA-CIT-187 (Springfield, VA: National Technical Information Service, November 1982); National Commission on Excellence in Education (Washington, DC, 1983); I. Kirsch and A. Jungeblut, *Literacy: Profiles of America's Younger Adults*, Final Report, No. 16-PL-01 (Princeton, NJ: National Assessment of Education Progress, 1986).

⁹⁶Czitrom, op. cit., footnote 30, especially ch. 4, "Toward a New Community? Modern Communication in the Social Thought of Charles Horton Cooley, John Dewey, and Robert E. Park," pp. 90-121.

⁹⁷For a discussion and history, see Robert J. Blakely, *To Serve the Public Interest* (Syracuse, NY: Syracuse University press, 1979). According to Blakely, "By 1925 the commercial radio stations had begun to find in the sale of time for advertising an enduring answer to the problem of financial support, while the educational stations had not. When the Secretary of Commerce adopted policies that created trafficking in licenses in 1925, the number of noncommercial stations began to decline. In 1926, when the impetus for networks to get local affiliates and for local stations to acquire network affiliation was added, the decline quickened." As Blakely notes, under these circumstances, one of the few educational groups that managed to survive, and which thus came to play a major role in educational broadcasting in the United States, was the State universities and land grant colleges (pp. 53-54).

⁹⁸Czitrom, op. cit., footnote 30, pp. 80-81. And as Blakely adds: "Educational stations also suffered from frequent shifts in their frequencies because of shifts made by the FRC. Commercial stations made money, convertible into political power; educational stations cost money. If their programming was not popular enough to attract sizable audiences, they were hard to justify politically, if it was popular, it provoked political opposition." Blakely, op. cit., footnote 97, p. 55.

⁹⁹An amendment to this effect, sponsored by Senators Robert F. Wagner and Henry D. Hatfield, had been proposed to the communications Act of 1934, but failed to pass for lack of support. However, in 1945, the FCC decided on its own accord to reserve 20 of the 100 channels available in frequencies higher than 25 megacycles for educational radio.

¹⁰⁰A central force behind this effort was the Fund for Adult Education, which undertook three basic tasks: 1) securing the reservation of channels; 2) activating the stations; and 3) establishing the Educational and Radio Center. Blakely, op. cit., footnote 97, ch. 4.

Also important in assuring the survival of educational television (ETV) was the early funding by the Ford Foundation, and two key pieces of Federal legislation—the Educational Television Facilities Act, which provided money to activate and expand ETV **stations**, and the All-Channel Television Receiver Act, which served to increase the number of receiving sets on which viewers could receive ultra high frequency (UHF) signals.¹⁰¹ But the ultimate support for educational TV came only in January 1967 with the passage of the Public Broadcasting Act, which incorporated many of the recommendations made in a national study by the Carnegie Commission on Educational Television.

While past efforts to employ technology for educational purposes have had their detractors, the results have been successful enough to inspire those who are concerned about education today and who look to new technologies for potential solutions. And, indeed, a number of recent analyses suggest that communication technologies could play a very effective role in education.¹⁰² Two of the many educational applications of new information and communication technologies will be considered here: remote learning and desktop publishing of educational materials.

Remote Learning

Remote learning refers to the provision of mediated instruction at a distance. It can take place in a variety of ways, ranging from the simple exchange of printed material via the postal service to two-way interactive, cross-continental television. It can also occur in a variety of settings. Remote learning can include situations in which a student, or students, participate in a class that is meeting elsewhere, or it can be used to create a virtual classroom where students, although dispersed, interact via telecommunication. Moreover, remote educational materials

can be comprised of any number of media formats, including audio/video presentations, graphics, film clips, real-time video conferencing, computer-aided instruction, etc.

In its recent study, *Linking for Learning*, OTA found that advances in information and communication technologies expand the array of remote-learning options and provide potential solutions to a number of educational needs.¹⁰³ According to the study:

In distance learning, technology transports information, not people . . . [It] has changed dramatically in response to new technologies and new needs. Technologies for learning at a distance are also enlarging our definitions of how students learn, where they learn, and who teaches them.¹⁰⁴

Given technological advances in transmission, and in information storage and reprocessing, remote learning may help to reduce educational disparities among regions. It has been estimated, for example, that one-third of the country's schoolchildren are poorly educated due to the limited staff and resources in small; geographically isolated schools.¹⁰⁵ However, as the OTA study points out, modern, interactive-based distance education can help small, remote communities to meet State-mandated curricular reform, especially requirements for courses in mathematics, science, and foreign languages. For where there is a shortage of qualified teachers and/or too few students at any one site to warrant the hiring of a teacher, remote learning provides an effective alternative.¹⁰⁶

Remote learning also makes it possible to link all levels of education—from kindergarten through college—allowing for a more optimal use of educational resources and the rethinking of educational curricula. Maine's educational telecommunication network, linking universities, high schools, and

¹⁰¹Ibid., p. 143. One major incentive for Federal support was the general concern about the state of American education in the face of the Soviet's success with Sputnik.

¹⁰²For an early, but extremely powerful, vision of educational technologies, see Seymour Papert, *Mindstorms* (New York, NY: Basic Books, 1980). See also OTA, op. cit. footnote 95; U.S. Congress, Office of Technology Assessment, *Power On/New Tools for Teaching unlearning*, OTA-SET-379 (Washington, DC: U.S. Government Printing Office, September 1988); "Educational Technology 1987," *Electronic Learning*, October 1987; and Michael Rice, "Toward Improved Computer Software for Education and Entertainment in the Home," Report of an Aspen Institute Planning Meeting, Wye Woods Conference Center, Queenstown, MD, June 3-4, 1987.

¹⁰³See Jason Ohler, "Distance Education and the Transformation of Schooling," OTA contractor report, May 1989.

¹⁰⁴U.S. Congress, Office of Technology Assessment, *Linking for Learning: A New Course for Education*, OTA-SET-430 (Washington, DC: U.S. Government Printing Office, November 1989), pp. 3-4.

¹⁰⁵Dean Bradshaw and Patricia Brown, "The Promise of Distance Learning," *Policy Briefs*, No. 8 (San Francisco, CA: Far West Laboratory, 1989).

¹⁰⁶OTA, op. cit., footnote 104.

newly created outreach centers, is an example of how such connections can lead to expanded services and new relationships.¹⁰⁷

As more and more educators have become aware of the increased potential of remote learning, the number of States and school districts initiating projects and plans for distance education has increased. For example, in 1987, less than 10 States were promoting distance learning; in 1988, two-thirds reported some involvement.¹⁰⁸ Involvement can entail modest efforts at the local level, or more elaborate undertakings requiring collaboration with regional education service centers and nearby universities and community colleges.

Notwithstanding this growing interest in remote learning, the access of students and teachers to these kinds of facilities is still quite limited. One factor inhibiting access is the lack of a telecommunication infrastructure. Even though cable systems now reach many communities and the telephone network is ubiquitous, few classrooms have the wiring required to take advantage of this telecommunication base. And only 7 percent of all school districts have the capacity to receive satellite signals.

Attention to the quality of instruction is also critical to the successful implementation of remote-learning programs. While remote learning helps students overcome a number of barriers, it can at the same time reinforce students' feelings of isolation, if used as a substitute for traditional teacher/student and student/student interactions. And OTA's analysis shows that not all remote-learning systems afford the same levels of student/teacher interaction. Moreover, students report that distance learning is "harder." When the remote-learning group is large, students complain about how difficult it is to raise questions and obtain help during class time. Most of the students interviewed by OTA preferred instruction at their own schools.

Teacher support and active involvement in the development and deployment of remote-learning

systems is also essential to their success, as the history of earlier educational technologies clearly illustrates.¹⁰⁹ Remote-learning systems can provide teachers with a number of advantages. Many teachers report, for example, that remote teaching has improved their skills, forcing them to become more organized and more innovative. *10 Moreover, distance learning can provide teachers with a wider reach, allowing them to "meet" and consult with national experts, visit other classrooms, or collaborate and share notes with colleagues 50, or even 5,000, miles away. In such fashion, expert teachers in Iowa welcome prospective teachers into their classrooms via satellite, while two teachers in Connecticut join classrooms via a fiber-optic network to team-teach.¹¹¹ On the other hand, teachers have also voiced a number of concerns about the prospects of remote learning. Some are concerned about being replaced by technology. Others are unfamiliar with, and thus uncomfortable using, technology. 112 And others fear a loss of control Over their curriculum and course-work. Involving teachers early in the process of developing remote-learning systems will serve not only to improve the design of these programs, but also to assure their long-term viability.

To facilitate the implementation of remote learning, a number of jurisdictional problems may also need to be resolved. Distance education not only has the potential to decrease the amount of local control over schools; at the same time, many of the new institutional arrangements being established to develop and offer student courses, enrichment activities for classroom instruction, and programs for staff development are now being structured in a more centralized fashion, while the curriculum and in-service training are becoming more and more uniform. Under these circumstances, nationwide accreditation procedures might need to be developed to supplement, or replace, current State-administered standards. However, local and State educational institutions may not be eager to renounce their

¹⁰⁷Bruce O. Barker, "Distance Learning Case Studies," OTA contractor report, June 1989.

¹⁰⁸*Ibid.*; see also "Educational Technology 1987: A Report on EL's Seventh Annual Survey Of the StateS," *Electronic Learning*, vol. 1, No. 2, October 1987, p. 41.

¹⁰⁹For a discussion, see OTA, *op. cit.*, footnote 95.

¹¹⁰Barker, *op. cit.*, footnote 107.

¹¹¹*Ibid.*

¹¹²For a discussion, see Gerald W. Bracey, "Still Anxiety Among Educators Over Computers," *Electronic Learning*, March 1988, p. 20.

control in these matters. * 13 Thus, educational leadership will be a critical factor for planning efforts that draw together public- and private-sector interests, use resources efficiently, and meet a broad base of educational needs.

Although the Federal Government's role in education is limited, its decisions can have a significant impact on the future of remote learning. Because education is a public good, and thus subject to underfunding, government funding programs can be of particular importance. The Federal funding of Star Schools, for example, has already accelerated the growth of distance learning in the United States.¹¹⁴ Federal telecommunication policies are also important, as the history of public broadcasting in the United States clearly illustrates. For example, it was only when the government began to reserve spectrum for educational broadcasting that educational groups were able to develop a viable system for educational television.

Desktop Publishing of Educational Materials

Desktop publishing refers to a simplified publication process that uses a personal computer, word-processing and page-layout software, and a printer to produce documents such as newsletters, newspapers, fliers, and books.¹¹⁵ Desktop publishing is cheaper and easier than traditional publishing because it eliminates the need for typesetting and mechanical page layout. What-you-see-is-what-you-get software allows users to experiment easily with various type styles and sizes, graphics, and page setups. Educational applications include:

- printing of student newspapers and school publications;
- preparation of more sophisticated audiovisual aids by teachers;
- publication of class notes by teachers to supplement or supplant traditional textbooks;
- student class projects, such as writing and printing of storybooks; and
- publication of university press books.¹¹⁶

Desktop publishing systems, when used by teachers to "publish" essays, have helped motivate some students to read and write. Some students have improved their writing ability because they can edit and print their work. One elementary school teacher who uses a desktop publishing system with children who are in need of extra help describes the process:

We work with kids we call "compensatory students," . . . which means they're a little slower than average. To improve reading comprehension, 3rd, 4th, and 5th graders are required to write and publish their own storybooks . . . The kids are really motivated to make their stories interesting and nicely illustrated, especially since they know that after the books are published, the authors will be using them in public readings to the kindergarten and 1st grade.

Making their books has really turned these kids around. Last year's evaluation showed that reading comprehension test scores for our 4th and 5th grades were 50 percent higher than the control group's scores.

Not only has "getting published" built reading, writing and problem-solving skills, it had an enormously positive impact upon the "compensatory student's" self-confidence and self-esteem.¹¹⁷

For older students, desktop publishing can cut costs and increase flexibility for student newspapers, giving them more experience in editorial and layout decisionmaking. Desktop systems allow teachers to tailor classroom materials to the needs of students, giving them more control over class content. Teachers, administrators, and community leaders could even use desktop publishing to circulate school information within the community to garner more participation in local educational decisions.

The more successful desktop publishing is, however, the more consideration will need to be given to the issue of equity. The costs of such systems are not negligible. As in the case of deploying computers in the schools, without a Federal policy of support, new technologies are likely to be distributed first in well-to-do areas which, in fact, may not be the school districts most in need of the special benefits

¹¹³In practice, the locus of control over distance education varies from State to State, and the responsibility for educational telecommunication may reside outside of the educational community.

¹¹⁴In addition, the Public Telecommunications Facilities Program established in 1962 at the National Telecommunications and Information Administration has funded the purchase of some equipment used in distance-learning efforts. The Rural Electrification Administration (REA) is providing loans for efforts that have educational components to rural telephone cooperatives in rural Minnesota, the Oklahoma Panhandle, and the Papagos Indian reservation, among others. And Title 111 of the Higher Education Act has supported part of the University of Maine's telecommunication network.

¹¹⁵Milt Stanley, "Desktop Publishing," *The Computer Teacher*, November 1987, pp. 46-49; Harold A. Sims, "Desktop Publishing in a PC-Based Environment," *Educational Technology*, August 1987, pp. 6-11; and Deborah Little and Charles Suhor, "School Uses of Desktop Publishing: Asking the Right Questions," *Educational Technology*, August 1987, pp. 35-37.

¹¹⁶Robert McCarthy, "Stop the Presses! An Update on Desktop Publishing," *Electronic Learning*, March 1988, pp. 24-29.

¹¹⁷As cited in *ibid.*, p. 25.

these technologies afford. Moreover, within schools, priorities will need to be set with respect to how such systems will be used. Should in-house production of tickets, fliers, and programs, which save a school money, take precedence over instructional uses? Should the system be used to reward those who are performing well in school, or to boost the skills of poor performers?

To the extent that desktop publishing is used by teachers to develop their own teaching materials, issues may arise with respect to quality control. If desktop publishing is to offer new opportunities to get involved in the production of educational materials, some new quality-control mechanisms might be needed to encourage the production of well-executed educational materials. Moreover, teachers may require additional training to take full advantage of these technologies. * 18

Religion and Culture

Religious ideas have often been characterized as the answer to the problem of meaning. As Emile Durkheim wrote about religion: "C'est de la vie serieuse."¹¹⁹ [It's really serious.] And, according to sociologist Talcott Parsons, religious beliefs:

... are those which are concerned with moral problems of human action, and the features of the human situation, and the place of man and society in the cosmos, which are most relevant to his moral attitudes, and value-orientation process.¹²⁰

In fact, American culture was first conceived of in religious terms.¹²¹ As noted by Bellah et al., the early colonists:

... saw their task of settlement as God-given: an "errand into the wilderness," an experiment in Christian living, the founding of a "city upon a hill."¹²²

However, although originally conceived of as a quasi-governmental affair, over time, and in response to changing social forces, religion came to be viewed in America as much more of a private matter. As Bellah et al. describe it:

Religion did not cease to be concerned with moral order, but it operated with a new emphasis on the individual and the voluntary association. Moral teaching came to emphasize self-control rather than deference. It prepared the individual to maintain self-respect and establish ethical commitments in a dangerous and competitive world, not to fit into the stable harmony of an organic community.¹²³

Among the many factors contributing to this change were, for example, the political separation of church and state, the breakdown of traditional, communal ties in the wake of industrialization, the growth in the diversity of the population, and the widespread adherence to the philosophy of *laissez-faire* and individualism.¹²⁴

The privatization of religion in the United States has not significantly affected the level of individual participation in religious activities. Religion continues to be one of the primary ways in which Americans involve themselves in communal life.¹²⁵ About 60 percent of the U.S. population claim membership in a church or synagogue, a percentage that has decreased only slightly since 1950.¹²⁶ In one annual survey, about 40 percent of the adult population said that they had attended a church or synagogue within the previous 7 days, compared to 42 percent in 1970 and 47 percent in 1960.¹²⁷ And, a 1983 Gallup poll reported "a rising tide of interest and involvement in religion among all levels of society," with 57 percent of the respondents report-

¹¹⁸Scott Jaschik, "Use of Telecommunications for Instruction Across State Lines Attracting Official Notice," *Chronicle of Higher Education*, Nov. 6, 1985, p. 15.

¹¹⁹Emile Durkheim, *The Elementary Form of the Religious Life*, translated by Joseph Ward Swain (London: George Allen & Unwin Ltd., 1976).

¹²⁰Parsons, op. cit., footnote 3, p. 368.

¹²¹Sacvan Bercovitch, *The Puritan Origins of the American Self* (New Haven, CT: Yale University Press, 1975). See also Boorstin, Op. cit., footnote 51, especially ch. 1.

¹²²Bellah et al., op. cit., footnote 55, p. 220.

¹²³Ibid., p. 222.

¹²⁴Ibid., ch. 9.

¹²⁵As noted by Bellah et al.: "Americans give more money and donate more time to religious bodies and religiously associated organizations than to all other voluntary associations put together." Ibid., p. 219.

1-1984 *Yearbook of American and Canadian Churches* p.(s) the percentage at 59.6 for 1983 and 59.7 for 1984.

¹²⁷Princeton Religion Research Center, *Emerging Trends* (Princeton, NJ: PRRC, 1983)

ing that they were more interested in religious and spiritual matters than they had been 5 years previously.¹²⁸

As society comes face to face with an increasing number of major ethical issues—such as abortion, dealing with AIDS, and genetic engineering—the links between religion and public policy are, again, likely to become pronounced. Already there are a number of indications that people are moving in this direction.¹²⁹ Religious values that have shaped personal perspectives are now being voiced in the political and economic arenas, and organized faith groups are trying to influence public policies on a variety of issues. Public officials and candidates, moreover, are now coming out of the ranks of religious institutions and/or are justifying their behavior on religious as well as social policy grounds.¹³⁰

The problem for society, in this context, is to maintain the requisite balance between diversity and integration. For pluralism in American religion was essentially made possible by a basic underlying agreement about religious values. As Bellah et al. have emphasized:

The fact that most American religions have been biblical and that most, though of course not all, Americans can agree on the term “God” has certainly been helpful in diminishing religious antagonism. But diversity of practice has been seen as legitimate because religion is perceived as a matter of individual choice, with the implicit qualification that the practices themselves accord with public decorum and the adherents abide by the moral standards of community.¹³¹

Because they exhibit both centrifugal and centripetal tendencies, new communication technologies and how they evolve are likely to significantly affect the balance among religious subcultures and be-

tween religious subcultures and the national culture. Although religious activities have traditionally been centered around face-to-face interactions and sacred texts, religious groups have been among the first to take advantage of new communication media to achieve their ends, and they have done so to considerable effect. The evangelical religious groups of the 1820s, for example, were among the first to exploit improvements in printing technologies—faster presses, stereotyping, and machine-made power—to advance their causes.¹³² And remote broadcasts of religious services have been taking place since the introduction of radio in the 1920s. In fact, because religious broadcasting was perceived to be “in the public interest,” most stations and networks offered religious groups some air time on a sustaining (free) basis. *33

To understand how new communication innovations might change how people participate in religious activities, and thus in the larger production of culture, this section will focus on two applications: electronic networks used by faith groups to coordinate administrative and ministerial activities, and religious programming networks that distribute faith-oriented messages.

Electronic Networks

Religious organizations are beginning to use electronic connections to broaden and strengthen communication among their administrators and members. The Presbyterian Church (USA), for example,¹³⁴ operates Presbynet, an online computer communication network that links religious leaders, staff, and lay people and transmits a variety of church-related discussions. Presbynet was created to promote participation in church dialog and to help mend an ecumenical rift within the church, and it was designed with this goal in mind.¹³⁵ It provides toll-free telephone numbers, free connect-time, user-

¹²⁸Gallup Organization poll for the Christian Broadcasting Network, reported in *ibid.*

¹²⁹For discussions, see Kenneth D. Wald, *Religion and Politics in the United States* (New York, NY: St. Martin's Press, 1987); and William F. Fore, *Television and Religion* (Minneapolis, MN: Augsburg Publishing House, 1987).

¹³⁰Wald, *op. cit.*, footnote 129.

¹³¹Bellah et al., *op. cit.*, footnote 55, p. 225.

¹³²Originally local, the evangelical groups centralized their production and distribution activities in New York City because of efficiencies in communicating to the Nation from the leading commercial center. Some even claimed that God had ordained the move to New York. See David P. Nerd, “The Evangelical Origins of Mass Media in America, 1815–1835,” *Journalism Monographs*, No. 88, 1984, for an account of how early religious groups adopted the newest printing technologies to reach everyone with the same message.

¹³³And religious groups were quite successful in their use of the radio. By 1932, there were more than 400 programs. classified by *The Sunday School Times* as “sound and scriptural,” airing on 80 radio stations. *Ibid.*

¹³⁴Many other denominations have similar networks.

¹³⁵Sandra Grear, Director of Communication of the Presbyterian Church (USA), personal communication, Oct. 18, 1986.

friendly software, promotion and support by local church members with computer experience, and even nonelectronic means of learning about what was being said on the system. Most systems consist primarily of a central computer with conferencing and communication software. Using their computers and modems, members can dial the central computer through the public telephone network to share private messages, public announcements and articles, religious ideas, graphic information, and requests for information. The combination of electronic mail, computer conferencing, and bulletin boards is supported by pooled funds.¹³⁶

Electronic networks could provide new opportunities for involvement in church activities. For church leaders and administrators, the networks are a new way to share ideas, discuss common problems, and coordinate activities. Successful programs developed in one area of the country can be shared with peers throughout the Nation and even internationally, cutting costs for all and encouraging efficient use of effort. For lay members, the networks can provide a new set of contacts and make discussions of faith-related issues more accessible. People who are more aware of and active in their church activities have more impact on church actions, and can extend the effects within their own social circles.

Networks can also be used to link church communities of different sects, providing a means for cooperation and ongoing dialog. The networks of a number of religious groups are linked, for example, via Ecnnet, an umbrella network that is sponsored by the National Council of the Churches of Christ.¹³⁷ Conferences range from those having to do with traditional religious functions to those addressing broad social issues. Conference topics are set up by individual participants, and conversations are for the

most part among the lay members of the church, although there is a predominance of those interested in computers and communication technology.¹³⁸

One problem with these networks is that they tend to exclude those who lack the necessary computer resources or are unfamiliar with technology. Thus, some people may become cut off from religious dialog and lose some of their input into church affairs. Moreover, if networks are given precedence over face-to-face and local contact, interactions over the network could weaken ties to local church groups and community, depriving some members of social interaction and the spiritual guidance offered by more traditional forms of interaction.

Religious-Programming Networks

Until the 1970s, most video religious programming consisted of individual shows produced by faith groups to carry their message to the broadcast audience. With the rising costs of video-program production and the growing penetration of cable, a number of cable channels emerged for religious programming. Many of these relied on charismatic evangelists and on-air fundraising until scandals and falling ratings led several of the leading networks to reposition themselves.¹³⁹ Now a number of evangelical networks, such as the Reverend Jerry Falwell's Family Net and The Christian Broadcasting Network, broadcast a wide array of talk, music, and variety shows in addition to evangelical programs.¹⁴⁰ Mainline churches also support program networks like the Catholic Eternal Word Television Network and the Jewish Television Network, and several have recently joined together to establish an interfaith cable network, the Vision Interfaith Satellite Network (VISN).¹⁴¹

Faith groups, then, have taken advantage of the increased channel capacity offered by cable (and other technologies) to reach larger audiences with

¹³⁶Ibid.

¹³⁷David Pomeroy, National Council of the Churches of Christ, personal communication, June 13, 1989.

¹³⁸Ibid.

¹³⁹According to the memorandum, *The Inspirational Network*, circulated by PTL, an evangelical is "an individual who, in addition to having a 'born again,' or 'life changing spiritual experience,' believes in the literal truth of the Bible, has repented of sin and received the Holy Spirit of Jesus Christ, which then literally indwells the individual." Jeffrey K. Hadden and Anson Shupe, *Televangelist: Power and Politics on God's Frontier* (New York, NY: Henry Holt & Co., 1988). According to John Motavelli: "Virtually all the major TV evangelists have faced sharp declines in their popularity since 1980. CBN's Robertson has seen his approval rating drop from 65 percent to 50 percent; Oral Roberts has dropped even more dramatically, from 66 percent to 28 percent; and Jimmy Swaggart has plummeted from 76 percent to 44 percent." John Motavelli, "Born Again: Religious Channels Emphasizing Entertainment to Broaden Appeal," *Cablevision*, Sept. 28, 1987, pp. 20-22.

¹⁴⁰For example, about 25 percent of the Christian Broadcasting Network's programs are religious. "CBN at Age 11 Drops the Classics for Original programs," *Television/Radio Age*, Apr. 18, 1988, p. 34; and "Falwell Backs New Religious Cable Channel," *Electronic Media*, May 2, 1988, p. 3.

¹⁴¹Laura Landro, "As Evangelists Fade on Cable TV, Mainline Churches Claim the Air," *The Wall Street Journal*, Mar. 9, 1988, p. 32.

their messages. Their founders see the networks as a means of reasserting the role of the church in shaping cultural values.¹⁴² Increased contact with audiences could also challenge churches to be more accountable to viewers' current concerns and conditions.¹⁴³

While this opens new opportunities for faith groups to participate in cultural production, it also raises several issues. It is possible that new networks will simply escalate a ratings war among religious broadcasting groups.¹⁴⁴ Interfaith networks, especially if they are backed by powerful cable companies, could replace other religious programming and therefore narrow the opportunities for independent participation.¹⁴⁵ Some church leaders worry that "electronic evangelism" is not true evangelism, but instead "makes religion some thing you can soak up, like a sponge, rather than work at."¹⁴⁶ Some local church officials worry that national or international "electronic churches" will steal members away from local churches, turning members into passive donors rather than activists in local religious affairs.¹⁴⁷ The degree of coordination between local churches and national program producers will help determine the extent to which this phenomenon occurs. *48 Others see churches' increased cultural role as signifying a larger political role as well. Some either feel that religious organizations should not be so involved in politics or fear the specific political stands that such organizations might take.¹⁴⁹ This,

and the profitability of some religious broadcast networks, has raised questions about the appropriateness of tax exemptions for religious broadcasters and politically active churches.

Entertainment and Popular Culture

Although often thought of as a personal activity or a business enterprise, entertainment performs a significant cultural function as well.¹⁵⁰ Like any form of play, entertainment inculcates the predominant cultural values and socializes individuals to execute certain roles.¹⁵¹ In fact, participating in entertainment is a form of ritual. It entails:

. the collective reenactment of symbolic archetypes that express the shared emotions and ideas of a given culture. *52

Participants witness and reaffirm the basic myths and stories that structure their experience, playing them out in circumstances that are familiar or believable to an audience.

Given the critical impact that entertainment can have on the lives of individuals, and on society in general, the creators of content can exert a great deal of influence. For this reason, policy makers, elites, social critics, and social observers throughout history have, in general, paid particular attention to the rules that govern the creation and distribution of entertainment content.¹⁵³ Concerns have been par-

¹⁴²Will Bane, acting manager of VISN, personal communication, June 22, 1988.

¹⁴³Dan Matthews, Trinity Church and Board Chair of VISN, personal communication, June 19, 1988.

¹⁴⁴Peter G. Horsfield, *Religious Television: The American Experience* (New York, NY: Longman, 1984), P. 169.

¹⁴⁵Officials of the PTL cable network, for example, mounted a campaign against the new VISN network to convince cable operators that the new mainstream network was unnecessary. VISN founders see their network as a supplement to, not a replacement for, evangelical networks. "New Multifaith Cable Service Angers PTL," *TV Guide*, Apr. 23-29, 1988, p. A1; "Cable's Vision," *Broadcasting*, Mar. 21, 1988, p. 56; and K. Harold Ellens, *Models of Religious Broadcasting* (Grand Rapids, MI: William Eerdmans Publishing Co., 1974), p. 144. For programming networks, access to the means of producing programs is as important as access to the finished programs. Because the number of cable channels on a system is limited, and competition for carriage on those channels is becoming severe, it is likely that competition among faith groups will increase.

¹⁴⁶Fore, op. cit., footnote 129.

¹⁴⁷Ibid. However, Fore also notes that the audience for religious broadcasts is made up largely of people who are also active church-goers, indicating that electronic churches are more likely to reinforce religious activities than to undermine them.

¹⁴⁸One study found that religious programs mention local churches in one out of four programs, and encourage local attendance in one out of eight programs. George Gerbner et al., "Religion on Television and in the Lives of Viewers," report for the Ad Hoc Committee on Religious Television Research, National Council of Churches of Christ, New York, 1984.

¹⁴⁹Wald, op. cit., footnote 129. See also David S. Broder, "Will Evangelistic Politics Fade?" *The Washington Post*, May 4, 1988.

¹⁵⁰For one discussion of the development of entertainment as a cultural form, see Harold Mendelssohn and H.T. Spetnagel, "Entertainment as a Sociological Enterprise," Percy Tannenbaum (ed.), *The Entertainment Functions of Television* (Hillsdale, NJ: Lawrence Erlbaum Associates, 1980), pp. 13-20.

¹⁵¹See Clifford Geertz, *The Interpretation of Cultures* (New York, NY: Basic Books, 1973).

¹⁵²Michael Real, *Mass Mediated Culture* (New York, NY: Prentice-Hall, 1977), p. 6.

¹⁵³The granting of copyright in England, for example, was originally designed as a mechanism for censorship.

ticularly great with respect to mass media, which allow small groups of individuals to speak to large and distant audiences.¹⁵⁴

Many people were concerned, for example, by the advent and popularity of motion pictures. The 1914 warning of writer, Frederick C. Howe, was typical:

Commercialized leisure is moulding our civilization—not as it should be moulded but as commerce dictates . . . And leisure must be controlled by the community, if it is to become an agency of civilization rather than the reverse.¹⁵⁵

To address such concerns, many municipalities and States set up local censorship boards “to stem the glorification of crime and sex on the nation’s screen.”¹⁵⁶

Not surprisingly, similar concerns about the negative impact of the mass media on American culture continue to be voiced today. The media have been criticized, for example, for fostering consumerism, supporting the “powers-that-be,” reinforcing negative stereotypes, downplaying social issues and mollifying social concerns, and contributing to the decline in popular taste. *57

However, entertainment media are not necessarily or inherently conservative; they can also serve to engender and manage cultural change. By virtue of their power to select and interpret content, media can subtly introduce new, and even controversial, ideas.¹⁵⁸ But, whether or not the media will lead or follow depends to a large degree on the structure of the media industry, how it is financed, and the

relationship of key media industry players with other elite groups in society. Thus Ball-Rokeach and Cantor argue that it is impossible to know what messages will reach an audience without looking at the sociology of the organizations involved in mass Communication.¹⁵⁹ Looking at the United States, they note for example:

... in a free enterprise system as it exists in the United States, those who control the means of communication (for example, newspapers, radio stations, television stations) and the means of distribution (such as networks and distributors) must depend on advertisers and other sources of financial support (such as financiers and international trade agents) as well as creators. To make matters even more complex, they must also depend upon the judicial, regulatory, and legislative agencies to continue to provide a situation that is conducive to their production process. Power over what is shown rests finally with those who own or finance the media, rather than with the individual creators.¹⁶⁰

We find, therefore, that in the United States today there are a number of people who are concerned not only because the media industry is, itself, becoming increasingly concentrated and vertically integrated; but also because the leaders in these industries are becoming increasingly linked and interconnected with other industrial groups. As Ben Bagdikian describes:

A handful of mammoth private organizations have begun to dominate the world’s mass media. Most of them confidently announce that by the 1990s they—five to ten corporate giants—will control most of the

¹⁵⁴For the classic discussion of the differential impact of media, see the work of Harold Innis, op. cit., footnote 11. For an explication and interpretation of Innis’s work, see James W. Carey, “Space, Time, and Communication: A Tribute to Harold Innis,” Carey (ed.), op. cit., footnote 50, ch. 6. For some of the earlier works on media effects in the United States, see Paul Lazarsfeld, *Radio and the Printed Page* (New York, NY: Columbia University Office of Radio Research, 1940); and Paul B. Lazarsfeld, B. Berelson, and H. Gaudet, *The People’s Choice: How the Voter Makes Up His Mind in a Presidential Campaign* (New York, NY: Guell, Sloan and Pearce, 1944).

¹⁵⁵As cited in Czitrom, op. cit., footnote 30, p. 44.

¹⁵⁶James J. Parker, “The Organizational Environment of the Motion Picture Sector,” in Ball-Rokeach and Cantor (eds.), op. cit., footnote 48, p. 146. Although called onto act, the Federal Government did not become involved in censorship until U.S. entry into the World War II. And, in fact, the movie industry took steps to avoid government censorship by promoting a private civic organization, the National Board of Censorship of Motion Pictures, to perform this role. Czitrom, op. cit., footnote 30, pp. 52-55.

¹⁵⁷For some discussions, see Arthur A. Berger, *Television in Society* (New Brunswick, NJ: Transaction Books, 1986); Mark Crispin Miller, *Boxed In: The Culture of TV* (Evanston, IL: Northwestern University Press, 1988); and Ben H. Bagdikian, *The Media Monopoly* (Boston, MA: Beacon Press, 2d ed., 1987).

¹⁵⁸As Thelma McCormack notes, the literature on how the media are used by dominant groups to reinforce socioeconomic divisions and legitimate cultural values is quite extensive. However, there has been much less thorough and empirical investigation devoted to the subject of how, and under what circumstances, media can serve to bring about social change. For a discussion, see Thelma McCormack, “Reflections on the Lost Vision of Communications Theory,” in Ball-Rokeach and Cantor (eds.), op. cit., footnote 48, pp. 34-42. For one study that makes this case, see Elisabeth Noelle-Neumann, “Mass Media and Social Change in Developed Societies,” Elihu Katz and Tamas Szecsko, *Mass Media and Social Change* (London: Sage Publications International, 1981). On the basis of her analysis of the effects of the media in the Federal Republic, the author claims that under circumstances where there is a significant degree of ‘media consonance,’ the media act as agents of change.

¹⁵⁹Sandra J. Ball-Rokeach and Muriel Cantor, “The Media and the Social Fabric,” Ball-Rokeach and Cantor (eds.), Op. Cit., footnote 48, p. 15.

¹⁶⁰Ibid.

world's important newspapers, magazines, books, broadcast stations, movies, recordings and videocassettes . . .

Many of the media magnates also indulge in another form of synergism; interlocks with financial and commercial operations that are affected by news, opinion and popular culture, and which can be either promoted or protected by the parent firm's media. While Capital Cities/ABC, for example, controls the ESPN cable channel, RJR Nabisco, the global food and tobacco company (and an important advertiser with ABC), has a 20 percent interest in ESPN. General Electric, a second-level giant in the media through its ownership of NBC, is a first-rank giant in world military and nuclear reactor production.¹⁶¹

The impact of the media on culture will also depend on the nature of the audience.¹⁶² Audiences are not passive receivers of content, as was once believed. As J.T. Klapper has pointed out,¹⁶³ people tend to interpret content differently depending on their background, expectations, peer relations, and the context in which they are operating. On this point, Karl Erik Rosengren notes, for example:

Mass media use is not independent of other socializing agents. It may, for example, be affected by the shortcomings of other socializing agents—school, for instance, or the family. There is an interaction not only between the individual and socializing agents, then, but also among the socializing agents themselves.¹⁶⁴

People can also exert some leverage in determining the kind of content made available to them. Through their purchases, for example, audiences will show a preference for some forms of media, and some kinds of content, over others.¹⁶⁵ Moreover, individual members of audiences can also join together to lobby media organizations about content,

an approach that has been successful in a number of instances in the past.¹⁶⁶ Audiences also have control over the content they absorb; whether reading a book or watching a film or movie, an audience will be selective in its perception of actions and events.¹⁶⁷

In democratic societies, efforts to promote a diversity of cultural content, and to guard against any one group playing an inordinate role in its development, have focused on structuring organizational arrangements and the relationships among players in the communication system. One way that the government in the United States sought to structure these relationships was by establishing and setting limits on many forms of ownership rights.

New technologies can also restructure these relationships, altering the balance of who can participate, and how, in the production of culture. Two such technological applications will be considered here. One of these, pay-per-view television, could enhance the audience's role in determining content. The other, digital sampling and editing, could reduce the barriers for creators wishing to enter the cultural-production process.

Pay-Per-View Television

Pay-per-view (PPV) refers to the sale of programs to viewers in their homes, on an unbundled, show-by-show basis. Theatrical exhibition and videocassette rentals are primitive forms of PPV, but new technologies are making PPV more convenient. Cable is the most common means of providing it, and about one-half dozen PPV networks are now offering programming to cable systems serving approximately 10 million cable households.¹⁶⁸ In

¹⁶¹Ben H. Bagdikian, "The Lords of the Global Village," *The Nation*, June 12, 1989, pp. 805.815.

¹⁶²For a discussion, see Muriel G. Cater and Joel M. Cantor, "Audience Composition and Television Content: The Mass Audience Revisited," Ball-Rokeach and Cantor (eds.), op. cit., footnote 48.

¹⁶³J.T. Klapper, *The Effects of Mass Communication* (New York, NY: Free Press, 1960).

¹⁶⁴Karl Erik Rosengren, "Linking Culture and other Societal Systems," Ball-Rokeach and Cantor (eds.), op. cit., footnote 48, p. 91.

¹⁶⁵The feedback does not have to be this direct. Tracing the changing content of American soap operas in relationship to a changing audience, Cantor and Cantor note, for example: "In free enterprise under the capitalist system, the important influence on how content is created is who the creators intend to be the target audience (or audiences) of consumers, not necessarily the actual audience(s) attracted to particular programs . . . We do not postulate that there is a direct, immediate, linear causal relationship between the target audience and the content they receive but rather a dynamic interaction based on several different kinds of feedback from the audience over time to the creators." Cantor and Cantor, op. cit., footnote 162, p. 219.

¹⁶⁶For a discussion of the role of media interest groups, see Kathryn Montgomery, "The Political Struggle for Prime Time," Ball-Rokeach and Cantor (eds.), op. cit., footnote 48. As the author notes, minority groups seeking fair representation have had more success than groups such as the PTA that have criticized the media for its overemphasis on sex and violence. She explains this discrepancy in terms of the media's desire to maximize audience size. Incorporating minority points of view may attract new audiences, whereas deleting sex and violence might have the opposite effect.

¹⁶⁷& notion of selective perception was first introduced in 1944 by Paul B. Lazarsfeld et al., op. cit., footnote 154. More recently, many have said that it is less applicable to television because as a medium it is more forceful and direct. For a discussion, see Noelle-Neumann, op. cit., footnote 158.

¹⁶⁸Alan Breznick, "Pay-Per-View Networks," *Channels Field Guide* 1988, November/December 1987.

most of these systems, movies are shown at specified times, and subscribers can elect to pay to receive them at those times.

Ordering and billing capabilities are key to the development of PPV. Many systems employ service representatives who answer subscribers' telephone orders and arrange for delivery of programs; other systems have automated ordering systems. A more recent development is the use of automatic number identification (ANI), a service offered by telephone companies to cable operators that automatically identifies the caller and thereby streamlines ordering and billing. "Impulse" systems provide even more convenience—with addressable converters in their homes, viewers can simply tune into programs and be billed automatically.¹⁶⁹ Impulse systems are more expensive to install, but generate more than twice as many subscriber purchases than nonimpulse systems.¹⁷⁰ As fiber-optic cable is laid to residential households, it will be possible to provide "video on demand"—PPV in which viewers can order content from catalogs, receive programs at their convenience, and be billed automatically.¹⁷¹

PPV is a new means for distributing entertainment content. It could serve, however, as much more than a convenient way to receive programming. It could also give viewers more control, allowing them to be more selective when receiving content. In fact, by all accounts viewers are using new technologies to do just that.¹⁷² Moreover, because these technologies link the user more closely to the media provider, audience feedback with respect to content can be more direct.

In the short run, it is unlikely that PPV will have a direct effect on the range of media content. To date, the greatest demand for PPV programs has been for hit titles readily available in other media, although a few shows aired only for PPV—wrestling matches, fights, and concerts—have attracted small audiences. PPV companies have also experienced some difficulty raising capital, with slow growth putting pressure on their cash outlays and increasing their debt service.¹⁷³ Mergers have been suggested as a solution to these financial problems, but greater vertical integration in the media industry would be counterproductive, serving to impede the development of a wider range of content.¹⁷⁴

PPV might become more popular over time, however. If this were to occur on a large scale, it could undermine the economic basis of network television—advertising.¹⁷⁵ Without advertising, the cost of entertainment would be considerably higher for some, giving rise to issues concerning equity of access. Moreover, a PPV entertainment environment would make the market the final arbitrator of the Nation's cultural needs. While such an outcome would be welcomed by some, others contend that there exists a public interest above and beyond consumer choice.¹⁷⁶

Digital Sampling and Editing

Machine tools enhanced people's ability to perform physical tasks. Similarly, new information and communication technologies will enhance their ability to carry out intellectual pursuits. Among other things, these technologies will allow more

¹⁶⁹The Kanematsu-Gosho's "Sprucer" 300 system employed by the New York Times' New Jersey cable systems is an example of an impulse system. See John Motavalli, "PPV at the Next Plateau: How Big a Business Is It?" *Cablevision*, July 6, 1987, pp. 36-38.

¹⁷⁰Nancy Brumback, "PPV Proves Hot Topic at New England Meeting," *Multichannel News*, Aug. 3, 1981, p. 17.

¹⁷¹In June 1988, GTE filed an application for permission to build an optical fiber testbed to test several video services, including video on demand, in Cerritos, CA. "GTE Files Fiber Test Bid," *Television Digest*, vol. 29, No. 27, July 4, 1988, p. 6.

¹⁷²See, for example, Glen Collins, "From a Vast Wasteland to a Brave New World," *The New York Times*, Mar. 20, 1988. See also Peter Ainslie, "Confronting a Nation of Grazers," *Channels*, September 1988, p. 54. So far, the greatest demand for PPV programs has been for hit titles readily available in other media, suggesting that PPV, at least in the short run, will not dramatically increase the range of program fare. A few shows aired only on PPV—wrestling matches, fights, and concerts—have gathered small audiences, however.

¹⁷³Wayne Friedman, "Expected PPV Merger Provokes Hope, Skepticism," *Cablevision*, Feb. 15, 1988.

¹⁷⁴Most recently, for example, Walt Disney Pictures and Television invested equally (14.3%) with multiple system cable operators American Television and Communication, Continental Cablevision, Cox Communications, Newhouse Broadcasting, Telecable, and Viacom Cable in the New York-based pay-per-view system, Viewer's Choice. "Disney Buys Into Viewer's Choice," *Broadcasting*, June 26, 1989, p. 53.

¹⁷⁵As Jay Blumler points out: "Despite the increased number of viewing options, the amount of time that people spend with television is not very elastic. [This being the case] the audience that one programmer attracts will typically be gained at the expense of some other provider. The chase for audiences is now almost a zero-sum game," Jay Blumler, "The Role of Public Policy in the New Television Marketplace," Benton Foundation Project on Communications and Information Policy Options, paper no. 1, Washington, DC, 1989, p. 9.

¹⁷⁶For a discussion, see *ibid.*; and Victor E. Ferrall, Jr., "The Impact of Television Deregulation on Private and Public Interests," *Journal of Communication*, vol. 39, No. 1, Winter 1989, pp. 8-38.

people to participate in the creative processes and to share the products of their work. As Ithiel de Sola Pool noted:

The technologies used for self-expression, human intercourse, and recording of knowledge are in unprecedented flux. A panoply of electronic devices puts at everyone's hand capacities far beyond anything that the printing press could offer. Machines that think, that bring great libraries into anybody's study, that allow discourse among persons a half-world apart, are expanders of human culture. They allow people to do anything that could be done with communications tools of the past, and many more things too.¹⁷⁷

One particular technological application that may enhance access to the process of cultural production is digital sampling. Digital sampling and editing can be thought of as akin to genetic engineering—manipulating and recombining sound and video images instead of genetic material. In digital sampling, sounds are converted to digital signals that are stored as information in computer files. These signals can then be processed in a number of ways—the pitch, volume, and sequences altered to create new sounds on the basis of the original recording. Digital video images can be similarly processed—items can be moved or removed, faces can be altered, and colors can be changed. With these techniques, existing images, sounds, and performances become more than single performances—they are also the basis for new artistic works.

Computer and video technologies are having such an effect on film editing. With tools such as EditDroid, developed by Lucasfilms, the arduous task of editing thousands of feet of film is simplified by this kind of electronic snipping and pasting.¹⁷⁸ By computerizing the editing process, a film artist can rearrange footage in the same way a writer rearranges words on the word-processor: inserting and deleting images frame by frame; taking those sequences from one place and shifting them to

another; and scrolling through sequences again and again. All this is done in a matter of seconds.¹⁷⁹ As in creating texts or developing online databases and information services, films can also be edited, merged, and re-formed. In the same fashion, old films, stored tape footage, and other archival material can all serve as the basis for new derivative products and creative works.

Electronic snipping and pasting has also altered the world of the still-image photographer. Using laser and computer technologies to scan original photographs and convert them into digital data, one can manipulate the “no-longer-photographic” image in very sophisticated ways.¹⁸⁰ The same technologies can also transmit photographs electronically to printers in remote locations.

The production of music and sound is equally amenable to electronic snipping and pasting. Using the ability to store recording sound digitally and gain increased digital control of that sound, the musician can mix and match not only sounds, but also rhythms and pitch. According to composer Michael Kowalski, these new tools allow for:

... unprecedented access to reproducing, copying and editing sound—an ability to take tiny snippets of sound, anywhere from a twenty thousandth of a second of a sound to the whole piece of music, and manipulate it to your heart's content.¹⁸¹

However, these technological advances also have the potential to damage creators' interests. The same images and sounds that the artist, photographer, or musician has stored to use, manipulate, revise, and reproduce can also be manipulated, revised, copied, and used in a multitude of ways by others, with or without their permission.¹⁸² Some creators worry that a:

... cavalier attitude will develop toward taking whatever you want and doing whatever you want with it.¹⁸³

¹⁷⁷Ithiel de Sola Pool, *Technologies of Freedom* (Cambridge, MA: The Belknap Press of Harvard University Press, 1983), P. 226.

¹⁷⁸Experts point out that film editing is a major component in the making of a film. It can take as long as the shooting itself. A typical finished feature film consists of 10,000 feet of film on 6 reels, the result of as many as 2,000 splices from the original footage. Stuart Games, “Lights, Cameras . . . Computers,” *Discover*, August 1984, pp. 76-79.

¹⁷⁹Ibid.

¹⁸⁰Steward Brand, Kevin Kelly, and Jay Kinney. “Digital Retouching,” *Whole Earth Review*, No. 47, July 1985, pp. 42-47.

¹⁸¹Michael Kowalski, OTA Workshop on Technologies for Information creation, Dec. 6, 1984.

¹⁸²U.S. Congress, Office of Technology Assessment, *Intellectual Property Rights in an Age of Electronics and Information*, OTA-CIT-302 (Springfield, VA: National Technical Information Service, April 1986).

¹⁸³Lauretta Jones and Bonnie Sullivan, graphic artists in New York City, personal communication, March 1985.