

# COMMUNICATIONS TECHNOLOGY—A FORECAST OF CHANGE (PART II)\*

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Part I of this article described innovations in the technology of electronic communications which increase greatly the opportunity of access by the person to his information environment. In Part II, the major public-interest goals of our society in electronic communications are articulated, the extent of achievement of these goals by the established systems of electronic communications is evaluated, and guidelines for greater achievement of the public-interest goals through use of the innovations in communications technology are suggested.

## I

### INNOVATIONS IN THE TECHNOLOGY OF ELECTRONIC COMMUNICATIONS AND THEIR IMPLICATIONS

The perceived information environment is undergoing a great transformation<sup>1</sup> as innovations in the technology of electronic communications provide an opportunity for access by the person to his total information environment. The basis has been laid for the development of information and entertainment utilities for service on the local, national, and world levels. Information of all kinds can be classified and stored in electronic data banks. The computer can organize and retrieve the desired information. Over-the-air, microwave relay, and coaxial cable systems can connect our centers of information into a national data bank and information utility. The space satellite communications system can link the information centers of all nations into a world-wide storehouse of information. Over-the-air and broadband coaxial systems can transmit the information to the home, office, school, business, or other institution.

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<sup>1</sup>The innovations in electronic communications discussed in this section are fully described in Barrow & Manelli, *Communications Technology—A Forecast of Change (Part I)*, 34 *LAW & CONTEMP. PROB.* 205 (1969).

The technology of multichannel, broadband, coaxial cable systems is developing rapidly. Cable systems having a capacity of twenty channels are in operation, and systems having a capacity of sixty channels are anticipated. On these systems the subscriber may receive simultaneously as many channels as there are corresponding terminals. Terminal equipment includes a variety of devices such as television receivers, cathode-ray-tube displays, interrogating typewriters, magnetic tape devices, and facsimile reproduction equipment. Thus, the channels in the cable system may carry many different types of entertainment, information, and services.

Presently, most of the service of cable systems consists of television programming captured from over-the-air broadcasts and distributed by cable to subscribers for a fee. The increase in channels provided by the cable system should result in an increase in television program choices. To the extent that FCC regulation permits or requires, commercial over-the-air television, public and educational broadcasting, and pay television may be integrated into the cable system.

The exciting prospect is for the transmission by cable of many new services. Cable channels will be available to newspapers for facsimile use, and the personal delivery of newspapers to the reader's home lawn may be discontinued. Similarly, mail may be delivered by coaxial cable. Merchandise can be displayed on the cathode-ray-tube terminal, and thus the housewife can shop from her home. To the extent that the credit card has not driven bank checks and money from the scene, the computer may well do so. Business and the professions will develop many additional applications of the computer and cable transmission system. Scholars will conduct raw research through retrieval of information from information storage. Lawyers will reduce their research time through electronic retrieval from data banks of the precedents on points of law. Doctors will send by cable electrocardiograms, electroencephalograms, or x-ray charts to distant medical centers, and they will use the cable further to consult specialists on the diagnosis.

Man will no longer be a passive recipient of information chosen and transmitted by others. There will be available to everyone libraries of filmed and printed material, data banks and computer centers, and a variety of entertainment and information utility services. He will select from these sources the information, entertainment, or service which fulfills his need, taste, or desire. Even more important, he will be able to introduce "input" into the system as well as receive "output." He will be able to carry on video as well as audio communication with any number of other subscribers who choose to leave their receiving terminal open. We are at the threshold of an era in which any person may be a cablecaster and communicate with a significant number of other persons.

The day is not far off when each person will have available and use many new information and entertainment utility services just as he uses the telephone today. It has been possible since 1930 to have facsimile reproduction of newspapers in the home. The system was not used because of the cost factor in a communica-

tions system limited to a single service. However, the development of multi-channel, broadband, coaxial cable systems augurs a proliferation of information and entertainment utility services. As the number of services carried by one communications system increases, the cost factor decreases. Accordingly, it is anticipated that numerous new services will be developed and provided by cable systems in the not distant future.

The potential impact of the electronic communications revolution on our society is great. Exposure of our citizens to their total information environment will accelerate social and political change. The information utility systems will enable the person to increase his participation in the political process and in deciding vital issues. In our early history, the town meeting provided a forum in which citizens contributed to the solution of local problems. Similarly, a modern information grid can enable each person to contribute to decision making at the state and national levels as well as at the local level.

Decision making in our free society has suffered in recent history from the lack of a consensus that priority should be accorded, and adequate resources allocated, to the solution of crucial problems. The moonwalk illustrates what our society can accomplish when the requisite consensus is maintained. Desegregation of the public schools exemplifies the difficulty of deciding vital issues when a consensus is not maintained. Possibly the greatest implication of the electronic communications revolution is the opportunity for participation by each person in decision making. With wise use, the innovations in electronic communications should encourage involvement of everyone in solving our social problems. Our tradition is that if citizens are given an opportunity to participate in decision making, they support the decision forged by competition of ideas in the public forum even though their own views did not prevail. However, if the decision is made by a remote center of control, without an opportunity for public debate, the attempted solution may fail for lack of a consensus. Our problems grow more complex and the time available for reaching a decision shortens. Yet the forum provided by innovations in electronic communications for each person to participate in deciding the crucial issues of his time provides another opportunity to win the race between education and catastrophe.

## II

### THE PUBLIC-INTEREST GOALS IN ELECTRONIC COMMUNICATIONS

The Communications Act of 1934<sup>2</sup> establishes the regulatory framework of electronic communications. Common carriers by wire or radio are required to provide communication service upon reasonable request for "just and reasonable" rates.<sup>3</sup> Unlike telephone and telegraph companies, broadcasting stations are excepted

<sup>2</sup> 47 U.S.C. § 151 *et seq.* (1964).

<sup>3</sup> 47 U.S.C. § 201 (1964).

from common carrier status but are subjected to regulation in the public interest.<sup>4</sup> In addition, the Communications Satellite Act of 1962 created a private corporation and subjected it to public responsibilities in the space satellite communications field.<sup>5</sup>

The public-interest goals applicable to common carriers by wire or radio are economic in character. Most business institutions are regulated largely by the discipline of competition, restraints on trade and anticompetitive practices being prohibited by the antitrust laws. If business institutions are to compete effectively they must have reasonable access to wire and radio communications at rates which are fair and uniform.

In our self-governing society, the most important public-interest goals have been identified with broadcasting.<sup>6</sup> The touchstone of the Communications Act of 1934, as applied to broadcasting, is service in the public interest.<sup>7</sup> From the beginning of broadcasting, there was wise concern that broadcasting might be dominated by a few private interests or the government, and thus a limited group might control public opinion and the political process.<sup>8</sup> To guard against this danger, the Congress adopted a system of public ownership of the channels, private ownership and operation of broadcast facilities, and regulation of broadcasters in the public interest. The licensed broadcaster assumes a fiduciary responsibility to serve the public interest.<sup>9</sup> The FCC has articulated the broadcaster's trusteeship role as follows:

The broadcaster is obligated to make a positive, diligent and continuing effort, in good faith, to determine the tastes, needs and desires of the public in his community and to provide programming to meet those needs and interests.<sup>10</sup>

This obligation is nondelegable.<sup>11</sup>

A major public-interest goal set by the FCC is diversity of program service and viewpoints. Judge Learned Hand observed, in the context of press services, that the progress of a free society depends upon "a multitude of tongues" expressing diverse and antagonistic ideas and that on this way of life "we have staked . . . our all."<sup>12</sup> Similarly, Justice Holmes found that "the best test of truth is the power of

<sup>4</sup> 47 U.S.C. § 303 (1964).

<sup>5</sup> 47 U.S.C. §§ 701-04 (1964).

<sup>6</sup> The public interest in broadcasting is analyzed in HOUSE COMM. ON INTERSTATE AND FOREIGN COMMERCE, NETWORK BROADCASTING, H.R. REP. NO. 1297, 85th CONG., 2d Sess. 53-169 (1958) [hereinafter cited as NETWORK BROADCASTING].

<sup>7</sup> The initial grant, modification, or renewal of a license to broadcast is based on a finding of public interest, convenience, or necessity. 47 U.S.C. §§ 301, 303, 307, 309 (1964).

<sup>8</sup> This legislative history is reviewed in Barrow, *The Equal Opportunities and Fairness Doctrines in Broadcasting: Pillars in the Forum of Democracy*, 37 CIN. L. REV. 447, 449-63 (1968).

<sup>9</sup> FCC, TELEVISION NETWORK PROGRAM PROCUREMENT, H.R. REP. NO. 281, 88th Cong., 1st Sess. 37-39 (1963) [hereinafter cited as NETWORK PROCUREMENT].

<sup>10</sup> FCC, Public Notice B, July 29, 1960, reprinted in NETWORK PROCUREMENT, *supra* note 9, at 157, 167-68.

<sup>11</sup> *Id.* at 165-66.

<sup>12</sup> *United States v. Associated Press*, 52 F. Supp. 362, 372 (S.D.N.Y. 1943).

the thought to get itself accepted in the competition of the market . . . ."<sup>13</sup> The FCC has sought to achieve diversity in broadcasting service through a number of policies. It requires a well balanced program structure,<sup>14</sup> encourages new entry and increased competition,<sup>15</sup> limits concentration of control of broadcasting,<sup>16</sup> seeks to equalize competitive opportunities between components of the broadcasting industry,<sup>17</sup> and prohibits anticompetitive practices.<sup>18</sup> Recognizing that the essence of broadcast service is programming, the FCC has sought to encourage diversity of program service by protecting the free market in programming for the broadcast media<sup>19</sup> and limiting network ownership and control of programming exhibited by the network in prime time or in syndication.<sup>20</sup>

The President's Task Force on Communications Policy has stressed diversity of program service as the major public-interest goal in broadcasting.<sup>21</sup> It pointed out that broadcasting provides relatively uniform programs from a limited number of sources and recommended that the broadcasting industry be so structured that a wide variety of needs, tastes, and interests can be provided for low cost to users and viewers.<sup>22</sup> To achieve this diversity, the Task Force recommended that a balanced accommodation of cable television and over-the-air broadcasting be encouraged.<sup>23</sup> The Task Force did not expressly take into account individual participation in the political process and decision making as a factor in recommending changes in the electronic communications system. However, the Task Force's recommended changes would facilitate greater participation by every individual.

In our free society, sound self-government depends upon an informed citizenry. A viable political process and robust dialogue on crucial issues are essential to sound decision making. The most important public-interest goal of electronic communications should be encouragement of each person's participating to a high degree in the political process and in decision making. This goal has received substantial emphasis through the equal opportunities and fairness doctrines. The former requires that broadcasters which grant use of the broadcast facilities to a candidate for political purposes provide opposing candidates equal opportunities.<sup>24</sup> The fairness doctrine requires that broadcasters present opposing viewpoints on controversial

<sup>13</sup> *Abrams v. United States*, 250 U.S. 616, 630 (1919) (dissenting opinion).

<sup>14</sup> NETWORK BROADCASTING, *supra* note 6, at 129.

<sup>15</sup> *Id.* at 67.

<sup>16</sup> *Id.* at 82.

<sup>17</sup> *Id.* at 76.

<sup>18</sup> *Id.* at 90.

<sup>19</sup> NETWORK PROCUREMENT, *supra* note 9, at 24.

<sup>20</sup> *Id.* at 117.

<sup>21</sup> PRESIDENT'S TASK FORCE ON COMMUNICATIONS POLICY, FINAL REPORT ch. 7, at 2-8 (1968) [hereinafter cited as TASK FORCE REPORT].

<sup>22</sup> *Id.*

<sup>23</sup> *Id.* at 36-48.

<sup>24</sup> 47 U.S.C. § 315 (1964); FCC, Public Notice of Apr. 27, 1966, Use of Broadcast Facilities by Candidates for Public Office, 31 Fed. Reg. 6660 (1966).

issues of public importance.<sup>25</sup> Last term, the Supreme Court held in the *Red Lion*<sup>26</sup> and *RTNDA* cases<sup>27</sup> that the fairness doctrine does not contravene the guarantees of freedom of speech and press. The equal opportunities and fairness doctrines are central pillars in the forum of American democracy.<sup>28</sup>

### III

#### THE EXTENT OF ACHIEVEMENT OF PUBLIC-INTEREST GOALS BY THE ESTABLISHED ELECTRONIC COMMUNICATIONS SYSTEMS

The most important public-interest goals in electronic communications within our free society are provision of a diversity of entertainment programs and a variety of information services at low cost to the viewer and user and encouragement of participation by every person in the political process and in decision making on crucial issues. These goals are achieved only to a limited degree by the established systems of electronic communications.

Broadcasting developed more rapidly and intensively in the United States than in any other country.<sup>29</sup> National advertising support prompted the development of a nationwide, interconnected network system of broadcasting.<sup>30</sup> In a brief span of years, national program service was brought to substantially all people in the country. Public service programming and popular entertainment are provided via simultaneous broadcast to a nationwide audience. The national network also provides communication to all citizens in the event of a national emergency. The broadcast of the moonwalk and Kennedy-Nixon debates informed the people of the nation simultaneously with the occurrence of significant events. A single broadcast of *Oedipus Rex* is viewed by more persons than have seen the play in theatres since the days of Sophocles. An imaginative program for children, such as *Discovery*, may be viewed by fourteen million children. In these and other ways the national-advertising-supported system of nationwide network broadcasting serves the public interest.

On the other hand, there are respects in which commercial network broadcasting is incompatible with public-interest goals in electronic communications. The character of broadcast programming is shaped by the use of media as marketing instruments, primarily performing advertising functions.<sup>31</sup> Advertisers sponsor radio and television programs for the sound business reason that broadcast advertising has great sales impact. This impact is reflected in the advertising cost ratio—the

<sup>25</sup> FCC, Public Notice of July 1, 1964, Applicability of the Fairness Doctrine in the Handling of Controversial Issues of Public Importance, 29 Fed. Reg. 10415 (1964).

<sup>26</sup> *Red Lion Broadcasting Co. v. FCC*, 395 U.S. 367 (1969).

<sup>27</sup> *United States v. Radio Television News Directors Ass'n*, 395 U.S. 367 (1969).

<sup>28</sup> This theme is developed extensively in Barrow, *supra* note 8.

<sup>29</sup> For a description of broadcasting systems throughout the world, see W. EMERY, NATIONAL AND INTERNATIONAL SYSTEMS OF BROADCASTING (1969).

<sup>30</sup> NETWORK BROADCASTING, *supra* note 6, at 663-64.

<sup>31</sup> NETWORK PROCUREMENT, *supra* note 9, at 317-27, 362-84.

cost per thousand viewers who see the sponsor's message. The network system of broadcasting is best adapted to merchandising the products which the great majority of people use, such as soap, cigarettes, pharmaceuticals, food, and low priced automobiles. Hence, network programming usually is pitched to the lowest common denominator of viewer appeal, as determined by audience ratings.<sup>32</sup> Network managers, on behalf of mass-circulation advertisers and advertising agencies, provide programming which fulfills mass-consumer goods' advertising needs. Thus, before a script is written or a pilot is made, the essential nature of broadcast programming is predetermined by the use of the broadcast media as mass marketing implements. The influence of the advertising function has been to bring about serious imbalance in programming, with proven formats becoming stereotypes. Gresham's law operates in network broadcasting to drive out programs of interest to limited audiences and to bring in those programs attracting the maximum number of viewers.<sup>33</sup> The President's Commission on National Goals found that "Thus far, television has failed to use its facilities adequately for educational and cultural purposes, and reform in its performance is urgent."<sup>34</sup>

#### A. Promotion of UHF Television

The FCC purports to seek diversity of program service by encouraging new

<sup>32</sup> FCC, TELEVISION NETWORK PROGRAM PROCUREMENT pt. II, at 13-18, No. 12782 (1965) [hereinafter cited as NETWORK PROCUREMENT pt. II].

<sup>33</sup> This theme is developed in Barrow, *The Attainment of Balanced Program Service in Television*, 52 VA. L. REV. 633 (1966). See also Bryant, *Historical and Social Aspects of Concentration of Program Control in Television*, in this symposium, p. 610.

<sup>34</sup> REPORT OF THE PRESIDENT'S COMMISSION ON NATIONAL GOALS, GOALS FOR AMERICANS 9 (1960). In this report, it is further observed:

"In the field of television we see the problem in its most acute and disturbing form. Here, more than anywhere, there is cause for concern that the level of popular culture in America is being lowered. Third- and fourth-rate material seems increasingly to replace the better shows as the merchandiser reaches out for a wide market. The managers of the broadcasting companies seek the same large audience in order to sell their broadcasting time."

*Id.* at 132.

"[E]ntertainment has almost swallowed up information and education in the operation of the mass media. Television, for example, is fast becoming the Circus Maximus rather than the Forum of American democracy. . . .

. . . .

"Sooner or later we are going to have to face up to the harsh fact that the democratic dialogue is in real danger of being smothered. Plainly we are in need of new rules and techniques for keeping this dialogue alive as an active ingredient in the democratic process. Plainly the mass media offer us a splendid opportunity, which we will lose at peril of losing democracy."

*Id.* at 72-73.

The eminent American psychologist and philosopher, Dr. William E. Hocking, commented upon the erosion of culture by limiting television programming largely to mass appeal entertainment, as follows:

"For an audience that must, at all odds, be held, the reliable biological reactions common to advanced and primitive humanity, some of them common to man and the animal world, become by necessity the chief reliance. Without intention, the radio-TV pabulum becomes weighted in favor of the animal end of the emotional scale; and the incidental education moves not from the primitive to the advanced, but from the advanced to the primitive . . . ."

NETWORK PROCUREMENT pt. II, *supra* note 32, at 37.

entry and promoting competition between the components of broadcasting.<sup>35</sup> However, in practice various actions by the FCC have discouraged new entry and competition. The FCC originally assigned television to the VHF band, limited to twelve channels, rather than allocating it to the UHF band, which consisted of seventy channels. Only after the ABC, CBS, and NBC networks had established firm affiliation relationships with the stations in the VHF band, did the FCC extend television to the UHF band. However, the FCC maintained that it lacked authority to require that receivers be wired to receive the UHF channels. As the set owner was put to the expense of wiring his set to receive UHF signals, and a program service of competitive quality was not available on the UHF, viewers of UHF signals were few. Advertisers were not interested in sponsoring programs for limited audiences, so the UHF was caught in an unbreakable chain of circumstances which prevented its development.<sup>36</sup> It was not until 1964 that legislation was enacted requiring all-channel receivers, and several years will elapse before all-channel set saturation occurs. As a consequence, television has been practically restricted to the VHF channels.

In retrospect, it would seem that the FCC was unduly cautious in denying that it had the power to require that television receivers shipped in interstate commerce be equipped to receive UHF signals. The Commission's express authority to "regulate the kind of apparatus to be used" may well be limited to the apparatus used by the broadcasting stations.<sup>37</sup> However, the Communications Act provides that the Commission shall "Study new uses for radio, provide for experimental uses of frequencies, and generally encourage the larger and more effective use of radio in the public interest."<sup>38</sup> Further, the Commission is authorized to "Make such regulations . . . as it may deem necessary . . . to carry out the provisions of [the Communications Act]."<sup>39</sup> It cannot be doubted that brightening the marquee of the seventy UHF "dark theatre" channels was in the public interest or that development of a viable UHF was impossible without television receivers wired to receive the UHF signals. Certainly, increasing the television channels from twelve to eighty-two would have promoted "the larger and more effective use of radio." The Commission itself has noted:

[W]e are charged under the act with "promoting the larger and more effective use of radio in the public interest" (sec. 303(g)), and obviously, in the discharge of that responsibility, must take every precaution to avoid inhibiting broadcast licensees' efforts at experimenting or diversifying their programing.<sup>40</sup>

The FCC went through the motions of intermixture of VHF's and UHF's, deintermixture, and selective deintermixture, in what were offered as solutions to the UHF

<sup>35</sup> See text accompanying notes 15-20 *supra*.

<sup>36</sup> Barrow & Manelli, *supra* note 1, at 213-14.

<sup>37</sup> 47 U.S.C. § 303(e) (1964).

<sup>38</sup> 47 U.S.C. § 303(g) (1964).

<sup>39</sup> 47 U.S.C. § 303(f) (1964).

<sup>40</sup> Pacifica Foundation, 36 F.C.C. 147, 151 (1964).



problem.<sup>41</sup> However, the obvious solution, the all-channel receiver, was not adopted. A necessary consequence of the failure to provide all-channel receivers was the protection of VHF broadcasters and the three networks serving them from competition with UHF broadcasters and potential new networks serving the UHF.

### B. The Restriction of Pay Television

Congress's mandate to the FCC to *study* new uses for radio and to provide for experimental uses of the frequencies was followed in the case of pay television (STV). However, the result of this study did not encourage the larger and more effective use of radio. In 1955, the Commission authorized experimental subscription television in Hartford, Connecticut. After thirteen years of experimentation, STV penetration was less than 0.75 per cent of the TV homes in the market and, on this basis, some assume that penetration will not exceed one per cent of TV homes in a market served by STV.<sup>42</sup> However, the Commission recognized that "the programming of a single over-the-air trial operation . . . cannot form the basis for completely certain predictions about the programming that would be shown if nation-wide STV were authorized."<sup>43</sup> The FCC has been concerned that subscription television would divert viewers from commercial television, siphon the best talent and programs from advertiser-financed television, and deteriorate the program service of those citizens who are unable to pay subscription television fees.<sup>44</sup> Consequently, rather than "promoting the larger and more effective use" of subscription television, the Commission imposed severe restrictions upon it. The Commission prohibited, for all practical purposes, inclusion of subscription television in a cable television service, since it feared cable television would be transformed into subscription television.<sup>45</sup> Subscription television is limited to the major markets having at least four *advertiser*-supported television stations, and only one subscription television service can be supplied to these markets.<sup>46</sup> Moreover, programs which have constituted a significant part of the service of advertiser-supported television may not be included in subscription television. Thus, feature films released longer than two years ago and sports events regularly televised in the community during the past two years may not be included in subscription television.<sup>47</sup> Candidly recognizing its protectionism of advertiser-supported television, the Commission stated,

<sup>41</sup> NETWORK BROADCASTING, *supra* note 6, at 27-29, 37; cf. Webbink, *The Impact of UHF Promotion: The All-Channel Television Receiver Law*, in this symposium, p. 535, for another "solution."

<sup>42</sup> Amendment of Part 73 of the Commission's Rules and Regulations (Radio Broadcast Services) to Provide for Subscription Television Service, No. 11279, 10 P & F RADIO REG. 2d 1617, para. 64 (F.C.C., 1967) [hereinafter cited as Subscription Television Service].

<sup>43</sup> *Id.* para. 48.

<sup>44</sup> *Id.* paras. 77-114.

<sup>45</sup> *Id.* para. 304.

<sup>46</sup> 47 C.F.R. § 73.642(a) (rev. ed. 1969).

<sup>47</sup> Subscription Television Service, *supra* note 42, paras. 86-94.

We have, through limiting STV operations to five-station markets and to one station in those markets, and through limiting the kind of programming the STV stations may broadcast . . . , taken sufficient steps at this time to protect the existing TV structure.<sup>48</sup>

### C. The Restrictive Promotion of Cable Television

In its initial regulation of cable television, the FCC established a policy, similar to that with regard to subscription television, of protectionism toward advertiser-supported television.<sup>49</sup> However, on October 24, 1969, the Commission amended its regulations relating to cable television in a manner which augurs an extensive development of cable television service.<sup>50</sup> Under the new rules, cable television systems are permitted to originate programming without limitation as to the number of channels, and, after January 1, 1971, a system having 3,500 or more subscribers may not carry the signal of a television broadcast station unless the system operates to a "significant extent" as a producer and distributor of local programs.<sup>51</sup> Cable television systems which engage in "cablecasting," that is, which distribute programs originated by the system or other entity (other than a broadcasting signal),<sup>52</sup> are subject to the equal opportunities and fairness doctrines, including the rules on personal attacks and political editorials.<sup>53</sup> Cable systems are only permitted to present advertising material at the beginning and conclusion of each cablecast program and at natural intermissions or breaks within a cablecast.<sup>54</sup> The new rules do not preclude the use by cablecasters of a network service. However, whether cablecasters will be permitted to include advertising in conjunction with program service supplied by future cablecasting networks has not been finally decided.<sup>55</sup>

The new cablecasting rules do not remove the restrictions on operations of cable systems adopted to protect over-the-air broadcasting stations and the broadcasting networks.<sup>56</sup> These restrictions prevent a cable television system within thirty-five miles of any of the 100 largest markets from importing the television signal of

<sup>48</sup> *Id.* para. 199. Even with these restrictions, the "birth" of STV has not gone unchallenged, and the FCC's power to authorize STV was recently upheld in court. *Nat'l Ass'n of Theatre Owners v. FCC*, 420 F.2d 194 (D.C. Cir. 1969), *cert. denied*, 90 S. Ct. 914 (Feb. 24, 1970).

<sup>49</sup> The history of FCC regulation of cable television and the limitations imposed on this service are described in Part I of this article. See Barrow & Manelli, *supra* note 1, at 238-43.

<sup>50</sup> Amendment of Part 74, Subpart K, of the Commission's Rules and Regulations Relative to Community Antenna Television Systems (First Report and Order), 34 Fed. Reg. 17651, No. 18397 (F.C.C., Oct. 24, 1969) [proceeding hereinafter cited as CATV Rules].

<sup>51</sup> § 74.1111(a) of the FCC's Rules and Regulations, 34 Fed. Reg. 17660 (1969).

<sup>52</sup> § 74.1101(j) of the FCC's Rules and Regulations, 34 Fed. Reg. 17659 (1969).

<sup>53</sup> §§ 74.1113, .1115 of the FCC's Rules and Regulations, 34 Fed. Reg. 17660 (1969).

<sup>54</sup> § 74.1117 of the FCC's Rules and Regulations, 34 Fed. Reg. 17660 (1969). "[N]atural intermissions or breaks within a cablecast" means any natural intermission in the program material which is beyond the control of the CATV operator, such as . . . an intermission in a concert . . . " *Id.*

<sup>55</sup> "[W]e will leave open the question of whether advertising should be permitted in conjunction with possible eventual CATV network operations." CATV Rules (First Report and Order), *supra* note 50, para. 33.

<sup>56</sup> See Barrow & Manelli, *supra* note 1, at 238-43.

a distant television station into one of these markets without obtaining consent of the broadcaster to retransmit the signal. Such consents must be obtained on an individual program basis.<sup>57</sup> The 100 largest markets embrace the great majority of the viewing public. Cable systems operating within a thirty-five mile radius of markets that are smaller than the 100 largest markets, but which have a television station, are permitted to carry the local station and enough additional signals to provide their subscribers with the three network services, one independent station, and nearby public broadcasting stations.<sup>58</sup> Carriage of additional distant signals is prohibited unless the cable system obtains retransmission consent of the originating stations.<sup>59</sup> The Commission justifies these limitations on the ground that to permit cable systems to capture and distribute over-the-air television signals without consent of the originator is unfair competition,<sup>60</sup> and development of UHF stations may be retarded if cable television develops substantially.<sup>61</sup>

The Commission's new rules point cable systems in the direction of developing their own program sources rather than relying upon capture of over-the-air broadcasting signals. However, the new rules restrain the development of cablecasting network services by postponing decision as to whether cable systems may advertise in conjunction with cablecasting network services. Over-the-air broadcasting stations and broadcast network services are amply protected by the requirement that cable operators obtain consent of the originating station to import signals. The development of cablecasting network services should be encouraged—not discouraged—in compliance with the mandate to "encourage the larger and more effective use of radio in the public interest." Permitting cablecasters to advertise in conjunction with network programs as well as programs originated by the cablecasters and independent program sources would enable cablecasters to provide service at lower cost to users and viewers and might well bring cable service within the means of substantially all citizens. In addition, cablecasters can be required to serve local needs, tastes, and interests, notwithstanding the distribution of network advertising, through regulations requiring balanced program service.

The President's Task Force on Communications Policy concluded that broadcasting has failed to fulfill the important public-interest goal of diversity in programming.<sup>62</sup> Further, the Task Force observed that, while cable television offers a promising avenue to diversity,<sup>63</sup> the development of cable television has been retarded by the FCC's imposition of restrictive rules.<sup>64</sup> On the other hand, as not

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<sup>57</sup> CATV Rules (Notice of Proposed Rule Making), *supra* note 50, 15 F.C.C. 2d 417, paras. 31-50 (1968).

<sup>58</sup> *Id.* para. 57.

<sup>59</sup> *Id.*

<sup>60</sup> *Id.* paras. 35-39.

<sup>61</sup> *Id.* paras. 33-35.

<sup>62</sup> TASK FORCE REPORT, *supra* note 21, ch. 7.

<sup>63</sup> *Id.* at 9.

<sup>64</sup> *Id.* at 17.

all persons may have access to cable television or the means to pay for it, the Task Force favored an accommodation of the existing over-the-air broadcasting system and cable systems.<sup>65</sup>

#### D. Participation as a Communications Goal

The President's Task Force on Communications Policy did not consider expressly participation by citizens in the political process and decision making as a public-interest goal. In a free society, such participation should be the paramount goal. The principal distinction between authoritarian and free societies is that in the free society the person has an opportunity to participate in decision making and the political process. Lack of timely dialogue on vital issues is an important factor in the accumulation of divisive problems which so sorely beset our society today. Over-the-air broadcasting has provided valuable news and public affairs programming, and the fairness doctrine has assured a measure of fairness in presentation of controversial issues of public importance. However, under the established system there is no significant forum in which the person can contribute to decision making. This has been a factor in the resort to the street and disobedience by many persons who feel deprived of an adequate forum of communication on such complex problems as race relations, the draft, and the Vietnamese War.

Needs do exist, although for lack of knowledge of the potential existence of a service or good there may be no express desire for it. The medical art of today was no less needed in the dark ages than it is today, but the nonexistent state of the art may not have been desired because it was unknown. Innovations in communications technology provide an opportunity to fulfill needs for information, entertainment, and forums of expression.<sup>66</sup> As information and entertainment utilities are largely in the idea stage and unknown to most people, there may not be an expressed desire for these potential services. Nonetheless, the most important public-interest goal in electronic communications should be the development of such services and provision of them to the maximum number of persons.

### IV

#### UTILIZATION OF NEW TECHNOLOGY IN FURTHERANCE OF PUBLIC-INTEREST GOALS

Part I of this article was concerned with the basic technologies underlying the transmission of electronic communication, and the significant innovations have been reviewed in section I of this Part II. Over-the-air broadcast, satellite communication, broadband coaxial cable, terrestrial microwave, and electronic recording technologies each seem to possess unique characteristics relevant to the public interest goals discussed in sections II and III. It remains for the interplay of market and

<sup>65</sup> *Id.* at 40-48.

<sup>66</sup> *See* pp. 431-33 *supra*.

social forces to determine the relative importance of each means of transmission. But it appears that all of them will become integrated into a cohesive national telecommunications system.

#### A. New Demands on Regulatory Policy

Along with the integration of old and new technologies, it appears that there may need to be a synthesis of various presently discrete legal doctrines and regulatory policies. When the possibilities of broadband coaxial cable, satellite communication, and pre-recorded programming are considered, it appears that the outlets for electronic mass communication may become practically limitless. The ability of individuals or groups to gain access to the mass audience will no longer be limited by scarcity considerations applicable to the usable electromagnetic spectrum. Using the term "broadcasting" in its dictionary sense of "spreading widely," we are probably entering an age wherein everyone can be a broadcaster or, more precisely, a cablecaster. The right to speak will then be limited only by the countervailing right of the recipient to determine what he will hear. Furthermore, the presently recognized distinctions, both legal and technical, between the film, print, and broadcasting means of mass communication will become increasingly difficult to maintain in an age of widespread use of facsimile transmission and electronic television recording. These prospective changes cannot be contained within the traditional legal and regulatory framework. Problems of free speech, censorship, misrepresentation, and defamation will continue to be troublesome. But they must then be dealt with in a manner which takes into account the new realities in the technology for transmission of ideas.

Of greatest significance is the fact that advancing technology is shifting control of the content of the transmission away from the sender and placing it in the hands of the recipient. The proliferation of electronic pathways over which information and entertainment can reach the individual citizen provides alternatives whereby he can exercise much more freedom in the selection of offerings tailored to his interests. He will eventually be in the nearly autonomous position of a person standing before a large news stand filled with competing papers, magazines, and journals. This is a profound departure from the present situation which more closely resembles that of a patron at a motion picture theater who must accept the particular evening's bill of fare or nothing. The selection process will no longer be a passive one resulting from a limited selection. Electronic mass communications will become a two way street, allowing the individual to select the information or entertainment he desires.

The present regulatory philosophy calls for the broadcaster to make a conscientious effort to ascertain and fulfill the programming needs, tastes, and desires of the community he serves.<sup>67</sup> However, even broadcasters who have exercised good

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<sup>67</sup> Public Notice B, *supra* note 10.

faith have been limited by the existing technology essentially to educated guesses arrived at through such means as statistical sampling. Evolving technology has now provided a means of direct registration of the needs, tastes, and desires of the public.

This development, in turn, gives rise to a new debate on the proper definition of "public interest." For example, does that term mean "that in which the public is interested" or "that in which the public would be interested if it were exposed to the information or program service"? That this will not be an idle philosophic debate is indicated by those respectable authorities who have begun to caution that the making of home entertainment and information capabilities more responsive to the wishes and tastes of each individual may be contrary to the public interest. For example, one authority has warned that this new autonomy may encourage parochial and narrow-minded concentration on entertainment and information which responds to the individual's own subgroup loyalties and interests:

A home information service of the kind we may have in 1975 will be primarily a differentiated residential entertainment utility. As such, it is likely to encourage privatization, foster a self-indulgent insulation from disturbing intrusions, and bring a heightening of subcultural preoccupations. The net effect on political participation patterns will then be to divert from service in the general political arena many who instead will either stay comfortably at home, unconcerned and even unaware of the turmoil in sectors of life not screened in their living rooms, or else become activists and militants in behalf of narrowly-conceived group interests rather than community wide benefits.<sup>68</sup>

As further pointed out by the same authority, a more responsive and diversified capability to select what entertainment and information one wishes to receive carries with it the danger that the person might readily terminate any accidental exposure to unsympathetic viewpoints or unwanted information. With the right to hear comes the power to avoid hearing; in its most unattractive light, it can lead to self-imposed ignorance.<sup>69</sup> Such premonitions are unduly pessimistic. Following this reasoning could lead to having only one television channel which could not be turned off. Freedom of speech includes not only the rights to speak and to hear but also the correlative rights not to speak and not to hear. However, in a free, pluralistic society, electronic communications must be used to inform the public and to serve a variety of interests. It is unfortunate that the established system of broadcasting has not adequately served society's informational, cultural, and civic needs. As a result, we now have private, subgroup identification,<sup>70</sup> and a lack of consensus necessary to solve our vital problems. The innovations in communications technology provide the opportunity to serve both the special interests of sub-

<sup>68</sup> Dwaine Marvick, *Some Potential Effects of the Information Utility on Citizen Participation*, paper presented at the conference on *The Information Utility and Social Change*, University of Chicago, [proceedings hereinafter cited as *Information Utility Conference*], Dec. 1-3, 1969, at 2.

<sup>69</sup> *Id.* at 10.

<sup>70</sup> Bartow, *Private Interests*, in *FREEDOM AND RESPONSIBILITY IN BROADCASTING* 53 (Coons ed. 1961).

groups and, through a forum of American democracy, the over-all public interest in the sound solution of public issues and marshalling of a consensus to support the solutions.

It seems too facile an analysis to suppose that the greater selectivity which will be made possible by advancing technology will result in individuals becoming pre-occupied with narrow interests while ignoring the larger public issues. Moreover, this seems to ignore the possibility that the present system, with its limited sources of information and conceptualization of issues and priorities may be producing the very societal fragmentation which is feared as a result of the new technology. It is a natural tendency, and probably a well-founded one, to distrust conceptualizations and views framed by only a single mind or small groups of minds. There is a natural and understandable desire for some wider degree of consensus. It does not seem unreasonable to hope that the advancements of technology will open up the electronic marketplace of ideas in such a way as to improve communication, sharing of views between different subgroups of society, and the achieving of a consensus on the vital issues.<sup>71</sup>

More optimistic speculations have centered on the capability of broadband cable-based informational services to produce a more informed electorate and to facilitate the conduct of both national and local referendums and elections from individual homes (with the results tabulated via computer). The prospect is for a new age of participatory democracy in which all persons and groups may take an active role, and where "the system" is more responsive to the wishes of the people. Under such a forum of American democracy, the people must guard against electronic election tampering<sup>72</sup> and a vicarious democracy or conformist mob rule.<sup>73</sup>

Regulatory policy in electronic communications cannot be based on the fear that new technologies may be misused. In the past, regulatory policy has sought the attainment of as much diversity of opinion and views over the broadcast media as could be achieved under the strictures imposed by the limited available spectrum.<sup>74</sup> Diversity, the maximization of informational, educational, and entertainment choices open to the individual, should be the cornerstone of future regulation. The attainment of this goal will not depend in the future, as much as it has in the past, upon the regulatory imposition of broadcast standards. The creation of information and entertainment utilities, and increased access to and control by each person of his information environment, will render much regulatory policy obsolete and create new regulatory problems.<sup>75</sup> The task for present and future regulation will

<sup>71</sup> Licklider & Taylor, *The Computer as a Communication Device*, SCI. & TECHNOLOGY, April 1968, at 21.

<sup>72</sup> Burgess, *Will Your Vote Count?*, Christian Science Monitor, Dec. 17, 1969, at 2.

<sup>73</sup> Heinz Eilau, *Some Potential Effects of the Information Utility on Political Decision-Makers and the Role of the Representative*, paper presented at the Information Utility Conference, *supra* note 68.

<sup>74</sup> Editorializing by Broadcast Licensees, 13 F.C.C. 1246 (1949); *Red Lion Broadcasting Co. v. FCC*, 395 U.S. 367 (1969).

<sup>75</sup> TASK FORCE REPORT, *supra* note 21, ch. 7, at 40-52.

be to insure that artificial and unjustified barriers are no longer placed in the way of the expansion of the market place of ideas. Such expansion seems the most effective way of insuring that the American people will have access to the full range of competing views.

### B. Public-Interest Goals: Alternative Communications Configurations

In previous sections, the major public-interest goals of electronic communications were articulated. Briefly restated, these are: (a) maximum diversity of sources of information and entertainment; (b) flexible and economical transmission links; (c) freedom of choice for the individual in using the system; and (d) opportunity for the person to participate more fully in decision making and the political process.

As to diversity, the growth of new sources of electronic information and entertainment will closely follow that of the communications links which they will utilize. We can anticipate that once the electronic highways begin to open up, they will soon be busy with traffic. But sound regulatory policy will also have to concern itself with the ability of individuals and groups to gain access to the system at reasonable rates.<sup>76</sup> Minority groups and dissident elements in society must have a means of communication with their fellow citizens.

As to the transmission links, the eventual configuration of the national electronic communications network is a matter of speculation. Indications are that broadband cable interconnections will form the infrastructure of the system.<sup>77</sup> Cable provides a two-way capability, allowing the individual to interact with the system. But there are still many variables which remain to be worked out. Figure 1 represents an integrated communications system providing a number of alternative means by which information and entertainment can reach the home receiver or terminal device.<sup>78</sup>

The satellite system shown in Figure 1 utilizes a ground antenna for reception of the signal with subsequent redistribution to individual receivers. It is of the "community broadcast" type rather than the direct broadcast. Figure 1 does not attempt to distinguish between commercially sponsored, user fee, and public subscription systems of program support.

The most advantageous transmission mode will depend to some degree upon the type of information or entertainment being transmitted. The following are examples:

- (1) Sporting event or news report.
- (2) Variety show or other light entertainment.

<sup>76</sup> Cf. Barron, *Access to the Press—A New First Amendment Right*, 80 HARV. L. REV. 1641 (1967).

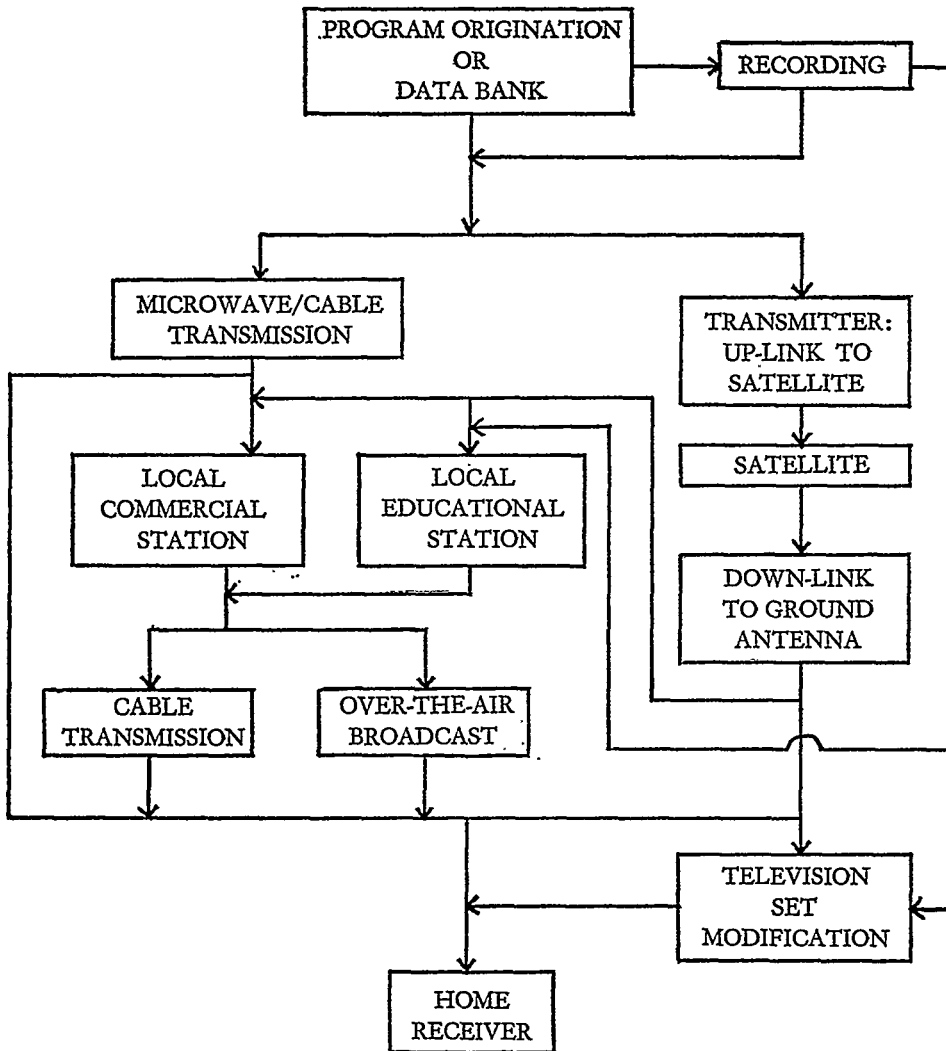
<sup>77</sup> Barrow & Manelli, *supra* note 1, at 238.

<sup>78</sup> Figure 1 is adapted from a chart presented by Joseph P. Lorenz, Office of U.N. Political Affairs, Dep't of State, in *Hearings on Satellite Broadcasting—Foreign Policy Implications Before the Subcomm. on National Security Policy and Scientific Developments of the House Comm. on Foreign Affairs*, 91st Cong., 1st Sess. 149 (1969).



FIGURE 1

## HIGHWAYS TO THE RECEIVER IN AN INTEGRATED SYSTEM



- (3) Cultural event, such as opera or drama.
- (4) Home instruction course.
- (5) Facsimile newspaper or electronic mail delivery.
- (6) Reference to data bank.

In the case of sporting events or hard news reports, in contrast to news documentaries, it seems reasonable to suppose that, because of their immediacy, live

reception would be preferred. This would rule out electronically pre-recorded material. With respect to over-the-air vis-à-vis cable reception, a factor will be the number and use of portable receivers which receive only over-the-air, commercially-sponsored broadcasts. Of course, news and sports programs can be delivered to stationary receivers via cable. These, in turn, could be either commercially-sponsored or charged to the viewer. Viewers who do not mind their news or sports shows being interspersed with commercials will naturally prefer the "free" system. This economic consideration would be disregarded by viewers who prefer a commentator or specialized news service that is only available through the pay system.

In the case of a variety show, or similar entertainment, live reception would probably be less important. Here recorded programming might become important. Reception might be derived from tapes or cartridges physically located in the individual's home library, through purchase or rental, or it might be by means of an electronically coded request to a central data bank. This facility would then play the selected material over the home set via cable interconnection. Live programming could be either sponsored or charged to the viewer. Arbitrarily assuming that most people would not object to commercials with such entertainment shows, the advertiser sponsored system would be favored.<sup>79</sup>

In the case of a cultural event, such as opera or drama, it is desirable to maintain an appropriate atmosphere and to avoid the distraction of commercials. This would induce some viewers to use the subscription television system or, if live performance were not deemed critical, electronic recording of this type of program.

In the case of an electronic home instruction course, or other educational material, significant advantages lie with electronic recording. The individual can then select the specific subject matter which interests him rather than limiting himself to the offerings of the over-the-air educational stations. Moreover, he would thereby free himself from the necessity of conforming to the schedule of a broadcast station. He could review the material at a time which suited him, and rerun it as often as desired. This type of material, perhaps at greater cost, could also be obtained via cable connection to a data facility. The latter source would offer the advantage of a programmed instruction course allowing the individual to interact with the computer in posing questions and testing his understanding of the subject matter.

Through facsimile transmission, it may become unnecessary for letters, newspapers, and journals to be physically moved through distribution channels for delivery to the home. Facsimile transmission can be accomplished either by cable or atmospheric transmission, but considerations of spectrum conservation would probably make cable the favored means of delivery.

The computer or data bank and the home will probably be linked through the

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<sup>79</sup> The latest FCC regulations applicable to cablecasting would appear to permit use of advertising with pre-recorded programming. See CATV Rules (First Report and Order), *supra* note 50.

same cable which brings television into the home. Interconnection with remotely situated information banks might also involve microwave links or satellite relay. The ordinary voice telephone network also can be used for computer interconnection to the home.

The above examples distinguish on the basis of whether the receivers utilized are fixed or portable, the desirability of live reception, the objectionability of commercials, and the desirability of the flexible scheduling available through use of electronic recording. A decision as to the type of system used will depend on many other factors, such as the technical quality of the reception available on the different systems, user rates and installation charges for the various pay systems, and equipment costs for recording playback and facsimile receiving equipment.

The interplay of market forces should disclose quickly specific advantages associated with each of the available transmission modes, and with the commercially sponsored and the user-supported systems of programming. What is anticipated, therefore, is an accommodation of the old technology to the innovations in electronic communications similar to that of the motion picture and radio industries following the development of commercial television. In the early days of television, many feared that motion pictures and radio would not survive. Instead, these media evolved specialized offerings suitable to their own specific characteristics, thereby maintaining their viability.

The configuration of the telecommunications network of the future should be determined largely by competitive evolution rather than by imposed regulatory decisions which protect the established system rather than the public interest in electronic communications. This would indicate a regulatory philosophy which placed greater reliance on market and competitive forces as the best means to develop an optimum system. Some tendency in this direction is found in the recent White House memorandum on domestic communications satellites<sup>80</sup> and FCC actions relaxing restrictions on cable television and microwave.<sup>81</sup>

### C. Preserving Autonomy Against a Communications Barrage

An important public-interest goal in electronic communications is the freedom of choice by the individual in using the system. Regulatory policy should secure for the individual the greatest possible degree of autonomy in deciding how, when, and whether he will use the system. This consideration is far from academic.

<sup>80</sup> Memorandum for the Honorable Dean Burch, Jan. 23, 1970. See N.Y. Times, Jan. 24, 1970, at 1, 51.

<sup>81</sup> "[I]f the public is to be provided with additional program choices and different types of services and chooses to take advantage of them, it appears inevitable that there may be less viewing of the previously existing services. However, we do not think that the public should be deprived of an opportunity for greater diversity merely because a broadening of selections may spread the audience and reduce the size of the audience for any particular selection."

CATV Rules (First Report and Order), *supra* note 50, para. 5. See also Applications of Microwave Communications, Inc., 18 F.C.C.2d 953 (1969).

Noting that cable interconnection would permit questionnaires to be displayed on a home screen, with the individual asked to indicate his answers by a light pencil, one authority has speculated:

A registry of persons would of course greatly simplify the sampling problems in survey research, particularly if information could be kept up to date associating the registry of persons with particular dwelling units. Ideally of course a registry of persons would in some sense or another be keyed to the registry of receiving units for the information utility.<sup>82</sup>

It has, of course, been established that the government can compel the provision of information asked for in census questionnaires.<sup>83</sup> But unsettling questions arise as to the possibility of a government-requested electronic show of hands on various questions. Similar problems arise with respect to electronic referendums where it may be technically feasible to record, not only how many, but *which* citizens have voted for or against a measure.

Similarly, there may be a temptation on the part of some merchandisers of consumer products to secure "electronic mailing lists" tailored to their particular product. These could be compiled by specifying an appropriate profile of occupations, geographic location, entertainment preferences, or intellectual interests. Such a profile could then be programmed into a computer facility with instructions to cull out the names of those citizens who sufficiently resemble it. The prospect here is for "electronic junk mail" printed out over the unwilling individual's home facsimile receiver.

True autonomy for the user of the interconnected telecommunications system would seem to require not only the rights to speak and to hear (or, more correctly, to send and to receive) but the reciprocal rights to refrain from doing so. If an individual sends out a signal for a display of stock market quotations over his home screen, he has not thereby consented to the placing of his name on an electronic mailing list to receive advertising from a brokerage establishment. A technological and legal means is required by which the individual can limit the nature and subsequent use of information he supplies to the system.

The right of an individual to screen out what he does not wish to hear does give rise to concern over a fragmentation of society promoted by self imposed ignorance of the views of others. But the resolution of those fears is not likely to be found in arbitrary limitations on individual freedom of choice. Rather, it appears that the best hope in this regard will be to establish a communications system to which each person will have a reasonable degree of access, over which information, concepts,

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<sup>82</sup> Norman M. Bradburn, *Survey Research in Public Opinion Polling with the Information Utility—Promises and Problems*, paper presented at the Information Utility Conference, *supra* note 68, at 7. A preliminary inquiry, however, is whether the advent of the information utility—rather than facilitating its conduct—will eliminate the need for public opinion polling.

<sup>83</sup> See *United States v. Rickenbacker*, 309 F.2d 462 (2d Cir. 1962), *cert. denied*, 371 U.S. 962 (1963); *United States v. Sharrow*, 309 F.2d 77 (2d Cir. 1962), *cert. denied*, 372 U.S. 949 (1963); 13 U.S.C. § 221 (1964).

and ideas can flow freely, and from which each can take what he wants. Such a resource, together with the ability of the computer to compress and coordinate vast amounts of information, should help hold society together rather than fragment it.

The challenge of communications technology will be to devise means whereby the individual citizen can take full advantage of the widest possible variety of inter-connected informational resources, and, at the same time be able to protect himself against unwanted intrusions into his life. Giving each person access to his total information environment need not entail depriving him of the privacy in which to commune with himself.

#### CONCLUSION

Our founding fathers envisioned a free society in which each person would be encouraged to develop his potential and participate in decision making. The democratic process is undergoing a time of trial. The growing complexity of our problems, the shortening of the time for decision, and the centralization of communications tend to isolate the person from decision making and to discourage his responsible participation in public affairs. The lack of an adequate forum in which the person can participate in decision making has discouraged him from supporting vital decisions reached by centers of control. Accordingly, the consensus requisite to support major decisions requiring long-term implementation is lacking. It has been said that human history is a race between education and catastrophe. Innovations in communications technology have provided another opportunity to win the race. The American people should not be denied the fruits of these innovations through restrictive regulation in the interest of the established systems of electronic communications. Rather, the innovations should be pressed into the service of the public interest. In this way, everyone can be given access for the first time to his total information environment. Each person can be informed and encouraged to participate fully in decision making and the political process. Through such a forum of American democracy, individuals can exercise at long last the role of decision makers which the founding fathers envisioned we should have.