Contemporary Public Affairs

CABLE TELEVISION

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CABLE TELEVISION

I. Its Technical Nature and Potential

From time to time the average person hears mention of cable television. This usually occurs because the city in which he lives or one nearby is having a franchise election. For a brief period people may discuss "the cable," but it is soon forgotten. Even when it is discussed, the conversations do not get far beyond such questions as: "How many channels will we receive?" or "What new kinds of programs will be offered?" Indeed, there are many extremely important questions related to the growth of cable television, but they have little to do with a few extra channels and a wider selection of sporting events. The really crucial questions connected with cable TV are seldom discussed at the local level. After a brief explanation of what cable TV is, we will try to give the readers an overview of these important issues.

What is Cable Television?

Broadcast television and cable television (CATV) compare something like a flood compares with a series of irrigation ditches. Broadcast television inundates the landscape with its signal, and anyone in its "flood plain" who has the proper equipment can pick up the signal. CATV, on the other hand, is a directed signal flow along special routes and within a self-contained pipeline.

The major disadvantage to the flooding method of broadcast television is that it consumes immense quantities of a scarce resource--the frequency spectrum. This spectrum is the relatively restricted range of electromagnetic impulse radiation which is available for any broadcasting activity: AM and FM radio; television; aviation, police, fire and marine broadcasts; space and satellite signals; amateur and citizens' band broadcasts, etc. All of these electromagnetic radiations have to be regulated in such a way that they do not interfere with one another. The television signal, for various technical reasons, needs a large amount of "elbow room" in this spectrum. That is, as you tune along a radio dial there are many stations quite near one another; but were you to tune along a television dial in that same way, you would find only a few stations at well separated intervals. In terms of this scarce resource, the disadvantage comes from the fact that once a television signal is broadcast on a given channel, a notable part of the frequency spectrum is withdrawn from any other possible use for many miles around. Inspection of any state-wide TV guide will give you a rough idea of how this works out geographically. Iowa, for example, is served by multiple stations on the following channels:

Channel	Station locations
3	Ottumwa, Iowa; Mason City, Iowa
6	Davenport, Iowa; Austin, Minnesota
7	Waterloo, Iowa; Hannibal, Missouri
8	Des Moines, Iowa; LaCrosse, Wisconsin; Moline, Illinois
10	Quincy, Illinois; Rochester, Minnesota

It is obvious from these station locations that considerable mileage is needed between transmission points. In general, the economics of broadcasting, i.e., the technical requirements of spacing plus the commercial requirement for a large potential audience, work out so that 75 per cent of all American viewers can receive a signal on only three or four of the 12 possible broadcast channels.

With the directed flow of CATV, the situation is quite different. Since the cable is its own self-contained stream of transmission, the entire countryside is not flooded with a signal and the scarce resource of the frequency spectrum is left virtually unaffected. In addition, within the cable the entire frequency spectrum is available for television transmission. The part of the frequency spectrum which we are discussing is divided up approximately as follows:

Frequency (Megahertz)	Uses of Frequency
54 - 88	Channels 2 through 6 of broadcast television
88 - 174	FM radio, aircraft navigation signals, space research, satellites, fixed and mobile radio, police and fire broadcasting
174 - 216	Channels 7 through 13 of broadcast television

Since the cable is its own self-contained frequency spectrum, nine additional channels can be cablecast in the middle segment, 88 - 174 Megahertz, where broadcast television is prohibited. This is one reason why cable television is able to offer more options to its customers. Beyond this, however, some communities have even strung what might be called a multi-cable. Reston, Virginia, for example, has two cables side by side. The use of such multi-cables could provide a channel capacity of up to 40 or 60 signals - eventually, even more.

The basic components for a cable system are quite simple as the diagram illustrates. The three essential elements are: (a) the equipment to receive a signal, (b) the distribution network to circulate the signal throughout the town or area, and (c) the connections for individual subscribers. The equipment which is needed to receive the signal (A-1) is often only a glorification of the house-top antenna; but in some instances this master antenna must also be adapted to receive microwave transmission. The signals received then go to a building called the "head-end" (A-2) which contains the equipment necessary to refine the quality and boost the strength of the signal. The building and equipping of this first part of the cable system might typically cost about $100,000. The next element is a distribution network which consists of the actual coaxial cable and a series of amplifiers. This segment of the system costs about $4,000-$10,000 per mile depending on the conditions of construction. Finally, there is the connection for the individual customer which consists of a single wire running from the cable to the house. It looks very much like the present telephone service connection. Connection costs might average about $50 each.

The cable system may include a fourth component - a studio for originating local programming (D). This studio can be as complex or as simple as the owners desire. If the local programming consists of old movies, as it does in some places, little more than a television film projector, film, TV camera, and small control panel are needed. If, on the other hand, the studio is to originate color cablecasts of live programs, the equipment will need to be much more sophisticated. The cost of the local programming studio could run up to $250,000.

The Potential of CATV

We begin to see the deeper issues involved in cable television when we ask the obvious question: Given 60 channels, what could we possibly do with them? The answer to this question may hold some revolutionary implications for how we live our daily life. Perhaps the following quotations can give you a picture of the possibilities:

> Cable technology has a potential, however, that goes far beyond increased channel capacity. Two-way communications, home computer terminals, home banking and shopping services, transmission of mail, fire and burglar alarm systems, piped-in music for each home, and other 1984 style communications services can be provided over the same cable that transmits the video signal. Cable television is

> a misleading term, cable communications more accurately defines the technological parameters of this new medium.[1]

Ralph Lee Smith, in a widely read article, "The Wired Nation," makes the following points:

> Together, then, the elimination of channel scarcity and the sharp reduction of broadcast costs can break the hold on the nation's television fare now exercised by a small commercial oligarchy....
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> A second area of great promise was made vivid by an exhibit at the 1968 Annual Convention of the National Cable Television Association. It displayed a home communications center in which the user through appropriate switching circuits could enter into two-way exchanges with local stores, could "dial-a-play," and could have at his fingertips the full information contained in vast libraries. This is no dream. The cable could carry it all, and the technology is in existence, or soon will be.[2]

The full potential of CATV is probably not clear as long as one talks about it as "cable television." One might better talk about what has been called "the electronic highway." The analogy to a highway points up the fact that the present emphasis in this country is on physical movement, the transportation of goods and people throughout the nation. This type of physical movement is currently reaching a saturation point. To comprehend that statement one has only to reflect on the extent to which our social, ecological and financial problems as a nation are intertwined with the need to transport goods and people. These problems include: the place of the automobile in American life, the use of land for highways, the ecological impact of municipal airports, school busing, the regulation of truck size and weight, the number of traffic accidents, the supersonic transport, the development of mass transportation systems, the flow of traffic in a major city, etc. The list could go on and on. The point, however, is that the cost of such transportation in terms of money, resources expended, social and ecological dislocations is only beginning to seep into our consciousness. The electronic highway can provide an alternative means of transportation. That is, a great deal of what we now move around physically could in fact be transported electronically over the coaxial cable of CATV. As Smith put it:

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[1]Charles Tate, ed., Cable Television in the Cities: Community Control, Public Access, and Minority Ownership (Washington, D.C.: The Urban Institute, 1971), p. 19.

[2]Ralph Lee Smith, "The Wired Nation," Nation, May 18, 1970, p. 584.

> For many years the telephone company owned the only communications wire going into the American home. Now a second one, the cable, is poking its way through the walls. And the cable is not just a second wire but one with far greater communications-carrying capacity than the telephone wire. "If a real broadband [coaxial cable] network is ever constructed," says FCC Comr. Kenneth Cox, "its operators could virtually provide conventional voice telephone service for nothing."[3]

In essence the electronic highway could be a single, unified network for all sorts of messages. What are now separate systems-telephone, telegraph, television, data transmission-could be collapsed into a single information flow network carrying simultaneously both the spoken and the visual dimensions. Within this system, all the printed matter now moved physically could, for example, move electronically. The mail, magazines, newspapers, books, business reports, medical data, financial exchanges, etc., could all be transmitted by facsimile reproduction. Business conferences could be arranged by electronic interconnection. Children could receive a great deal of their formal education at home. Many of the routine "trips in the car," those involving the need to see something or someone, could be eliminated. Shopping, for example, could be done this way with the actual products delivered later. Certain types of jobs, those which involve only the manipulation of information, could allow a person to "go to work" without ever leaving home.

Just as the factory and the automobile brought us out of our small, decentralized towns to live in huge, urban centers, the electronic highway affords the promise that we may be able to disperse again across the face of the country while we maintain our new interconnections electronically. To make the electronic highway a reality technologically one needs only to link the various local cable systems. This could be done in several ways: by direct wire, by microwave, by satellite. And its demand on our energy resources would be much lower than the modes of transportation it would replace. Ultimately, the potential for impact on the life-style of the nation all but defies description.

The problems of creating the electronic highway are not technological, they are socio-legal. These are the primary issues we will explore in relation to cable television, which, as was observed earlier, should more properly be called "cable communications."

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[3]Ibid., p. 599.

DISCUSSION QUESTIONS: Section 1

1. When you have heard people discussing cable television what are the sorts of issues that they talk about?

2. Have you ever considered the electromagnetic spectrum as a scarce resource? What reasons, if any, can you find to question the use of such a significant portion of it for commercial television? What more fruitful uses, if any, might there be for that scarce resource?

3. What advantages and disadvantages can you think of for replacing broadcast television with cable television, that is, of gradually putting all television signals on a wire transmission basis?

4. Compare your experiences with cable systems.

   What sorts of alternative programming is offered?

   What local programming is offered?

   What additional services are available?

   How good is the quality of the signal?

   What are the costs to the subscriber?

   What change, if any, does the cable seem to make in peoples' viewing habits?

5. Discuss the implications of the "electronic highway."

   Apart from the things it can do, what disadvantages might there be in implementing such a system?

   What would be the effect on the family if the children "went" to school partly via cable so that they were, in physical fact, present in the home two or three days during the week; if one or both parents "went" to work in the same fashion? Would the effect be the same in a rural area? a medium sized town? a major city?

   What would happen to cities if shopping could be done without visiting the store? Where would the stores themselves be likely to locate? What would they look like? What would happen to such concepts as "downtown" or "shopping center?"

If it becomes less necessary to leave the home for extended periods during almost every day, what will happen to the home? What shape will it take? Where will people prefer to live?

How will people meet one another and interact with one another from day to day if jobs, schools, shopping, meetings, etc., bring them together less and less?

What other major aspects of our lifestyle are likely to be affected, and in what ways, if the "electronic highway" becomes a reality?

Talk again about the advantages and disadvantages of the "electronic highway."

II. CATV and the Local Community

One obvious advantage of CATV is that it can better serve a local area. The greatest weakness of broadcast television may be its inability to focus on truly local service and the local marketplace. Because of the floodlike effect of its signal, a broadcast television station must be conscious of serving an entire section of a state. CATV has a more narrowly defined audience and is therefore capable of more focused programming. So far, however, this is much more a possibility than it is an existing fact. The mainstay of the cable to this point has been the re-transmission of commercial broadcast stations. Local program origination, where it does exist, has not been characterized by its creativity.

Many cables use one or more very simple cameras with which they scan a fixed information package. An example of this is a channel giving weather information. In front of the camera are instruments for recording temperature, barometric pressure, relative humidity, amount of precipitation, wind velocity and wind direction. The camera simply focuses on each instrument for a few seconds. This rotation goes on without break all day long. Another channel may be doing the same basic thing to scan stock market reports, and a third could scan a large board on which are posted a series of local "buy, sell, and trade" ads. One California cable, at least for a time, did nothing but show old movies as its local programming.

There are obviously many more useful ways in which local programming could be of service to the community. One which is often discussed is crime detection and prevention: areas with a high incidence of crime could be kept under constant surveillance from one central location via the cable. Traffic control is an allied use. Los Angeles already has an interconnected system of TV monitors, road bed sensors, road side warning signals and a computer with which they try to prevent accidents and speed traffic flow on major freeways.

There is almost no end to the types of local educational and service programming which could be offered on the cable, especially if the cable has a two-way voice connection. Even in cables without that capacity, questions could be fed back to the originating point by telephone. For example, many communities already offer classes for expectant mothers or classes in post-natal infant care. Such classes could be taught via cable communications allowing mothers to receive this training much more conveniently within their homes.

Another group with limited mobility and for whom service might be offered is the elderly. They could use CATV as a way of communicating with and helping one another. A futuristic example of this has been suggested by one author:

> A more advanced device...adds a microphone and camera to this telephone dial, allowing groups of people to "get together" and talk to each other by dialing the same channel. For perhaps $1 a minute--one estimate is as low as 6.5 cents--half a dozen people could have a business conference or a bridge game (complete with kibitzers) over cable television.[1]

Although the technical equipment for this possibility already exists, there are many more practical services which could be made available through cable television long before the system becomes this sophisticated. For example, widowers, whose diet has suffered because of the loss of their wife, could be talked through simple meal preparation once or twice a day by other older persons who are experienced cooks. A shopping list could be given to them early in the week. To it they could add their own preferences and then shop at the supermarket via the cable. Later the groceries would be delivered, thus saving the additional difficulty of a trip to the store for these older persons.

The list of uses by the local community that could be generated is almost endless. Library services could be made available over television on a request basis. Adult education classes could be run on the cable. People might even attend church via cable. Since a perennial problem for local community groups has been to get participation from the citizens, it is possible that cable television could offer a means for increasing that participation. Meetings of local importance could be cablecast directly into the home. At present local governing bodies such as city councils and county boards of supervisors are required to have their meetings open to the public. In those communities where the facilities existed, it would take almost no extra effort to put such meetings on the cable. Thus, the citizen in his own home could follow the proceedings of such groups as the city council, the zoning board, the county conservation commission, the school board, the PTA, any number of official and quasi-official groups.

In addition to simply following the meeting, it will be possible to have feedback from the viewer to the meeting. This feedback could take the form of actual questions and answers or, more likely, it could be in the form of a straw

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[1]Jerrold N. Oppenheim, "The Wonders of Rewiring America," Current, Sept. 1972, p. 4.

vote. The viewers could be equipped with a button-type indicator to push for voting. Thus, when the discussion at the meeting reaches a certain point the participants can call for a straw vote from the viewers, i.e., "all in favor of the resolution indicate that by pushing your response button." The "aye" votes and the "nay" votes could be automatically tabulated and fed into a digital display device giving an almost instant reply in terms of citizen preference. The result would be a sort of electronic New England Town Meeting.

Such a system, even though desirable in terms of dissemination of information and response to that information, has disadvantages. Such instant feedback may lead to overly quick decisions which do not allow enough time to consider the alternatives or the implications for certain courses of action. Also there is the possibility that the response might represent a very biased sample of public opinion. For example, certain groups may be systematically under-represented among cable subscribers. The poor would be one such group. There may be others. The timing of the meetings may systematically exclude some, such as those who work evenings. And others, such as property owners may be over-represented because of a vested financial interest.

One specific aspect of CATV and the local community which may become controversial involves the relation of the cable to minorities. Charles Tate has observed how closely linked CATV and the struggle of the minorities are:

> Because of the more sophisticated and complex structure of racism and decision-making in urban governments, community control has become the dominant theme in the struggle of urban minorities for social justice. Community control challenges white control of those institutions that operate in and serve predominantly black communities. Through these institutions, whites exercise control over the resources needed for local development....
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> Community leaders and organizations are now faced with a new challenge in their efforts to achieve community control. Cable television, a futuristic communications system ideally suited for community control and local programming, is on the verge of broadscale expansion into the cities and ghetto communities. This development could provide the leverage needed by local communities to achieve a much greater degree of independence and self-determination or it could seriously weaken the movement. Cable television will have a decided impact one way or the other....

> Cable television may be the last communications frontier for the oppressed.[2]

Highly localized mass media have the ability to counterbalance the trend toward the massification of culture in the United States. This trend toward massification, by which we mean the development of homogeneous belief and behavior patterns so that there remains little cultural variability throughout the country, is one of the strong elements in what racial minorities identify as white racism. The mainstream of American life is perfectly willing to accept a minority member who will give up his cultural distinctiveness, but it has much more difficulty with a minority person who wishes to retain his culture. Broad spectrum media must focus their content on the mainstream and only occasionally carry programming for minorities. Localized media, however, can reinforce cultural diversity. One has to do no more than listen to a radio station in the Ozarks or to "soul radio" in order to understand how this reinforcement works. It is important to note in this context that "minorities" include not just Blacks, Chicanos, Indians, Puerto Ricans, Orientals, etc., but also those who live in a rural setting and wish to keep alive a distinctively rural way of life. It refers to the sorts of ethnic groupings found in Iowa: the Norwegians at Decorah, the Czechs in Cedar Rapids, the Dutch in Pella, all of whom possess a particular heritage that they wish to preserve. Beyond this it includes the sorts of regional diversities, the South or New England, through which the country has historically been enriched.

It would be misleading to infer that cable television's only potential is for the betterment of the local community. This is not the case. CATV could damage our way of life as well. One possibility which comes into the community along with the cable is that of citizen surveillance by governmental agencies. This subject will be brought up more directly in the next section. There is, however, an even deeper, almost moral dilemma, which is involved in the creation of the wired nation. Virtually no one speaks about it, but the danger is very real. Once we have achieved the technical feat which CATV offers-that is, once we are able to shop by cable, visit with our friends by cable, receive books and mail by cable, once we are able to "send" our children to school by bringing the cable classes into the home, to "go" to work by holding business conferences over the cable, and to "attend" meetings via cable-will we become freed of many burdens, or will we become prisoners of a new interpersonal isolation? This question is an

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[2]Charles Tate, ed., Cable Television in the Cities: Community Control, Public Access, and Minority Ownership (Washington, D.C.: The Urban Institute, 1971), pp. 16-17.

exceptionally serious one. When we look, with a half century of hindsight, at what the development of the concrete highway has done to our interpersonal interaction patterns, we can only vaguely guess at what effects the electronic highway may have. Will it actually cause us to live in a more spacially dispersed pattern, or will cities simply become places where more people spend more time behind locked doors? Will it allow those who can afford it the opportunity to escape out beyond even the suburbs, while the poor will inherit cities filled with electronic surveillance paraphernalia? Will it give the fractured urban family time and a place to grow healthily, or will family life become more isolated and more pathological? These questions are not seriously being discussed. But they need to be discussed if we are not to blunder blindly into another period of unforeseen social change and upheaval.

Another question which relates to CATV and the local community is advertising. Actually the cable can already carry some limited advertising, but the question is whether it should be opened up to advertising in a major way? Many people will react to this question with the expressed hope that it will be advertising-free. However, Smith makes a point worth considering. If the cable is allowed to carry advertising:

> In at least one sense, this can be regarded as a benefit. Few small merchants and local businessmen can afford over-the-air TV advertising, a circumstance that favors big merchants and the national giants. Cable advertising is much cheaper, and the advertiser, like the candidate for office can reach his exact local community.[3]

The high cost of TV time not only favors the large corporation in the business arena, but it also favors the wealthy politician in the political arena. The cost of cable time is so much less than the cost of air time, conceivably only a few dollars an hour, that it could greatly reshape political financing as it has developed since the first "TV election" in 1952.

The matter of advertising, however, is a two-edged sword. To admit large scale advertising to the cable may create an economic interest which works against opening up a large number of channels. Under the present commercial system, television stations are, in effect, selling groups of viewers to their advertisers. The program content is

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[3]Ralph Lee Smith, "The Wired Nation," Nation, May 18, 1970, p. 590.

the "bait" which gets the viewer to turn on the set so that he can be sold to an advertiser. Roughly, the per capita cost of buying a group of viewers increases as the size of the group increases, i.e., if the size of the viewing group doubled, the cost of advertising to them might triple. This, then, means that broadcasters do not want to further subdivide audiences by offering them more channels to view. Of course, for the technical reasons discussed earlier, there are not many broadcast channels which can be offered. But with the cable's multi-channel ability the size of a commercial station's audience can be threatened. If cablecasters are given the same system of profit possibilities from advertising, then their interests will be the same as broadcasters. Neither will be very eager to see new channels made available.

At present it may not be necessary to admit advertising to the cable since it is primarily a re-transmission medium. Currently 95 per cent of CATV revenues come from the monthly charge and service fees. This provides an adequate financial base for current services. However, as promised services increase, so will the cost of that service. If the cable is opened to advertising as a supplemental source of revenue, this could be done in some carefully controlled fashion. The Federal Communications Commission (FCC) rule that any advertising accompanying a cablecast movie can only be inserted at existing breaking points in the film as it was originally released is one example of such control. The British custom of televising a whole series of commercials in a separate time slot is another example. The European custom of not allowing sponsorship could be adopted; that is, advertisers would not be allowed to associate themselves in any way with the program material. This would place television commercials in the same relationship to programs as newspaper ads now are to the stories carried by the paper.

Another major problem facing the cable is its association in the mind with commercial broadcast television. Despite its much broader communication possibilities, most people tend to approach CATV as television and thus tend to think about its organization in terms of the organization of broadcast television. This might not be too great a constraint were it not for the fact that most Americans have only experienced one organizational possibility for broadcast television. They may not even be aware that there are other ways to structure broadcast television. In Europe differing structural patterns exist.

> In most of Europe broadcasting is regarded as a public service, whereas in the United States the broadcasters refer to themselves--and usually act--as an industry. The fact that in most European countries broadcasting developed originally as a government-sponsored noncommercial monopoly is undoubtedly the basic reason for this emphasis

on service, just as American broadcasting was molded by its competitive and commercial nature....

Monopoly has both its good and bad aspects. It is conducive to balanced and supplementary rather than competitive programming. Network one can play symphonic music while network two is attracting the majority audience with a sports broadcast. On the other hand, it may explain a lack of initiative in devising new program services. Without the spur of competition, policies may develop without reference to the interests, needs, and limitations of the audience. In the United States, on the other hand, there usually is too much concern with the audience: ratings and profits become the main consideration. In Europe monopoly appears to have had more good than bad results, although there is a constant need to guard against the complacency that may follow from a lack of competition.[4]

To a certain extent the British, for example, have solved the problems of innovation by having an experimental channel which has as its role the development of new formats, shows and approaches.

Another major point of difference is that Europeans usually have less broadcast outlets to choose from than Americans. We have three networks. Large countries in Europe usually have two. Small countries may have only one. They do, however, have the possibilities of receiving the networks of a neighboring country which is not a large consideration in U.S. television. In general, Paulu observes:

> Despite fewer stations than the United States, European broadcasting achieves wide diversity in its programs.... Since all networks and stations usually are controlled by a single organization, balanced and supplementary rather than competitive programming is the objective. Consequently, European audiences often have more real chocies than do those in many American cities. One reason for this is that radio has not been reduced to the music and news format so dominant in the United States....
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> The European services have much greater resources and offer a full range of programs from light entertainment and sports to news, serious drama, and all types of music.
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> On the whole, program quality is high. Great emphasis is placed on news....

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[4]Burton Paulu, Radio and Television Broadcasting on the European Continent (Minneapolis: University of Minnesota Press, 1967), pp. 238-239.

> The European record with educational and children's programs is superb. Most daytime hours on television and many on radio are devoted to programs for use in schools, in addition to which many educational, cultural, and documentary features are broadcast almost every evening at peak hours.[5]

The freedom of information flow within a system is a question which usually is raised when comparisons are being made of alternative systems for organizing broadcast TV. It is often presumed that within a state-owned system the flow of information is controlled, and that within a private enterprise system the flow of information is free and open. Smith challenges this latter assumption by expressing surprise that the whole structure of television in America has never been charged under the First Amendment with the suppression of free speech. To many Americans that suggestion itself would come as a great surprise. They would consider free-enterprise TV as a bastion of free speech, not as its enemy. How can Smith (and others) make such a charge? His argument flows as follows. The part of the electromagnetic spectrum which is used by television is in the public domain. In the late 1940's and early 1950's when the spectrum was being allocated there were many potential interests who could have laid claim to it, and commercial broadcasting was only one of many; others included government itself, educations, business and commercial interests, nonprofit public programming groups, labor, religious groups, fraternal groups, etc. However, the existing commercial radio interests and the radio networks were given the entire segment of the spectrum. In the words of the Americans for Democratic Action: "electronic technology under laissez-faire economic dominance has denied the rights of the people to unabridged speech, press, and assembly in the dominant media of our generation."[6] Instead that entire medium has been turned over to what Smith calls the "broadcasting oligarchy."

> It has had at least two notable effects. First, and catastrophically serious, a nation beset by multiple crises has been deprived of its most potent medium of communication, a medium it could have used in the service of its overwhelming social needs. Second, the content and emphasis of the programming designed by the powerful few to deliver the public to the advertiser may have made at least some of the social problems worse. On the one hand, there has inevitably been, as [Harry J.] Skornia [professor of communications at Northwestern University and author of Television and Society] puts it, an "authoritarian imposition of attitudes and values manufactured by the business

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[5]Ibid., pp. 239-240.

[6]Quoted in Smith, "The Wired Nation," pp. 604-605.

community." On the other hand, in the words of a recent statement by the National Citizens Committee for Broadcasting: "The great majority of broadcast programs are devoted to vulgarity and violence.... We believe this inferior programming on commercial TV and radio undermines our society...."

Capturing the VHF spectrum for private exploitation was an impressive achievement by perhaps the most powerful of Washington lobbies.[7]

Is there a solution to this problem? Are there any alternatives to state-owned or free-enterprise (in the sense of laissez-faire) broadcasting or cable communications? It is this question which the next unit on ownership, regulation and control must address.

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[7] Ibid., p. 593.

DISCUSSION QUESTIONS: Section 2

1. To what extent do the broadcast television stations in your area serve the community in which they are located? To what extent do they serve local communities in their area other than the one in which they are located? Compare with the service offered by a more localized radio station.

2. What sorts of original programming have you observed on cable television? Compare these to the locally originated programs on broadcast television.

3. Besides the examples mentioned in the text, what sorts of service could a localized CATV system offer in your area? Are there any recent or current local problems to which it could make a positive contribution? How could it contribute? What local groups, besides new mothers and the elderly, could CATV serve? How?

4. If television time were made available for educational purposes, would it actually be watched by many people in your area? If an educational television is already broadcasting in your area how often is it viewed? What sorts of "education" would people watch; that is, what are the things which they might really want to learn about? Are there resources in the local area to fill these needs? Who should decide what the actual programming should be? How could one insure that the things people really wanted to know about got on the air?

5. Are there any minorities, in the sense of both ethnic minorities and other minorities, which CATV could serve in your locality? What groups? How could CATV be of service? Could special channels be opened for any of these groups?

6. To what extent is the danger of a new level of personal isolation a real one? Could a wired nation serve to make people even more distant from one another? In what ways? How does this problem relate to the fear many people already have of being on the streets? In what ways can this danger, if there is one, be limited or eliminated?

7. To what extent is CATV likely to create an even larger gap between the affluent and the poor? In what ways can it increase (or lessen) that gap?

8. How do you feel about the question of advertising on CATV? What pros and cons do you see? If you have seen educational television, comment on and compare reactions to their advertising policies.

9. In looking at the material on how broadcasting operates in other countries are there any lessons that could be applied to American broadcasting?

10. Having seen some alternatives for organizing broadcast TV, what alternatives do these suggest for the organization of CATV?

11. Does the present organization really abridge the right of free speech and assembly for large portions of the population? If so, how can this be avoided when organizing CATV? If not, how would you counter the argument of the Americans for Democratic Action?

III. Ownership, Regulation and Control

There are several reasons why the questions of ownership, regulation and control of CATV are important. The first is the cable's influence potential which we have already stressed. The second is the profit potential. The third reason is its inherent tendency toward monopoly.

Relative to this last point, whenever a cable franchise is sought in a local area, it is a "non-exclusive franchise." Since the franchise is for the use of public streets and property for cable right-of-way, the primary meaning of the non-exclusiveness is that power and telephone lines won't be excluded from using that same right-of-way. Secondarily, another cable television firm could use the right-of-way as well, if they could get a franchise to do so, but this is unlikely. CATV tends toward monopoly for the same reason that any public utility tends toward monopoly: service is on the whole more efficient, consistent, and economical when supplied through a single source.

The comparison between CATV and the other public utilities deserves to be more fully explored. Earlier in its history CATV was seen as analogous to the broadcast television industry. It was for that reason treated as if it were a private enterprise. As experience with the medium continues to grow there has been some change in this view. By early 1972 seven states, Massachusetts, Connecticut, Rhode Island, Vermont, Illinois, Nevada, and Hawaii, had begun to regulate CATV as they would a public utility.

Generally, public utility control grew historically out of the possibilities for excessive profits if rate charges were not subject to regulation. There is some evidence that the same sort of situation already exists with CATV, though much of that evidence is more by inference than by direct knowledge. Barnett and Greenberg state that "In 1963 the $5.00 [average monthly charge for service] was sufficient to permit average profits of 57 per cent (before interest, depreciation and Federal tax) for a group of 28 CATV systems."[1] Their 1968 figures indicate that on the average a monthly charge of $1.10-$1.50 (plus an installation fee) would be sufficient to build the system and allow a reasonable profit on the capital. It should be remembered, however, that such cost estimates are based on the cable's

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[1]Harold J. Barnett and Edward Greenberg, "A Proposal for Wired City Television," Washington University Law Quarterly, MCMLXVIII (Winter, 1968) 19.

present level of service. This cost picture can be expected to change as the level of services offered rises.

In addition, the rapid tax depreciation of a system can bring in even larger profits over the short run. Smith, talking about a particular example, says:

> If the hypothetical system were sold for $300 per subscriber, it would bring...almost three times its original cost. In practice, that often happens. The operator sets up a system, runs it for about five years while depreciating it rapidly, paying little or no taxes and pocketing hundreds of thousands of dollars. He sells it at an enormous profit to another person who is free to repeat the process.[2]

Oppenheim quotes Dun's Review as saying that cable television investment has "high profit, little risk and eye-popping depreciation."[3] He also notes:

> One proposal for CATV system ownership promises a return to the investor of 650 per cent on his investment when the system reaches a saturation of only one-third of its monopoly market [i.e., when one-third of the homes that could be served are connected], and that does not include profits from operation. This is to be achieved by a combination of tax strategies and capital gains from selling the system. If the system were sold at the end of 10 years, its owners would realize an annual profit of at least 65 per cent.[4]

One of the early CATV systems in Iowa charged an installation fee of over $100 plus a monthly charge of $3 to $5. In light of what we now know, it is likely that the first few thousand customers paid entirely for the cost of setting up the system, leaving only operating costs to cut into the profit of all subsequent income.

Smith also quotes an October 1968 report by the investment research firm of Drexel, Harriman, Ripley which says: "A system operator might reasonably expect to achieve a pre-tax margin of 30 to 35 per cent."[5] The report goes on to observe that extra fees can be charged to customers. "The addition of these services might conceivably mean a doubling or tripling of subscriber fees in time."[6]

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[2]Smith, "The Wired Nation," p. 587.
[3]Oppenheim, "The Promise of Cable TV," p. 8.
[4]Ibid., p. 8.
[5]Smith, p. 587.
[6]Ibid., p. 587.

These economic reasons, in themselves, offer abundant justification for the struggle to get a slice of the CATV pie. But in the long run they are not the crucial reason for the intense interest in ownership, regulation and control. The prime reason again comes back to the powerful social influence which the medium can be expected to exert. An Iowa City Press-Citizen editorial put it succinctly when it said:

> As long as the system consists of little more than a long wire to your house from the big antenna on a hill plus a camera focused on a thermometer, ownership and control makes little difference.
>
> But when the system develops a sophisticated local origination capability and a capacity to carry signals from the home as well as to it, ownership and control become of paramount importance.[7]

Thus, rate control is only one aspect of the regulation of CATV. All of the questions of freedom of speech, governmental influence, etc. bear on this new communication medium as well. Since the major regulator of the cable thus far in its history has been the Federal Communications Commission (FCC), let us take a look at the shape of that regulation.

Regulation of CATV

Cable television has been around since the late 1940's, but the question of regulating it did not receive explicit attention from the FCC until 1959. At that time the commission stated that it could find no basis on which to regulate a system which was essentially self-contained and not using the public airways. Within three years, however, that first decision began to be modified. In 1962 the FCC took action to regulate the Carter Mountain Transmission Corp. insofar as it was a system using specific microwave transmission to receive television signals. It still did not make any regulatory moves in regard to CATV systems which only picked up general broadcast signals already available in the area of the antenna. This position was made firm by the FCC in its First Report and Order in 1965 when the commission issued regulations for all microwave fed systems.

One year later the FCC made a major change of stance and in its Second Report and Order laid claim to jurisdiction over all CATV systems. It is largely at this point that FCC regulation becomes an important factor. One result of the Second Report and Order was that cable television was effectively excluded from the top one hundred urban

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[7] "Issues in CATV," Iowa City Press-Citizen, editorial page, Nov. 24, 1972.

markets.[8] This was done by placing the burden on any cable system wishing to establish itself in one of those markets to prove that such establishment "would be consistent with the public interest, and specifically the establishment and healthy maintenance of television broadcast service in the area." (sec. 74.1107 FCC Rules and Regulations) In addition, the FCC requested that Congress prohibit CATV program origination. At this juncture in its history the clear effect of FCC regulation was to ignore CATV as a communication medium in its own right and to keep it in an ancillary position relative to the interests of broadcast television which were seen as paramount. Greenberg submits that the real effect of these rules ran deep:

> The Federal Communications Commission (FCC) in its Second Report and Order on Community Antenna Television (CATV) systems, did more than merely rule on the issues raised in its proceeding: it prejudiced, if not decided, the question of whether, over the long run, television signals should be carried to the home primarily over-the-air or by wire in favor of the former.[9]

This is, of course, an important long run issue of which the broadcast television industry is well aware. There might be substantial advantages to the nation if broadcast television were gradually phased out and replaced by cable television, at least, so Greenberg argues in his article.

Fortunately, for those who would agree with Greenberg, the FCC has again begun a change of stance. In late 1968 the FCC issued Proposed New Rules and the Notice of Inquiry. Its object was to give some indication of future changes in the Rules so that interested parties would have a chance to file formal comments on the proposals. After several years of study the Third Report and Order was issued in February 1972. One writer called it "a whole new ball game for cable television."[10] It is a new ball game, at least to the extent that the major urban areas were opened up to the cable and local programming was being encouraged rather than discouraged.

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[8]These markets include three Iowa areas: 1) Davenport-Rock Island-Moline, 2) Cedar Rapids-Waterloo, and 3) Des Moines. The definition of a market area is not limited by the boundaries of the cities mentioned but extends out to include towns which are a part of the prime viewing area surrounding such cities.

[9]Edward Greenberg, "Wire Television and the FCC's Second Report and Order on CATV Systems," Journal of Law and Economics, 10 (Winter, 1967) 181-192.

[10]Edward Roth, "The FCC's New CATV Regulations," Nation's Cities, X (March, 1972) 10.

Among other things, the new FCC regulations place a large amount of the authority over CATV at the local level. Cable systems will not be licensed as broadcasters presently are. Rather, they will be issued a certificate of compliance before they can start operation. The application for that certificate must include a copy of the local franchise and detailed evidence that a public hearing was held by the franchising authority to assess the qualifications of the system operator. The FCC has also set minimum requirements for franchises in the areas of operator selection, construction deadlines, duration of the franchise, subscriber rates, handling of service complaints, and franchise fees. A national advisory committee has been set up to aid the FCC in its regulatory decisions as the medium develops. Membership of this committee will include representatives of the three levels of government, of the cable industry, and of public interest groups.

Ownership of CATV

Beyond the question of the regulatory agencies which affect cable television, there is another issue relating to its control. That is ownership. Several alternatives exist for the ownership of the medium, but no one of these alternatives is the best answer-each would have advantages and disadvantages. The first alternative is governmental ownership. Many will object that the dangers are too great if the major source of public information is in the hands of the government. There can be no doubt that such an objection is well taken. However, government ownership does not necessarily mean federal ownership. There is also the possibility that CATV systems could be owned at the state, or more likely, at the local level. Municipal or county ownership of a CATV system would still have its disadvantages, but they would no doubt be reduced from those of federal ownership.

Charles Tate, who is very interested in the relationship of minority groups to the new medium warns:

> Municipal ownership could be a convenient mechanism for maintaining white control. Blacks are woefully under-represented in the policy-making structure of existing municipally-controlled agencies and corporations such as public housing, port, and airport authorities. Unless there are unusual legal proscriptions that favor and protect minority control of community systems, similar conditions of exclusion and under-representation are likely to emerge in the policy-making bodies of municipally-owned systems.[11]

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[11] Tate, Cable Television in the Cities, p. 36.

A second alternative, and the most common one, is business control. Certainly Tate would see his remarks about white control as applying even more strongly to business control than to municipal control. However, a much stronger disadvantage of commercial control of the cable has already been pointed out at the end of the second section where the effects of laissez-faire broadcasting were discussed. The picture is painted vividly by Thomas Zynda:

> But it will take a lot of planning to realize [the full potential of cable television] in fact. In the 1920's there were dreams of the communications system that radio was to become, bringing information, educational programming and cultural programming to everyone on a scale previously impossible. But radio has become little more than the broadcast equivalent of junk mail, presenting advertisements interspaced with standardized music.
>
> The same thing happened to broadcast television, in which all the desirable channel allocations were taken over by commercial network stations, and informational television became only a very minor and very under-financed orphan in the system.
>
> Moves by both broadcasters and cable operators themselves have been in the direction of limiting service to only the most profitable kinds, rather than developing service to meet the needs of the country. Cable, unless citizens organize and use the technology to deliver the benefits that are possible, will take the same direction as radio and TV.[12]

The last alternative, and the least explored, is some sort of private, non-commercial ownership. Tate, for example, lists thirty subscriber-owned CATV systems. These would presumably be of a co-op type. There may be the possibility of governmentally built systems, the control of which is entirely turned over to subscribers once they have reached operational status. Or, a group of subscribers may contract with a commercial firm to build and operate a system which they control.

This last possibility comes close to a solution which many authors have begun to propose for the ownership-control dilemma. The cable could be declared a "common carrier." All of our previous remarks about ownership alternatives assumed that whoever owned the cable system would also control

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[12] Thomas Zynda, "Cable TV Can Serve the Real Needs of Citizens," Iowa City Press-Citizen, December 1, 1972, p. 14a.

the content of that system. This is not the case with a common carrier. The basic element which distinguishes a common carrier communication medium is that operation is completely separated from content. The telephone is a common carrier. The telephone company operates the system, but it does not program all of the telephone calls. The company simply makes its system available to all potential users at specified rates. There are several examples of common carrier communication systems other than the telephone. They are: telegraph, which now includes teleprinter and facsimile services; transoceanic cable transmission; radiotelephone; and satellite communications, to a certain extent.

If CATV were to join the other common carriers, then anyone could use it for any legitimate purpose. Consequently a commercial TV station would not have to build transmission facilities, it would only have to lease a cable channel for the number of hours during the day that it wished to broadcast. If the power company wished to monitor its substations to prevent damage or to keep a constant check on their condition, it would pay a flat fee to use the channels it required. The local school system would be able to buy a block of time on the cable to devote to televised classes in much the same way it presently gets a teacher-phone line to serve a child confined to bed. The man who knows the date of the end of the world can go on television to warn his neighbors, just as much as the man who makes wine can go on television to teach his neighbors. The community theater group can present their dramatic productions on a Sunday evening right after the various churches teach their religion classes via cable. The list is limited only by the imagination of the last potential customer, since any citizen can become a television programmer if he wishes.

One of the advantages of this approach is that cable operators will be encouraged to open up as many channels as possible. Cable communication can grow in complexity and sophistication just as the telephone system has grown. Nor need the one replace the other, any more than the telephone replaced the telegraph.

Common carrier status and private ownership may also limit the 1984 aspects of the cable which some people fear. Again, Tate has warned of this aspect of the CATV question:

> If the "wired nation" becomes a reality, clandestine electronic surveillance will be greatly simplified....Sophisticated electronic sensors and surveillance devices are in regular use in Vietnam. Much of this technology has already been modified and adapted for domestic security systems. If these devices are coupled with cable technology and

satellite systems, an electronic Frankenstein could be created....[13]

His antidote for the societal poison described is "community control of CATV systems." But this control might work as well, or even better, if it was in the form of local knowledge of who leased what channel for what purpose, rather than local control over the content of all channels.

Cable television, then, is a complicated medium with far-reaching implications. We have touched on some of its major questions in these units in the hope that people will think ahead, thus giving themselves time to plan, so that its potential will not be thwarted into a new form of "junk mail."

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[13]Tate, Cable Television in the Cities, p. 37.

DISCUSSION QUESTIONS: Section 3

1. To what extent do you think that CATV should be treated as a public utility rather than as a private business? What arguments do you see on either side of the question?

2. If it is true that some CATV systems use various tactics to make an unusually high profit, what defense do people have against this?

3. Greenberg brings up the question of wire television as opposed to broadcast television. Should the cable be seen as an auxiliary to broadcast television or should it be considered a new medium in its own right? What difference will the answer to this question make in the other issues which we have discussed?

4. The FCC made at least two major changes of policy relative to CATV. First it changed its position on whether it could regulate such systems. Second it changed its policy with regard to their presence in large market area and with regard to program origination. What reasons do you have for thinking that either or both of these changes was for the better? for the worse?

5. We have proposed several possibilities for ownership: federal, state, municipal, private profit ownership, private non-profit ownership as in a co-op or a non-profit organization. Which of these various forms of ownership do you favor and why? List, at least in your mind, some of the major advantages and disadvantages which you associate with each type of ownership.

6. Take that "listing" of advantages and disadvantages from the previous item and ask the following questions:

   If the cable were to be made a common carrier which disadvantages would be eliminated?

   If it were a common carrier which advantages would be lost?

   Overall does it seem that making the cable a common carrier would be a net loss or a net gain?

7. Since a common carrier is a content-free system, just as the telephone system is content-free until someone picks up a phone to make a call, where would its content come from?

   What would be the roles of the present major networks?

What rules, if any, might be needed concerning the use of the cable?

If a common carrier cable having 60 channels existed in your locality, how would you begin to use it? What local business and groups might want to rent a channel? As you think about this question remember that in 1870 Western Union created a committee to evaluate Alexander Graham Bell's new telephone. The essence of the report was: "The committee feels that it must advise against any investment whatever in Bell's scheme. We do not doubt that it will find a few users in special circumstances such as between the bridge of a ship and the engine rooms, but any development of the kind and scale which Bell so fondly imagines is utterly out of the question."

8. Do you feel that the fears about the possible use of the cable as a means for invasion of privacy are well founded? If not, why not? If so, what steps might be taken to limit such use?

9. Having reviewed these issues related to cable television, assume that you are part of a committee selected to establish some criteria for a cable system in your town. What criteria would you want to set up for: 1) the services offered by the cable system, both when it begins to operate and at a later date as its services expand, 2) the organization and management of the system, 3) the ownership and control of the system, 4) access to the system by local citizens, either free or at a minimal cost? What other areas would you establish criteria for? What criteria?