

## 2. CATV: Promise and Peril

By NICHOLAS JOHNSON

THE SIXTH DECADE of the twentieth century, as we did not need Marshall McLuhan to tell us, has added a new dimension to the lives of virtually all Americans. By 1965, 93 per cent of the nation's households spent one-fourth of their waking hours in rapt attention before the images on their television screens.

But not all Americans joined the after-dinner rush to the living room TV. Two groups were left behind. The first was excluded by reason of geography. They lived in out-of-the-way communities or near interference-creating hills or mountains, beyond the range of broadcast television signals. The plight of these unfortunates was short-lived, however. A band of clever entrepreneurs saved them, by creating a device known as "CATV"—Community Antenna Television. They simply installed a master antenna in a favorable location, ran coaxial cable from the antenna into individual homes, and collected monthly fees for their efforts. CATV wired up small-town America and plugged it into the nation's vast broadcasting system, which daily beamed millions of dollars worth of programs from New York network headquarters to 700 local television stations in cities and towns across the land.

The second group of pariahs was not so lucky. The causes of their exclusion lay in sociology and economics, which proved to be more intractable than geography. These were the social and intellectual classes whose interests and tastes were ignored or given little more than token service by TV's programmers. Though substantial, these minorities were not numerous enough to justify attention from any of the two or three or four or five broadcast outlets within the reach of their antennas.

Because many of the individuals in these minority groups live in cities well covered by broadcast signals, most of them have never heard of CATV. This is much to be regretted, for CATV may be an answer to their discontent, just as it originally was for the people in small towns. Indeed, it may be the best answer. Community antenna television, in its reincarnation as "cable television," offers some reason to hope for an end to the tyranny of banal mass-audience programming we have all come to know, if not love. Its promise perhaps exceeds that of any of the avenues we have tried so far—the FCC's feeble stabs at

forcing "balance" through regulation, educational broadcasting, and the new Public Broadcasting Corporation.

The implications of cable television, in fact, reach far beyond diversification of television programming. Technologically, it is just another wire—like the telephone wire or an electric power line—coming into the home. While it isn't much bigger than a telephone wire, comparing its capacity with that of the telephone cable is like comparing a river with a garden hose. The same wire that today carries television signals can also carry the signals necessary to print a newspaper in a home, connect a home information center with a distant computer or teaching machines, or provide closed-circuit television signals for visiting with friends or "window-shopping" from home. Thus, a decade or two hence, CATV could prove vital to the nation's communications system; further, it might be a vigorous and useful check on the big telephone monopolies.

It is unlikely, however, that the future of cable television will turn out to be as splendid as all this, either in terms of economic reward for the industry, or, most important, in terms of social gain for the public. Its fate is now being determined in a grim political and economic struggle with the giant interests whose prosperity and power it has challenged—the broadcast industry and the telephone companies. As this battle unfolds, only the CATV industry is there to speak for its own economic interests. Almost no one speaks for the public.

If, in the end, the decisions fixing the place of cable television in the nation's communications system do result from nothing more than a simple deal between competing economic interests, a great opportunity will have been missed. The startling rise of cable television threatens to undermine the economic structure of the communications industry. It has already loosened a bit of the political cement which has for so long blunted effective regulatory control of that industry.

But creative policy does not happen by accident. Someone has to supply the ideas. Someone has to represent those ideas in Congressional offices and administrative hearing rooms. The real world being what it is, it would be foolish to rely only on the communications industry and the government to exploit the promise of cable television in society's behalf. Outside participation is an invaluable spur, as the Ford Foundation, for example, proved when it shook up the FCC's domestic satellite inquiry a year ago with its proposal for a satel-

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lite-financed educational TV network.

By the end of 1967, nearly 2,000 cable systems will be serving over 3,000,000 subscribers. Once as peculiarly rural a phenomenon as silos and cooperative electric utilities, cable TV is girding for an invasion of the nation's metropolitan centers.

The invasion may never come off, however. Broadcasters and the telephone companies are pressing Congress and the courts to impose copyright obligations on cable systems for the programs they carry [see "The Coming Cable TV War," *SR*, June 11, 1966]. Some of the restrictions in the copyright bill now before the Senate might effectively cripple the entry of cable television into the major television markets.

An even more formidable obstacle is the FCC's sympathy for its traditional clients—especially the struggling UHF stations believed to be mortally vulnerable to CATV competition. In order to freeze the situation until Congress acts, the commission has already barricaded cable television's headlong advance. It has banned outright the importation of distant signals into any of the nation's top 100 television markets (which serve 90 per cent of the population).

Ostensibly, the FCC interdicted CATV's impending move into the major markets in order to give itself time to plan, stating that it intended "to take hold of the future—to insure a situation where we or the Congress, if it chooses, can make the fundamental decisions in the public interest upon the basis of adequate knowledge." In fact, this seven-headed institution, understaffed and underfinanced as it is, has not been able to make good on that promise.

The first issue is the impact of cable technology on television—more precisely, on the distribution and origination of television programming. The second is its impact on the overall communications system of the near future—its structure, technical composition, and control.

The No. 1 question about cable in its television aspect is, perhaps, whether it can somehow be harnessed to put real meaning into the cliché "program diversity." It is highly unlikely that broadcast television will ever be able to offer more than ten channels or so, even to New York City; to lesser metropolitan area, its potential is even more limited. As a result, economics necessarily forces broadcasters into programming for a vast and undifferentiated mass audience.

Cable's potential for changing all this lies in two technological advantages. First, its channel capacity permits the simultaneous carrying of a wide variety of programming aimed at a wide variety of audiences. Second, a cable system could, if so designed, reach precisely selected geographic portions of a city—or the nation—which may correspond to

particular social, economic, or other special interest groupings. Cable could become a viable medium for interconnection of what would, in effect, be a number of large closed-circuit systems. Whereas a local broadcaster may not be able to justify programming aimed just at ballet enthusiasts, or the local Negro community, or *aficionados* of sports cars, a regional or even a national cable network might be developed which could enhance its appeal significantly through such specialized programming.

**B**UT can cable TV really deliver on this potential? Are the ideas, money, talent, and audience support available to exploit its technical capacity for variegated programming? How can regulation bring such a system into being? What economic arrangements would produce a proper structure of incentives? What sorts of restrictions should be imposed? Should cable systems be barred from charging extra amounts for the use of individual channels, or individual programs? Or should these moves in the direction of a wire-fed pay system—traditionally a hobgoblin in Washington communications circles—be encouraged? Will stiff copyright obligations drain the financial capacity of cable systems to originate programs, or encourage them to seek new ways of reducing programming or distribution costs? Could a cable system put flesh on the old idea—championed by the 1947 Commission on the Freedom of the Press—that the mass media should become "common carriers of ideas"? Could CATV systems be required to dedicate a channel or two to purveyors of information or ideas too heretical or insignificant to be able to purchase time on mass-program channels or to be caught up by network newscasts? Should they be?

We do not know the answers to the questions; we have not even begun to start thinking about them. Both the cable television industry and the FCC ought to be initiating the process. But the industry is only beginning to interest itself in program origination, as the channel capacity of its cables expands from its original three to its present twelve to the twenty that are predicted for the very near future. Only 36 per cent of present cable systems originate programming within their own communities. Many of these "programs" are

only weather, news, or stock-market ticker tapes. Some CATVs, however, have opened their channels to city council meetings and Congressional representatives—realizing the practical utility of courting local political establishments.

The FCC has not begun to consider how it might mold cable television into an instrument for diversifying programming. To date the commission has viewed CATV mainly as a challenge to its own policies. As soon as CATV invaded communities in which broadcast stations were already functioning, it threatened to subvert the blueprint for a nationwide television system written by the commission in 1952—at least one station in every community, at least two stations in many. The FCC's fear is that CATV, if unleashed, will doom local broadcasters, and thereby subvert long-established commission policies.

The argument goes like this: Granted, the present system produces little that many want to watch (the phrase "wasteland" is only very rarely adverted to these days). But there is no guarantee that cable programs would be any different or better than broadcast programs. And broadcasting has three advantages which cable cannot match: It is free, it is anchored solidly in each community—and thus a potential outlet for local expression (even if not utilized as such)—and it reaches farm areas surrounding cities where cable cannot profitably reach. To be sure, a CATV importing many distant signals, carrying a wider variety of presumably more attractive programming than is available on local stations, would benefit subscribers. But it might also cause one or two of the stations which provide a costless optional program supply to all members of a given community to go off the air.

No one really knows precisely what impact CATV could have on UHF development and VHF prosperity in the major markets, because the FCC stopped the CATV invasion before it could really get started. It is quite likely that *some* stations would suffer from cable competition, although how many is anyone's guess. It is virtually certain that established VHF network outlets would have little trouble weathering the distant signal storms.

But no one has even worried about the next (and far more worthwhile) list of questions: Why do we care what happens to local broadcast stations? Is it really true that our television system could not endure half-pay and half-free? Would a mix of regional, national, and local program sources develop? Who would the losers be, and the gainers? Could the losers be compensated—for example, by the use of rebroadcast facilities carrying local or even distant signals? Indeed, would rebroadcast fa-

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gressional legislation. He, too, needs no instructions on the essentiality of profit to the health of his enterprise. At the seventy-first Congress of American Industry of the National Association of Manufacturers on December 8, 1966, Mr. Harper chose to speak on private enterprise's public responsibility. And he chose not to dip his words in treacle:

The intelligent exercise of public responsibility involves, first of all, a recognition that a business is a citizen in a very real sense, and must behave like a citizen in return for being allowed to operate within the community. Just as an individual citizen can't throw rocks through his neighbor's picture window without landing in jail, so the corporate citizen cannot wantonly abuse the public interest without public retaliation. A business, for instance, cannot disregard the fire and health laws, or deliberately make false claims in advertising. At least in that minimum sense, therefore, public responsibility is not an optional chore for business.

Quite frankly, and unfortunately for all of us, there are some businessmen who still believe that public responsibility means living up to the letter of the law and not one inch beyond. These are the same fellows whose smokestacks will go right on belching soot into your office windows and on your wife's laundry until the city council passes a law against it. Their disregard for the public interest inevitably leads to public clamor for repressive or restrictive legislation, which may cause problems for all of us.

Businessmen are perhaps the most vocal members of society in complaining about regulation. We must remember that we can prevent further regulation best by anticipating needs and meeting them voluntarily. . . . Despite what we may hear from time to time from some critics of our system, there is no contradiction between making a profit and meeting other public responsibilities. The business community has long recognized the relationship between social and economic progress.

Messrs. Greenwalt and Harper are not theorists who have never had to meet a payroll. They know what it means to satisfy stockholders. But they also know the social advantages which result from the thrust of the profit motive. They both fully realize how the fast-buck characters can injure the very economic system which has benefited the nation.

There are many others like Greenwalt and Harper. But there are still too many businessmen who, wearing blinders, charge ahead without thought that business needs public acceptance if it is to continue to function effectively. They, too, must accept their public responsibilities if the private sector is to flourish.

—L. L. L. GOLDEN.

cilities (technically known as "translators" and "satellite stations") be a better way than CATV to import far-away signals? Perhaps we can reduce the high per-mile costs of laying cable in sparsely settled areas. Perhaps a new short-hop microwave facility developed by Hughes Aircraft and TelePrompser Corporation (a leading CATV-owner) could make extension of a cable system to outlying areas economically viable.

If moves are not made very soon to channel the future growth of CATV along lines responsive to social needs, it will likely be too late. CATV will grow in whatever direction it pleases. Support for the FCC barriers now in its way may collapse, as its present opponents stop fighting CATV and join instead. They are already joining, and in droves.

More and more CATV franchises are being picked off by multiple-system owners, equipment manufacturers, telephone companies, newspapers and others in the print media, broadcasters (often serving the same area as the cable system), and large-conglomerate industrial concerns. Cable television now includes in its ranks CBS, GE, General Telephone, Kaiser Industries, Newhouse interests, RCA, Time, Inc., Westinghouse, and more than fifty independent telephone companies. Broadcasters, in particular, account for almost 50 per cent of the franchise applications filed within the last year.

Historically, the public (through the FCC) has been quite concerned about the ownership of local broadcasting stations. Newspapers, for example, are not favored as broadcast-property owners, at least in theory. No one can own more than five VHF and two UHF stations. Should not similar restrictions apply to the owner of the only twenty-channel CATV system in town—especially if he also owns most of the cable systems in the state, and a string of newspapers?

The FCC has initiated an inquiry into ownership patterns in the cable industry, but it is proceeding at a leisurely pace. Neither cable nor broadcast owners want this matter pursued because the distinction between the two is becoming fuzzier and fuzzier with each new franchise application. But they must be pursued if we are to have any chance of

controlling what may be our major means of communication. As things stand now, it is likely that some future observers will look back upon the present hiatus as a government-enforced pause which lasted just long enough to give the vested interests a chance to recover their composure and purchase a significant piece of the action for themselves.

The possibility of direct satellite-to-home telecasting will very shortly be upon us. It promises to be much cheaper than any present system for national distribution of programming. It has been successfully opposed, so far, by the broadcasters, AT&T, and Comsat—all of whom stand to lose from this public benefit. Once millions—or billions—of dollars have been invested in cable systems in cities across the nation, there will be pressure against change from still another industry. On the other hand, satellite-to-CATV system broadcasting is also another way to integrate satellites into the television system, an alternative that would preserve some room for local sources of programming. Which alternative is best, and how do we keep private interests from foreclosing it: availability? Some official attention, but not enough, has been directed on this question. So far, most of the pressure has been turning public authorities' eyes in quite the opposite direction.

To miscalculate the role of CATV in a television system dominated by satellites would almost surely cost the nation many billions of dollars. A gaff of such proportions, moreover, might well be irremediable for a variety of reasons, not the least of which would be political. Ultimately the public pays for any massive private investment. Once the investment is made it heavily tips the scales against future innovation. So the challenge for the public official in an age of technological revolution is to assure the introduction of new techniques as soon as their use is feasible and economical, but to avoid commitments of ephemeral value.

This is a most treacherous enterprise when dealing with an imponderable as undefined as the immediate future of satellite-to-home broadcasting. More awesome still, however, is the job of fixing the place of cable in the communications system of a decade or so hence. Precisely because prediction is so chancy, and because the cost of mistakes may turn out to be so exorbitant, it is urgent that the FCC and other public institutions be continually reminded that the importance of long-range planning equals its complexity.

Of course, private investors lose if investments go sour. Therefore, we generally rely on their private judgments to decide when to bet on a presently available device and when to wait for something better to come along. But

canny entrepreneurs understand that society will not lightly write off as useless the entire plant for a communications system. Nor will it lightly tear up the system, if this is necessary to construct a better one. Hence, the very enormity of the risk involved in an undertaking like the present attempt to wire up New York City with broadband capacity cable (\$40,000,000) is its own best insurance against loss. Irving Kahn, president of a New York franchisee, is sure of himself when he says he is "willing to wait" for a payoff that literally may not come for ten years or more.

Should we let Mr. Kahn and other bold entrepreneurs like him go ahead? Many experts think that within five or ten years, no one will envy those in the CATV business. Alternative technologies will wipe it out, they say. Should it be up to the government or the businessman to evaluate this risk?

Virtually no one wants to go on record with what he thinks the next twenty years are going to see in the way of communications advance. Nevertheless, it is possible to give some structure to uncertainty:

*First, what will be the functions performed by electronic communications ten or twenty years hence?* The list of spectacular new uses is, of course, endless: picture-phones, newspaper facsimile home-printing facilities, teaching machines, banking and shopping from the living room, vast data-retrieval systems and video-tape libraries capable of flashing out infinite numbers of selections at the option of home viewers.

We might hypothesize a cable, videotape-library, computer-retrieval, closed-circuit-television combination. Such a system would make it possible for a television viewer to select his own programming, when he wanted to see it, from a tape library perhaps hundreds of miles distant. He would make connection with the "library" by "telephone"—using the proper number code on his "touch tone" computer-connector telephone. He would identify himself, by number, to the library's computer. He would either select the number of the videotape he wished to see from a printed catalogue or, more likely, ask for a visual display on his home screen of a sampling of titles. The automatic library would then select the designated tape, and send it to his home screen by cable—instantaneously, or at some future time designated by the viewer. Perhaps the viewer would simply record it on his home videotape recorder while watching, and keep his own copy of the tape. He could indicate a preference for a tape with or without advertising. If he selected the tape without advertising, the library's computer would notify the computers at the

"banks" of the viewer and the library owner, adjusting their accounts appropriately.

*Second, what are the technical components of such a system—or what alternative combinations can we imagine?* To this, answers are in part available. Some things we know will be included. Others might be. Some components are mutually exclusive, others are complementary, and some are no doubt as unexpected as was cable television twenty years ago.

We know, for example, that a vast and sophisticated complex of electromagnetic switching equipment will be needed to route "calls" from one circuit to another. We know that satellites will relay communications across the ocean. We know that computers will play an increasingly significant role in our lives. Cable with a broadband capacity will probably have to link individual homes, businesses, and universities with this system. At some point, however, laser or wave-guide techniques may supplant any of the links in the chain. Finally, the availability of home video-recorder devices throws into disarray all predictions about what will be distributed at the store and what will go through channels on the communications system.

*Third, we want to know what impli-*

*cations all these technical components have for industry structure. What are the alternative models?* If cable links the larger systems to the home, the CATV companies may, if they beat the telephone companies, triumph over the fight to control that link. Conceivably, the telephone companies' claim to participate in the process would be their monopoly of the capacity to develop and construct the switching centers. On the other hand, Comsat's or someone else's satellites could turn the CATVs into so much rusting metal and rotting wire.

*Fourth, what are the regulatory implications of these various models of industry structure?* If AT&T owns the whole complex, the answer is relatively simple: the communications system will be treated as a massive public utility, regulated by the FCC and the state utility commissions. On the other hand, there are those (the author among them) who question the ability of the FCC—with 100 professional men in its Common Carrier Bureau—to "regulate" an institution with 800,000 employees, annual gross revenues of \$12 billion, and a physical plant valued at more than \$30 billion. How much more pathetic would its regulatory mission be if AT&T controlled the entire communications plant—the computers, switching

systems, wires, microwave relays, laser pipes, and satellites—of our system in 1985? This problem might be domesticated if the cable TV people ended up garnering local cable monopolies. Should such local cable systems be treated as public utilities, and, if so, by local or federal regulators? If the computer manufacturers enter into control of the computer hardware, or even some of the connector links (as they well may), should they remain free of FCC or other regulatory control?

The FCC has set about investigating several of these long-range—but fundamental—queries about the future of CATV. An expedited hearing proceeds over the arcane but politically important question of whether AT&T must obtain FCC permission in an open hearing each time it wants to place self-owned television cable on its own poles. Hearings are also analyzing whether CATV should be considered a common-carrier activity, and whether it is interstate in nature—and hence subject to federal regulation exclusively—or intrastate, subject to local and state control.

The commission has made a start. But it is not enough. In structure and concept, the FCC is substantially unchanged since its birth over three decades ago. It was designed to accommodate a particular set of communications technologies and to administer a communications system framed by a relatively stable industry structure. Now, the division of labor between wire and broadcast technologies to which we have long been accustomed is being superseded. Industry structure is beginning to tremble. Under these quite unfamiliar conditions, the FCC is struggling to get its sea legs while it peers into the future through a bewildering welter of administrative hearings and inquiries. To reinforce the FCC's effort, the President has given a high-level communications task force the imposing mandate of revamping the nation's overall communications policy within one short year.

Thus, government is awakening to the dimensions of the task of identifying and enforcing the public interest as the communications revolution gathers force. But carrying out that task requires—especially in the design stage—a brand of imagination that does not flourish in bureaucratic offices, where weekly deadlines leave little time for reflection. The challenge is to make technical advance serve human ends, to define those ends, and mold the techniques accordingly. For this demanding charge, government, for all its expertise, cannot serve the public interest without intelligent public participation. No case illustrates this maxim more vividly than the present state of the effort, such as it is, to realize the promise of cable television.