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CABLE TELEVISION: OPPORTUNITIES AND PROBLEMS IN LOCAL PROGRAM ORIGINATION

N. E. Feldman

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PREFACE

This report was written under a Ford Foundation grant to The Rand Corporation for a year-long investigative study of cable television distribution and its possible impact on the evolution of the television industry.

The report is primarily intended to provide useful information to the Federal Communications Commission in its deliberations on the role of community antenna television (CATV) systems. In addition, the report has been arranged not only to convey the experiences of others to those CATV operators faced with the FCC ruling that systems of a certain size must originate programming in 1971 but also to guide community groups who may wish to originate programming over a channel on their local CATV system. The subject of local origination is of particular importance because of its unique potential for improving communication within the community and thus for focusing attention on community problems.

This is the third in a series of Rand reports dealing with the future of CATV under the grant from The Ford Foundation. The two previous studies were *The Future of Cable Television: Some Problems of Federal Regulation*, RM-6199-FF, January 1970, and *Cable Television: The Problem of Local Monopoly*, RM-6309-FF, May 1970.

SUMMARY

Over-the-air broadcast television is limited to a few channels in each metropolitan area because of such factors as the present frequency allocation for television broadcasting, the competing demands for radio spectrum, the way in which technical standards for TV broadcasting have evolved, and the large consumer investment in television receivers. To carry a program of purely local interest with limited audience appeal requires that the broadcast station forego the higher profits of the mass audience programming that otherwise could have been presented.

On the other hand, cable television (CATV) has enough channels to carry both kinds of programming simultaneously and thus has a greater potential for offering programming to meet local community needs. Moreover, while the program on a broadcasting station is necessarily transmitted over a wide area encompassing many hundreds of square miles, CATV signals can be directed to small geographical areas, which permits the program originator to pinpoint the particular audience he seeks.

Recognizing this potential, the Federal Communications Commission has recently ruled that all cable systems having more than 3500 subscribers must originate programming "to a significant extent" by April 1, 1971. However, this ruling raises many questions concerning how extensively this potential of local programming can in fact be realized, either with or without federal regulation. Such factors as the costs of local programming, the requirements for talent and organization, and the appeal of such programming are of basic importance.

The purpose of this report is to discuss these factors in detail by examining and evaluating past CATV experience with local origination in three quite different settings: (1) Canada, particularly with respect to the two CATV systems in Montreal, which are among the largest in the world; (2) Dale City, Virginia (a relatively isolated suburb of Washington, D.C.), with grass-roots television originated by community groups over a small cable system serving a single tract of homes; and (3) Lakewood, Ohio (a nearby suburb of Cleveland), with a small CATV system originating a wide variety of material.

Several Canadian CATV systems (as in Vancouver and Montreal) are much larger than those in the United States, and those in Montreal have extensive experience in local program origination. One cable system in Montreal has accumulated about ten years of experience in programming a wide range of material for minority audiences scattered about the metropolitan areas. An impressive number of hours per week of local programming are produced for the local community channel, perhaps because the costs appear to be low relative to the amounts CATV companies typically spend for advertising, salesmen, and other promotion activities. Success in local origination is

due largely to the fact that the profitability of cable operations in Canadian cities is assured by their carrying signals highly attractive to the Canadian audience from U.S. broadcasting stations. Since local origination can easily be superimposed on a large and viable system, the benefits of origination need not be large in order to balance the modest costs entailed.

The case of Dale City, Virginia, is very different. The location of this relatively isolated suburb of Washington, D. C., does not assure good over-the-air reception. A cable system serving virtually all the homes in Dale City was installed by the builder of the tract along with all other underground utilities, and homeowners were billed a nominal monthly fee for the service. When a channel was made available for local origination by civic organizations, Dale City combined its strong interest in community affairs with a small amount of money to provide about one year of local programming with strong community appeal. However, the amount of money available was simply not sufficient to provide the quantity or quality of equipment required for sustained operation. Since it refused advertising and lacked other sources of revenue, Dale City Television, which operated the community channel, was forced to suspend local programming in early 1970.

The Lakewood, Ohio, case offers yet another contrast. This community is very close to Cleveland and thus to a number of local broadcasting stations. In order to be successful in a major metropolitan market where FCC regulation prohibits or discourages carrying signals from distant broadcasting stations, the cable system operator must depend on locally originated services on his cable (in addition to carrying the signals of the local broadcasting stations) to attract subscribers. The experiment with local origination in Lakewood was a failure simply because it was not possible to attract large numbers of subscribers by locally originated programming alone. The cable operator was not only faced with the strong competition from the well-developed, over-the-air service of good signal quality available in the Cleveland area, but was also handicapped by the lack of community spirit in Lakewood (unlike Dale City). Unlike his counterparts in both Canadian cities and Dale City, the Lakewood operator was not able to depend on importing distant signals to assure the profitability of the cable system.

In general, origination of programming on cable does serve a useful purpose and should be promoted as a matter of regulatory policy. The major problems of successful origination are frequently inadequate budgets, poor and unsuitable equipment, and difficulties in informing subscribers in a timely fashion of exactly what is to be presented. New sources of revenue, including advertising (now permitted by the FCC), and new kinds of low-cost equipment currently coming onto the market may make a substantial difference with respect to supply. However, with respect to demand—i.e., the *need* for local programming—the situation will vary greatly from one market to another. In relatively isolated Dale City, the need for local service is relatively large; in the Cleveland suburb of Lakewood, Ohio, the need appears much less; in large Canadian metropolitan areas containing many minority audiences with varying tastes, the needs and opportunities again appear substantial. Whatever federal, state, or local regulatory policies are adopted to promote or require local origination, the variability in individual needs and the opportunities afforded by the wide range of local settings will have to be taken into account.

Perhaps the most salient conclusions of the present study are that (1) the cost of producing local live programming is only a tiny fraction of that typically associated with conventional commercial broadcasts, (2) the audience appeal of community-oriented programming can at times be high, (3) the number of hours per week generated by local volunteer groups is likely to be small, ranging from only one or a few hours per week to (at most) enough to fill one full-time channel, and (4) to be economically viable, cable television systems must carry signals from at least local stations, and from distant broadcast stations in the urban areas, since there is no evidence that local program origination by itself will attract enough subscribers to make CATV systems profitable investments.

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I. INTRODUCTION

Until now the basic service offered by cable television (CATV) has consisted of bringing to the home viewer signals of local and distant broadcasting stations. Today more than four million subscribers in the United States pay a monthly fee (typically \$5.00) for CATV's improved signals from the local broadcasting stations, and for signals it provides from distant broadcasting stations that otherwise could not be received at all. In addition to carrying broadcasting signals, an increasing number of cable operators are now originating their own programming, although in many cases this consists only of the so-called automatic services such as time, weather, and stock market quotations. Some cable operators use videotape or film equipment feeding directly into the cable in order to offer nationally syndicated programming; other systems provide coverage of local live (or prerecorded) events either by the cable operator himself or by others with direct access to his cable system.

Because of the many channels that can be made available over CATV, much interest is currently being expressed about the possibilities for programming to meet local, specialized needs in a manner entirely infeasible with conventional broadcast. Among the possibilities frequently mentioned are instructional television for home and classroom; televising of local activities such as school board or city council meetings, community drama, civic events, or local sports; and informational and educational programming useful especially to low-income groups.

In this study, we shall be particularly concerned with locally produced programming, in contrast to "canned" materials brought in from the outside. Here we shall largely confine the term "local origination" to programming characterized by its *localism*: that is, by its concern with local issues, events, and people. By virtue of its many channels and confined geographical coverage, CATV can provide this localism and thus has a unique potential to become a new community service.¹

In order to assess the opportunities and the problems of local origination, several contrasting examples were selected for this study. Considerable detail is included in footnotes and appendices to give the reader a better understanding of the many dimensions of organization and talent requirements and technical considerations. Section II describes and evaluates the extensive origination activities of several major metropolitan Canadian systems. Section III discusses the contrasting experience of Dale City, Virginia, and Section IV examines the yet different case of Lakewood, Ohio. Section V concludes with some observations about the future prospects for community program origination, the implications for government regulatory policy, and some thoughts about special uses for CATV in urban ghetto areas.

¹The new services that may be provided by the gamut of new communications technology may lead to significant social change. For a broad discussion see Herbert Goldhamer, *The Social Effects of Communication Technology*, The Rand Corporation, R-486-RSF, May 1970.

II. THE EXPERIENCE OF METROPOLITAN CANADIAN SYSTEMS

Cable television is experiencing impressive growth in Canada. In part because of its ability to bring in the signals of U.S. broadcasting stations (particularly network affiliates just across the border), more than half the homes in Vancouver and Victoria are wired for CATV, and heavy penetration is taking place in Montreal, Ottawa, Quebec, Toronto, and other cities. One of the largest single concentrations of subscribers—in excess of 100,000—is in Montreal. (In contrast, the largest concentration in the United States—in San Diego—encompasses about 45,000 subscribers.)

As in the United States, the Canadian systems are privately owned and operated. Those in metropolitan areas employ eight- to twelve-channel equipment. Typically, seven to ten channels are filled by signals from local and distant broadcasting stations and one is devoted to local program origination.

A notable feature of Canadian cable systems is their extensive experience in local origination. One system operating in a portion of Montreal has been originating programming for about ten years. Subscribers in Montreal have available from ten to thirty hours per week of *new* local programming, depending on their location within the city.

A number of questions immediately arise with respect to this experience: What is the motivation of cable operators to originate programming? What is the nature of the programming and how is it controlled? What are the costs and the benefits? What is the role played by Canadian regulatory policy? In addressing these questions we shall examine in turn the following topics: (1) the regulatory framework, (2) the nature and control of programming, (3) its costs, and (4) the audience.

THE REGULATORY FRAMEWORK

While the Canadian Radio Television Commission (CRTC) does not allow the importation of U.S. signals by microwave link, it places no restriction on the size or height of antennas used for receiving distant signals; thus large antenna arrays on towers are used by virtually all to import U.S. signals. Since most of the Canadian population lies in a narrow belt parallel to the U.S. border, some U.S. signals can be received with a simple indoor antenna. With CATV, all three U.S. networks can be received.

Limitations on the use of distant signals in Canada differ from those in the United States, where only under special circumstances have distant signals been permitted by the Federal Communications Commission within the hundred largest markets.¹ Rather, the CRTC has recently established a system of priorities which places Canadian network service ahead of local signals and a channel for local origination ahead of non-Canadian signals. This list of priorities, given in CRTC Decision 70-93, includes the following:²

- (a) CBC network service.
- (b) Canadian private network service.
- (c) Canadian B contour TV stations.
- (d) A channel for community programs.

¹The nature of FCC restrictions on the use of distant signals is described by Leland L. Johnson, *The Future of Cable Television: Some Problems of Federal Regulation*, The Rand Corporation, RM-6199-FF, January 1970.

²April 10, 1970, p. 3. This list includes only one non-Canadian commercial station and one noncommercial station. If all nine priorities above are satisfied, then additional non-Canadian signals may be carried.

- (e) The Commission may require reception from additional Canadian stations which have program schedules that differ significantly from those offered by stations in categories (a) to (c).
- (f) Service from one non-Canadian commercial station.
- (g) Service from one non-Canadian noncommercial station.
- (h) If a system carries FM stations, it should carry all available Canadian FM stations in both official languages.
- (i) A CATV system may be required to carry, at the discretion of the CRTC, the signals of AM broadcast stations where they are needed because of special circumstances.

For our purposes it is notable that a channel for community programs (see item d above) is required before distant signals can be brought in. Thus, although not specifically required to originate local programming, the Canadian systems have little choice, since local origination is given higher priority by the CRTC than non-Canadian signals, and the non-Canadian signals are the primary attraction for CATV subscribers.

In the United States, cable systems are prohibited from carrying programs from distant stations on the same day that they are shown on local stations, in order to reduce the competitive threat to the local stations. It was only recently that the CRTC moved to similar restrictions with respect to programming originated by distant U.S. stations, as shown in the following extract:

The non-Canadian programs broadcast by Canadian broadcasting stations serving the area shall not be duplicated on a CATV system simultaneously or during the week prior to and the week subsequent to the date of airing on the Canadian stations unless specifically authorized by the Commission.³

In general, restrictions on the use of distant signals in the United States have been motivated by concern with audience fragmentation, which would

³"Guidelines for Applicants Regarding Licences to Carry On CATV Undertakings," *Public Announcement*, CRTC, Ottawa, April 10, 1970, Item 5, p. 3.

further impair the economic viability of the independent TV stations, particularly the UHF stations. In Canada, however, there were no UHF TV stations before 1969; thus the restrictions reflect concern about both the penetration of U.S. culture and the dominating influence of U.S. advertisers⁴ in Canadian markets. In Canada, the problem for local broadcasters is not simply distant signals, but distant *foreign* signals with strong audience appeal.

Even aside from the problem of distant signals, the CRTC has been concerned about the competitive threat to local broadcasters posed by CATV. In order to avoid fragmenting the advertising market available to local broadcasters, the CRTC does not permit the cable operator to sell advertising on his own origination channel. (Some exceptions may be permitted where small advertisers lack alternative media in the local area.) Furthermore, the commission looks with disfavor on any cable programming that is highly competitive with that of the broadcasters, as shown in the following extract:

The Commission pointed out in its announcement of May 13, 1969, that CATV local programming should complement, rather than compete with, programming already available to the community. It placed particular emphasis on the opportunity for CATV licensees to enrich community life by fostering communication among individuals and community groups. In the development of programs of interest to communities, it is the hope that CATV programmers will be motivated by innovation rather than imitation. Local programs should be based on access and freedom from the restraint of program schedules which are often less flexible in conventional broadcasting.⁵

PROGRAMMING CONTENT AND CONTROL

As noted earlier, several Canadian systems have already had extensive experience in program origi-

⁴U.S. commercials are not deleted on Canadian CATV systems.

⁵"Guidelines for Applicants Regarding Licences to Carry On CATV Undertakings," *Public Announcement*, CRTC, Ottawa, April 10, 1970, p. 2.

nation. Since many of their programs run for only a quarter to a half hour, the total number of programs in a week varies from about twenty to sixty. Typically five to ten persons appear on each program; thus in a single week as many as a hundred to five hundred persons appear in some way on the local-origination channel of each system. The following is a list of the strikingly wide variety of programming offered on one or more of the three largest cable systems in Canada; it may serve as a guide to other cable systems now facing the prospect of producing local-origination programming.

- Professional sports such as hockey, boxing, and football blacked out locally. (A major league baseball team volunteered for a series of programs in which players interviewed one another and ballpark personnel.) Pee-wee and semiprofessional games have also been presented, as well as college games blacked out locally.
- Activities of service organizations (e.g., Kiwanis, Red Feather, and Rotary Clubs).
- Kindergarten shows arranged to entertain and educate preschool children.
- Women's programs: fashion shows, modeling tips, beauty hints, etc. (Contributing merchants are mentioned in credits.)
- General homemaking advice for women.
- Knitting and weaving instruction.
- Home furnishing and interior decorating for the low-budget housewife.
- Swap-shop programs (individuals call the station with items for sale, and viewers call the sellers directly).
- Calisthenics and physical culture (largely for women).
- Home first aid taught by an organization similar to the American Red Cross. (There are also other medical programs: For example, a program on cancer brought together various researchers to discuss the need for early diagnosis, improvements in the percentage cured, and new types of treatment.)
- Career guidance for women, including job and schooling opportunities.
- Animal care, given by a veterinarian.
- Gardening.
- University programs, focusing on special campus problems, discoveries, or research, presented by students, faculty, and administration. Includes general university information; drama and poetry readings; panel shows; discussion of issues such as academic freedom and community relations. (Where there is a closed-circuit television distribution system on campus, the programs have been shown during the day for the students and again in the evening for the general public.)
- Discussion of books with popular authors.
- Information on local recreational opportunities—movies, theaters, places to visit, etc.
- Concerts and variety shows (amateur, semi-professional, and professional).
- Popular music programs.
- Language lessons.
- Public speaking.
- Travelogue series. (There has also been a series of programs on separate countries, presented by a commercial counselor or delegate of the country.)
- Tax-return advice (often in phone-in question-and-answer format).
- Continuing education and trade counseling for teen-age dropouts and adults.
- Talks by police on highway driving safety, regulations, and automobile maintenance advice. (On one program, a document expert discussed how to recognize counterfeit \$10 and \$20 bills.)
- Discussions of drug use and abuse.
- Interviews with members of Alcoholics Anonymous, Smokers Anonymous, Weight Watchers, Gamblers Anonymous, and ex-prisoners.
- Automobile maintenance information.
- Information on the use and care of snowmobiles.
- Photography and cinematography instruction.
- Instruction in buying and caring for guns.
- Coverage of the industrial and business growth of the community, with an analysis of ensuing sociological changes.
- Programs sponsored by religious groups.
- Talks by members of the fire department on fire prevention and safety.
- A weekly half- or one-hour videotaped guided tour of the local art gallery (mobile equipment with a zoom lens, lights, camera, and videotape

recorder is used to show both broad views and important details).

- Foreign-language news programs for minority groups.
- Foreign-language programs providing assistance to immigrants (frequently including interviews with successful immigrants).

A series runs for several months at about one-half to one hour per week. Some series have been produced once, while others have been running continuously for many years. Except for the university programs⁶ produced by students, all programming is produced by the CATV system staff and presented without rehearsals. New performers on a series, however, are auditioned and approved.

It is notable that the demand to put on new series of shows far exceeds the time which the cable operators wish to make available. One system surveyed has a backlog of ten to fifteen requests, some of which include detailed proposals. These requests are for more than mere channel time, since each would necessitate joint planning and the utilization of the cable system's staff and production facilities for origination.

In view of the numerous requests for access to the cable, questions arise as to who decides which requests are to be accepted and which are to be rejected and as to the grounds underlying the selection process. With respect to the first, it appears that the cable operator himself is the regulator; he sees it as his responsibility to protect his subscribers from duplicate material (or even the merely dull) on his local origination channel. Such control is viewed by the operator as necessary and neither arbitrary nor capricious.

With respect to the second question, the grounds for selection are various: There is reluctance to compete directly with the broadcasters (in accordance

⁶All of these programs relate to general public relations rather than to formal instruction. They are not even part of planned efforts at continuing education. Although a major university can be a rich source of programming material for local origination, no systematic use of this source has been undertaken by any Canadian cable system, nor are there any CRTC regulations specifically encouraging—much less requiring—the exploitation of this material. For a brief treatment of the potential role of cable TV for both formal and informal instruction, including continuing education, see N. E. Feldman, "A Scenario for the Future of Cable Television Distribution," *1970 IEEE International Convention Digest*, pp. 76-77.

with CRTC policy mentioned earlier) and yet there is a desire for material sufficiently appealing to attract new subscribers, or at least to generate good will and enhance public relations.

As one example, the fear of appearing to compete with the broadcasters led one of the systems surveyed here to present news programs in foreign languages only. Local variety acts and independent news programming in the local vernacular have been turned down on grounds that they duplicate current broadcast fare, which apparently applies even to the presentation of news at the time of day when there is no other news available on television.

In general, the CATV systems avoid politics and issues of a highly controversial nature.⁷ Near election time, however, equal time (of equal value) is given to all parties. In theory, more issues of strong community interest would be covered if the CATV operators believed they could locate equally strong representatives of the opposing points of view. In practice, they fear the charges of bias that might be leveled against them if one of the proponents had a more dominant or more pleasing personality than the other. In the operator's mind, such accusations would defeat the purpose of local programming, i.e., adding new subscribers or promoting better public relations.

In addition, problems have arisen with respect to offering sports and selling local advertising in competition with local broadcasters. Before the CRTC forbade the selling of advertising by cable systems in May 1969, one system in the survey experimented with local advertising presented between the breaks of sports events blacked out locally. Local sports (hockey, boxing, and football) blacked out for over-the-air broadcasting were made available for cablecasting because the sports promoters felt this would not threaten their gate receipts (at the time these arrangements were concluded, the cable system had few subscribers). In addition, the offering was made less attractive to fans because the cablecasting of the early part of the games was not permitted.

At first, advertising largely recouped the costs, and the sports programming both helped to maintain subscriber interest and brought in many new

⁷Rare exceptions are programs covering such subjects as birth control and tax reform proposals.

subscribers. On the basis of new-subscriber cost,⁸ enough new subscribers were added initially to justify the cost of the sports program solely on this basis, since the cost for a season's games was approximately \$1 per subscriber per sport.⁹

Several factors altered the situation. Sale of advertising tended to be reduced or discontinued long before the CRTC ban in 1969; some system owners became concerned about their competition with TV broadcasters arousing the ire of the Canadian government and voluntarily chose to eliminate advertising. The Canadian Cable Television Association (CCTA) and its predecessor, the National Community Antenna Television Association (NCATA), are reported to have held that cable systems were merely giant master antenna systems, and they tried to discourage their members both from origination and from the sale of advertising. (The CCTA apparently has recently changed its position.)

Each year some sports clubs raised the price of their contracts with the cable systems. When the weather was just slightly bad, gate receipts for the outdoor sports fell appreciably. The promoters, assuming that cable distribution was diminishing the gate receipts, sought compensation through higher contract prices. As a result of factors such as unfavorable government policy, CATV association attitudes, and higher costs for a season's sports programs (without the offsetting revenue of local advertising), the presentation of blacked-out local sports was discontinued. Some subscribers complained regularly throughout the next season, but they amounted to only a few percent of the total. No more than a negligible number of subscriptions were canceled as a direct consequence of eliminating this programming.¹⁰

⁸The prorated cost of all advertising and sales force expenditures per additional subscriber lies between \$10 and \$20.

⁹Because of the proprietary nature of some of the material dealing with the Canadian systems, the specific cable systems are not identified.

¹⁰A major handicap in presenting blacked-out local sports is the lack of proper mobile equipment. Since some of the universities did not charge CATV operators for their blacked-out local games (there is no charge for pee-wee and semiprofessional games), the only problems were the cost and inconvenience of moving and operating the studio equipment. In addition, real-time distribution required a microwave link to the head end. Canadian estimates for a good, fully equipped, black-and-white mobile van are about \$50,000 to \$100,000. The largest systems have tended to concentrate on studio equipment and to neglect mobile equipment; no system surveyed was adequately provided with both kinds of equipment.

CLOSED-CIRCUIT FM RADIO

One of the most important innovations in Canadian cable systems is the carriage of closed-circuit FM radio signals. In addition to the FM radio stations provided on the cable as a subscriber service, one CATV system provides three additional FM stations. Two of the three have no broadcast license, and all three have no broadcast transmitter; they are available only on the cable. Each of these closed-circuit FM radio stations caters to a single racial, religious, or cultural minority group. The total number of households within the urban area identified with the group may be as large as 50,000 or as small as 5000. Some fraction of these are potential subscribers to the CATV system. These stations transmit on regular but differing schedules; some operate for only four hours per day, others as much as eight to twelve hours per day.

The cable system surveyed makes no charge for this service, since (according to CRTC regulations) cable operators are allowed to accept fees only from subscribers. The closed-circuit FM radio operator is unregulated. He sells advertising to his minority group shopkeepers and pockets the proceeds (he is not permitted to share these revenues with the CATV operator). His total equipment need consist only of a record player and a stack of suitable records (donated by a local record shop), a microphone, and a telephone line to the head end of the cable system. His office need not be much larger than the record player. It is illegal for the closed-circuit FM radio station operator to pay the CATV system operator; he can only remind his listeners that they hear him by virtue of their subscription to cable TV and the munificence of the system operator. In addition to having rendered a public service, the CATV operator is rewarded by increased penetration in minority areas. These stations cover births, weddings, and deaths, the visits of notables to the minority community, charity drive appeals for funds, and all other minority community activities. It can truly be said that they provide local news coverage. In general, the closed-circuit FM radio stations appear to be providing an important service—one which should be extended. It is difficult to conceive of a lower-cost operation. Its expansion would seem to be solely limited by the fact that a typical FM home radio has sufficient selectivity only to accommodate about fifty such FM stations. Thus a cable TV system

could only provide fifty channels per cable in the standard 88- to 108-MHz FM broadcast band.

THE MECHANICS OF LOCAL ORIGINATION

Use of videotaping and delayed playback varies considerably among cable systems. One system in Montreal presents nearly all programming live; almost nothing is taped, and therefore little is repeated. The other system in Montreal tapes almost everything and presents few real-time live performances—even though the tapes are not edited. The choice tends to be more a function of scheduling convenience than of cost, since the tapes are not edited and not saved.¹¹ Since each tape may be reused for recording new programs at least fifty times, the videotape adds little to overall costs.

Programs are shot in each system's studio (only one of the Canadian systems surveyed here has more than one studio). Although discussions are held before going on camera, there are no formal rehearsals. Live programs are either 25 or 55 minutes long, which allows 5 minutes for changing over for the next show. Preparation for the next show takes place on one side of the studio while a show is in progress on the other side. The 5-minute intermission between programs is particularly necessary for moving the large cameras across the studio and maneuvering them into position. During this time, either the weather board or a card giving details on the next show is scanned to the accompaniment of an FM music background.

The cameramen can operate all studio and control room equipment, including the control room console. In systems with much live origination, they cycle between the different cameras and the control room every hour. It is claimed that they develop better camera technique by alternating and by spending time watching the monitors, operating the control console, handling the switching between cameras, and directing the cameramen over the intercommunication system.

Cable systems have worked with university student groups in producing programs. In one case, the students were trained to handle all the equipment

¹¹They are replayed a few times at most over an interval of a few weeks.

and to do all of the work themselves. Since the students are trained during evenings or on weekends, and since a new group must be trained each year, the direct labor costs are considered high by the CATV system operator.

The permanent staff assigned to origination is small. The largest staff consists of a technical or studio director who also functions as a production manager or producer, two full-time cameramen, a chief technician responsible for video and audio quality and the control room, and one helper. Cameramen and helpers are frequently CATV service men who happen to be available, particularly for live origination outside the regular forty-hour week. Full-time cameramen are occasionally graduates of a two-year training course in broadcast technology, but more often they are recent high school graduates who are trained on the job. With a single staff, cumulative time directed to origination is limited to less than forty hours per week. It would require almost three full staffs to originate from 8 a.m. to midnight seven days a week. Even the largest Canadian cable systems do not fill their origination channels for as much as forty hours per week.

COSTS

Generally, the Canadian CATV systems surveyed here do not pay talent fees; although some do not even pay incidental expenses, others pay from \$5 to \$10. Those who appear on the programs are motivated by the desire for experience and exposure. All in all, the per-hour labor costs (including cameramen, technicians, directors, and whatever small incidental reimbursements are involved) run from about \$15 to more than \$100 per hour. Among the systems surveyed here, direct expenditures for all origination varies from \$40,000 to \$60,000 per year excluding capital investment. The yearly average costs for local live origination (whether or not videotaped for delayed playback) vary between \$25 and \$50 per hour for the systems surveyed. Thus the budget for ten hours of live origination per week lies between \$13,000 and \$26,000 per year for the direct costs.

In addition to these direct labor costs, there is advertising and overhead. (For such items, only the *additional* expenditure required for local origination is of concern here.) The total investment in stu-

dio facilities—electronic and lighting equipment and sets and their furnishings—amounts to about \$100,000 in each of the cases studied.¹² The studios are equipped for black and white only. Besides the studio-quality film chains, the equipment includes slide projectors, an optical multiplexer (a device which uses mirrors to focus three different projectors or program sources onto one camera), one or more image orthicon or vidicon cameras, dollies for the cameras, and multiple TV monitors in the studio and in the control room. All the equipment can be remotely controlled. The lighting systems and studio sets are homemade. (Due to Canadian import duties, the same equipment would probably have cost 40 percent less in the United States.)

Taking all these elements together and amortizing the capital investment over ten years, the total cost of ten hours of programming per week is estimated at no more than \$25,000 to \$52,000 per year (or twice the direct labor cost). This figure is small with respect to both conventional broadcast costs and the costs incurred by cable systems for salesmen, advertising, and other promotion. Of the systems surveyed, total yearly expenditures for the sales operation range from \$100,000 to \$600,000, many times as much as is spent on origination. The minimum costs for local origination on noncommercial TV broadcast stations in the United States are about \$3000 for one hour.¹³ Our estimate suggests that Canadian cable operators can generate ten to thirty hours per week of new local live programming at an hourly cost of no more than 2 to 4 percent of this figure. To be sure, the final product is not the same, but the ratio is impressive nonetheless.

¹²This estimate covers the cumulative capital expenditure over a period of ten years for two of the three systems surveyed here, but for the third system it is the current expenditure to equip a new facility.

¹³*Public Television, A Program for Action*, The Report of the Carnegie Commission on Educational Television, Bantam Books, Inc., New York, January 1967, Table 22, p. 191.

A brief reference to even lower-cost programming appears on p. 24 of the Carnegie report, but no further mention is made of this type of programming: "Finally, the local stations produce programs for purely local use. These are usually produced at extremely low cost, using station equipment and station staff and with limitations of a few tens of dollars in out-of-pocket cost for each hour of programming." Neither the extent of such production nor its potential was examined in the report.

AUDIENCE

None of the systems examined here has carried out a survey of subscribers to determine how many watch the local-origination channel, since none of them consider it worth the cost.¹⁴ Their estimates are that about 20 percent of all subscribers watch the channel at some time, and that, among immigrants, 40 to 70 percent watch the news programs in their mother tongue or listen to the closed-circuit FM radio stations in their native language (no similar programs are made available by broadcast TV or FM radio stations). No system has a measure of how many subscribers check the weather board before turning the TV set off at night. Weather news and information on the origination channel's schedule are frequently the only TV programming available on any channel during the early morning hours. Televised disc jockey shows typically handle more than a hundred calls per hour for a one-hour show; this is about the only direct measure of audience.

CONCLUDING REMARKS

From the foregoing discussion, several points emerge to help answer the questions posed at the opening of this section dealing with the Canadian experience:

1. The cable operator's primary motivation for local origination appears to be the desire to build good community relations and to offer an additional service that may attract subscribers. With the priority recently established by the CRTC for a "community channel," additional cable systems would begin to originate simply as a necessary means to maintain the right to carry a number of signals from non-Canadian broadcasting stations. However, in the CRTC's system of priorities neither the quality nor the quantity of local origination is specified;

¹⁴One might speculate that the CATV operators do not make audience surveys for fear that knowledge of the disparity between their origination-channel audience and that of a local broadcaster would discourage volunteer performers. However, this is probably not a factor. Even if the audience on the local-origination channel of the systems surveyed here were only 1 to 3 percent of subscribers, the number of households would range from 400 to 4500—adequate to fill a good-sized auditorium and therefore probably adequate to attract performers.

therefore, the CATV operator has a wide range of options open to him.

2. The benefits to the viewer of the programming described above cannot be satisfactorily quantified. Certainly it is minority audience programming, appealing to a narrower set of tastes than is customary. In this respect, the desire of cable operators to avoid programming similar to that on broadcast TV for fear of competition seems unfortunate. For example, by avoiding the presentation of local news and issues in the vernacular, Canadian CATV systems devitalize the content of their local-origination material and nullify the social and political value of the local programming. To be sure, it is important that cable offer material of a sort quite different from that of broadcast stations. The CRTC statement mentioned earlier, directing that cable programming be motivated "by innovation rather than imitation," seems in some respects well taken. At the same time, this policy provides a loophole that cable operators may employ to avoid controversial but socially significant programming that might be construed as competitive with conventional broadcast fare. In this respect, it is notable that cable operators have done little, in terms of publicity or other promotional efforts, to draw attention to their local origination; such behavior suggests the desire to avoid annoying the CRTC by successfully fragmenting the audience or the hope of placating the broadcasters by minimizing competition. It suggests that even in the absence of regulatory prohibitions,¹⁵ an unfavorable attitude by a regulatory body can produce inhibitory effects on CATV operators.

3. The costs of the local-origination programming are low in comparison with such costs in either commercial or noncommercial broadcasting in the United States. Nevertheless, further cost reduction may be possible. Even those systems originating up to thirty hours per week of new local material do not exploit it adequately. If this programming were re-

¹⁵The availability of local-origination programming needs to be emphasized to all cable system subscribers, since some subscribers do not know or have forgotten that it exists. Special programs (e.g., all one-shot programs) need special promotion to attract an audience. To gain a regular following, programs should be presented at regularly scheduled times on a seasonal basis.

peated several times per week on a regular schedule, e.g., by using videotape, it should be possible to reach a larger audience at low cost. If cycled through other CATV systems, the best of this programming should draw a significant audience. No mechanism for distributing this material exists at present. Personnel costs are the largest single deterrent to extensive repetition of local-origination programming. If reliable, automatic, long-playing video equipment of high signal quality were available for less than \$5000 per channel, it would facilitate replaying of local programming. Having the capability for unattended operation for up to three or four hours would be very useful. Operating in the other direction, however, is the growing public preference for color television. An additional capital investment of about \$100,000 may be required to set up a good color studio. Even the largest of Canadian systems have chosen not to do so. As the percentage of households in Canada with color television sets increases, the appeal of the black-and-white local origination may sag appreciably. The "amateur" type of black-and-white local programming of even the large CATV systems is not likely to compete effectively for audiences against six to eleven commercial color channels. It thus would not be likely to compete effectively for the local advertiser's dollar, even if there were no CRTC ban on CATV advertising. In other words, a change to color equipment may raise costs more than revenues.

4. Finally, the large backlog of proposals for new series that the CATV systems have in their files indicates that not everyone who wants to be seen and to communicate can do so. This suggests that some form of responsible leased-channel¹⁶ or common-carrier operation is necessary, requiring the operator to make channels available for a fee. At present the cable operator himself is the sole regulator, deciding what is and is not to be programmed. His concern with not appearing to compete directly with broadcasters, and his desire to avoid controversial material that might antagonize some of his subscribers, suggest that his choices may not always be in the public interest.

¹⁶This alternative, under which more groups would have access to cable channels, is discussed briefly in Section V.

III. DALE CITY, VIRGINIA: AN EXAMPLE OF COMMUNITY PARTICIPATION

Dale City is a relatively new 3500-home tract in Woodbridge, northern Virginia, about 25 miles south of Washington, D.C. It is an unincorporated community, several miles from any other residential area. The single coaxial cable for the CATV system was installed underground with other utilities at the time the subdivision was built. The system is owned by the builder of the tract and maintained by Antennas, Inc., of Arlington, Virginia. Ninety-eight percent of the community's 13,000 to 14,000 residents receive their television via this cable. The monthly charge for the service has been \$1.50 per household, but it will be increased to \$3.00 on September 1, 1970.

The system, known as Cable TV, Inc., began operation February 1, 1966.¹ Its nominal capacity is twelve channels. Reception of over-the-air television signals is very poor in Dale City: Washington, Baltimore, and Richmond signals are all weak. The cable carries eleven signals, ten of which are picked up off the air. The cable supplies six Washington, D.C. stations (three network affiliates, one ETV, and two independents), three Baltimore stations (all network affiliates), a Richmond station (a network affiliate), and Dale City Television (DCTV)—a nonprofit community-operated closed-circuit channel which produces solely noncommercial local-origination programs.

The local-origination channel is of particular interest because it was made available for community programming on a full-time basis to the Junior Chamber of Commerce from December 1968 to early 1970. It thus appears to be the first community-operated closed-circuit television channel in the

United States. Since the Jaycees accepted financial responsibility for the channel on behalf of the community, no advertising is carried.

COMMUNITY ORGANIZATION AND FINANCING

An advisory board of the Dale City Civic Association, composed of one representative from each of 13 community organizations (e.g., the Jaycees, the Boy Scouts, the Girl Scouts, Little League baseball, the bridge club, all PTAs, all three churches, and the volunteer fire department), provides community control over programming. The board was to establish working policy for the system and to judge programming ideas for their value to the community. To nurture community pride and involvement in community affairs, DCTV has produced programs describing the plans, problems, and accomplishments of a variety of community organizations and has attempted to involve large numbers of residents in DCTV programs.² In fact, the operation has tested the feasibility of using nonprofessional, all-volunteer personnel both for manning the equipment and for performing in the programs. No one receives remuneration.

¹Marilyn Finley, "Dale City TV, A Unique Experiment in Communication," *Prince William, The Magazine of Northern Virginia*, Vol. 1, No. 9, May 1969, pp. 9-11.

²Patrick S. Portway, a former civic association president, initially presented to the Dale City Civic Association the idea for a closed-circuit channel as a means of improving community communications. David J. Touch, the Coordinator of Medical Audio-Visual Services for the Rehabilitation Research Center of George Washington University in Washington, D.C., who has had years of previous television broadcasting experience, has been the volunteer Program Director of DCTV.

¹See *Television Factbook (Services Volume)*, Television Digest, Inc., Washington, D.C., 1968-69 edition, pp. 530-532.

The civic association approached a number of industries and foundations for a grant to back the experiment in community origination, but it was unsuccessful for a time in obtaining support. A \$4700 grant from Giant Food Stores was used to purchase the original equipment.³ It has frequently been necessary to borrow videotape recorders. Merchants in the Dale City area have loaned special effects equipment and set props. During the following year, an additional \$1700 was spent on equipment and rent.

Although there was no rental charge for use of the Dale City fire house as a studio, there was a charge for using the school auditorium for this purpose. Because state law requires that a responsible individual (i.e., an employee) be present, the school janitor had to be in attendance at all times. The rental charge was \$15 per night plus \$2.50 per hour for the janitor.

About half a dozen one-hour shows took about seven hours to tape at about \$32.50 each for rent. The first-anniversary show cost \$57. Including taping and cleanup, the time for a one-hour show has been reduced to four hours or even less. Thus the programming cost for a one-hour show is now down to about \$25, including the graphics (e.g., superimposed titles).

In January the Institute for Politics and Planning gave DCTV a grant to purchase two tapes per month so that some shows could be saved. During the year approximately \$100 was spent on graphic materials (which were reused). Although sets were usually donated, certain background materials were necessary. Equipment (totaling perhaps a few hundred dollars) that became necessary as the system grew was purchased by the Jaycees until the TV system had its own fund-raising show⁴ and could buy its own necessities. Insurance for DCTV was maintained by the Jaycees at a cost of \$125 per year.

³The first order in December of 1968 was for two cameras at \$995 each, two complete tripods, three monitors, two microphones, one videotape recorder at \$1895, one control panel—a special-effects switcher-fader for \$425, and one synchronizing generator for \$325. The total bill was \$4400. With additional lavaliere microphones, two booms, a small mixer unit, etc., purchases totaled \$4700. The estimated retail value of the equipment was about \$5400. In addition, DCTV has had on loan two zoom lenses and lighting equipment worth about \$1000.

⁴Of the \$1700 raised by the show, 80 percent was retained for the use of DCTV.

OPERATING PROCEDURES

Appendix A lists the basic operating procedures of the Dale City system. A survey of the community indicated that many of its artists and engineers were interested in participating. The directors for news and public affairs, women's programming, sports, graphics, and public relations were selected from individuals with experience in that specific area. None had had experience in television. The programming staff met weekly for brainstorming sessions and general coordination. Housewives were trained to operate the video cameras and videotape recorders (one of the five operating crews was all female). All sessions held in the multipurpose room of the local elementary school have been videotaped. Private homes have also been used. Shows are taped as much as thirty days in advance. About sixty-seven full-time volunteers were trained as DCTV staff. There was no paid staff.⁵ The volunteers include directors, writers, set designers, and researchers. A working crew for a full production consists of a director, a producer, a script writer, two or three cameramen, one boom operator, one audio engineer, one video engineer plus one engineering troubleshooter, a floor manager, one or two graphic artists, a scene designer, and several grips to erect or move the sets and props.

For most shows, basic sets have been made from easily obtainable materials. Because of the long time required to set up the equipment before taping and the long time required to tear it down and store it afterwards, most shows were unrehearsed. Tape recordings were generally made Friday evenings and cablecast the following Tuesday evening at the earliest.

During the first year, the fire house was used for about four or five live specials (distributed over the cable undelayed). DCTV would like to be able to originate live at the school auditorium and has tried negotiating for extension of the cable to the school. DCTV has been cablecasting for one hour each week, on Tuesday night, concentrating on community activities and news. Although the program was first presented from 7:30 to 8:30 p.m. to minimize competition with commercial programming, this seemed

⁵The cable system, as distinguished from the DCTV channel, had its own independent paid staff.

too early to attract a maximum number of viewers, and the starting time was changed to 8:30 p.m. The program appeared opposite the Jerry Lewis show and was claimed to have surpassed the latter in ratings.⁶

In addition, specials have been presented that ran from one to six hours, about eight of them in the first year. The degree of preparation for these specials varied widely. Examples of the programming are contained in Appendix B.

No accurate data are available on the number of viewers DCTV has had, though a telephone poll was conducted by Jaycee wives. The reliability of the answers may be questionable, since many who had forgotten to tune in may have claimed they were watching. With prior reminders, it appears that about one-third of those watching TV were watching DCTV.⁷ With no notice in the papers, no posters, and no prior phone reminders, the viewing audience was estimated at about 17 percent of those watching television.

A research and development department was begun recently to find areas in which the television system could be used by the community to solve some of its problems. Research was begun on a community-wide television kindergarten (Dale City has no public kindergartens), a project which enlisted the cooperation of the schoolboard, principals and teachers, and mothers. A second project under way was a summer television theater workshop for teenagers.

CURRENT PROBLEMS

Despite the success in generating community interest in locally produced television and the rather extensive programming produced over the one-year period, the system faces two related major problems: financing and equipment. With respect to the first, after one year of operation, DCTV was incorporated in February 1970 (under the name Dale City Closed Circuit Television, Inc.) in order to facilitate obtain-

⁶Robert Terpetra, "Dale City: A Planned Community Dream," *The Washington Post*, August 14, 1969, pp. F1 and F2.

⁷It should be noted that DCTV was only cablecasting on Tuesday evenings for one hour each week plus a weekend special about once a month.

ing support from industry and foundations.⁸ Until now, however, the corporation has not succeeded in adding to its financial base.

With respect to the second problem, failures of equipment have been time-consuming and aggravating. When the videotape recorder failed, there was no backup. The first scheduled showing, on the meeting of the County Government Study Commission, had to be canceled due to a videotape recorder failure. The 1-in. videotape recorder caused considerable trouble, since it required two hours to stabilize after being moved from a cold to a warm room. Although the picture quality was good when the recorder was working, it often was not working. Transistors failed, there was frequent synchronizing and video dropout, belts broke or flew off pulleys, and the servos would not lock in consistently. Incompatibility of one videotape recorder with another resulted in poor picture quality. The problem with videotape recorders made live cablecasting preferable.

Defective equipment was replaced or repaired by the manufacturer under the one-year warranty, but expensive and time-consuming repairs were required after the warranty expired. After one year, the equipment has so deteriorated that it is no longer useful.

The heart of these difficulties lies in the very low budget under which the system has operated. There simply has not been enough money available to procure equipment of either the quality or quantity required for dependable operations. The equipment could not withstand four to ten hours of operation per week for even one year. The lack of a permanent studio has been a severe handicap. Wear and tear on equipment is great when it must be moved and assembled for each videotaping session. Being able to leave the control room intact also would have saved considerable time and effort.

Despite strong community support and considerable enthusiasm, DCTV tended to disintegrate as its equipment deteriorated. Substantial and continuous financial support was a necessity, but proved to be beyond the resources of the community. In addition to possible grant aid by industry and foundations, the use of local advertising might have been a partial

⁸Included in the incorporation papers was a proposed code of ethics, a version of which appears in Appendix C as an example of what might be appropriate for other community groups.

solution. However, it was widely felt that accepting advertising (even on an experimental basis) would dissipate the civic feeling of DCTV and disrupt or influence civic activities. Thus the ban on advertising became a firm policy.

Finally at the end of February 1970 DCTV decided to abandon programming (at least temporarily) while proceeding with negotiations to solve the financial and equipment problems of the system.

CONCLUDING REMARKS

The four general conclusions to be drawn from this examination of community-controlled television are the following:

1. Despite the strong local interest and support during the one year of DCTV operation, it appears that an average of two to three hours per week of truly local origination may be all that can be generated for a community like Dale City. The first year of experimentation has shown the advantages of a community channel; it has also shown the very limited utilization of a channel available to that community full time. Such limited utilization by community volunteers may be a function of limited funds, the small size of the community, or its relative homogeneity.

2. It is important to note that DCTV competes against a large number of other stations—seven network affiliates, two independents, and an educational TV channel. To be able to attract audiences against such competition in prime time is a note-

worthy accomplishment. The channel has drawn a significant audience despite the difficulty and expense of informing people about the programming on DCTV and reminding them to tune in (both loudspeaker trucks and the community newspaper were used, but people tended to forget).

3. The geographical separation of Dale City from any other residential community, particularly from any large city, is probably a key element in the strong feeling of community pride and interest in local affairs. In addition, the newness of the community (it is about six years old) and the youthfulness of its members may contribute to the pioneering spirit shown by the original homeowners.⁹ Their sense of sharing a common experience may be difficult to maintain as the community matures and homes change hands.

4. Finally, it is important to note the potential import of new federal regulation. The system is over the 3500-subscriber mark and thus will be required to originate under the FCC's recent ruling.¹⁰ With the fee of \$1.50 per month increased to \$3.00 (still well below the typical U.S. rate of \$5.00 per month), the additional revenue may be adequate to support a studio and better equipment.

⁹At the end of 1968, a sample of 40 percent of the households in Dale City showed the average age to be 19 years. Considering only those over 21, the average age was 32. For such a predominantly young community, it is probable that their Dale City house was their first purchased home. The average family income was about \$11,500.

¹⁰Federal Communications Commission, *First Report and Order*, Docket 18397, October 27, 1969.

IV. LAKEWOOD, OHIO: THE PROBLEM OF ATTRACTING SUBSCRIBERS

During a period of about eighteen months in 1967-1968, Cleveland Area TV, Inc. (CAT), jointly owned by Cox Broadcasting and the Cleveland *Plain Dealer*, operated a cable television system in Lakewood, Ohio (one of the dozen or so suburbs of Cleveland). Since there are already five television broadcasting stations in Cleveland and one in nearby Akron that can easily be received in Lakewood, it was clear at the start that CAT would have a difficult time attracting subscribers unless it were free to carry additional signals from distant broadcasting stations (as from Chicago and Detroit) or able to offer attractive programming originated directly on cable (in addition to simply carrying the signals of the local stations). Because the FCC prohibited importing distant signals into the one hundred largest television markets in the United States, and since Cleveland is the eighth largest market, CAT was forced from the outset to rely on its own program origination.¹ (However, there were hopes that signals from two Canadian stations could also be brought in eventually.)

Lakewood was selected for this "experiment" in program origination because it combined low capital investment with high community interest and possessed local newspapers that could be used to promote the CATV system. The median effective disposable income per family² was \$10,583—a relatively high median value—and the low-income group was small. Lakewood had a city government and thus a

¹The general policy of banning the import of distant signals into the one hundred largest markets was set down in the FCC's *Second Report and Order* of March 17, 1966. For an extensive discussion of FCC regulation of cable see Leland L. Johnson, *The Future of Cable Television: Some Problems of Federal Regulation*, The Rand Corporation, RM-6199-FF, January 1970.

²Probably as of 1966.

political identity of its own. There was evidence of vigorous local interests—both community and group activities—aided by a natural competitive attitude toward Cleveland. Lakewood had one of the most stable populations to be found in any large U.S. city. On the basis of this analysis, it was concluded that Lakewood could support a profitable CATV origination programming service with only 25 percent penetration. The experiment was supported by adequate funds, competent engineering, and a well-motivated staff.

Three of the twelve channels on the system were thus devoted to origination: One was devoted to carrying the Associated Press news teletype on an around-the-clock basis, another to the New York Stock Exchange's 15-minute delayed quotation service during its hours of operation (a time and weather scan was presented during the remainder of the time), and a third to local programming of the sort discussed in the previous two cases.³

NATURE OF PROGRAMMING

The local origination began at 1 p.m. and went off

³Since there were strong over-the-air signals on the Cleveland VHF channels at all receivers, Channels 3, 5, and 8 were not usable on the cable because of ghosts. (Ghosts are caused by the presence of two similar signals with a small time delay between them, which arises because the cable signal travels more slowly than the broadcast signal propagates through the air.) Thus all three Cleveland VHF channels were shifted to three other VHF channels on the cable (three channels not used by broadcasters in that area). With six stations picked up off-the-air (three of these being VHF stations which were then translated in frequency) and with three origination channels, all usable channels on the nominal twelve-channel system were filled. If approval for the importation of the two Canadian signals mentioned in the opening paragraph of Section IV had been granted, it would have been necessary to drop both the stock market/weather-scan channel and the AP news channel.

about 10:30 or 11 p.m. Later, a children's show was added and programming began at 11 a.m. Although this channel carried programming eleven to fourteen hours per day, about five to six hours were movies. The feature movie package consisted of three different movies each day; the same movies were shown for a week but the hours were rotated, i.e., each movie was available at different hours each day. In addition to these feature films, free industrial films were used to fill in half-hour vacant spots. Thus films occupied at least five hours per day.

Local programming occupied about six to eight hours a day. Typical programs were the following:

- Local high school basketball, football, and softball games.
- A one-hour children's show.
- A teen-talk show (four high school students in a half-hour panel discussion).
- Cooking instruction.
- An exercise program.
- A man-on-the-street interview program.
- A home decorating program.
- Interviews with (for example) city councilmen, the city engineer, an Internal Revenue Service agent.
- A call-in "swap shop."
- Fashion shows.
- Local news (a local news reporter collected, prepared, and presented the local news; both the 5:45 news and the 10:30 news are each repeated three times).
- Soccer games.
- Demonstrations of floral arrangements.
- Demonstrations of ceramic decoration.
- High school student reports.

Although permission to program hockey games was requested, it was never given. The high school games were videotaped and presented delayed. The soccer games at the Cleveland Stadium were also taped for later replay. All discussion and local news programs were videotaped and repeated.

PROGRAMMING COST

Presenting this programming required the full-time services of a program manager, a broadcast

equipment engineer, a studio director who functioned as copywriter and announcer, a newsman, and a secretary who also ran the ladies' shows. The cameramen were part-time employees, generally high school students, who worked evenings and weekends. The mobile studio van cost about \$5000 (\$3500 for the van and \$1500 for insulation and other furnishings). All programming on the local-origination channel was in black and white. Since there was only one set of equipment, all equipment was moved into the van when necessary. The total capital investment in origination facilities and equipment, including the van and the studio, was about \$75,000. The two cameras alone cost about \$5800 each, and the remodeling and studio construction costs were \$37,500.⁴

The operating budget varied from \$6000 to \$6500 per month; it included all personnel and a prorated portion of the heat and electricity (e.g., \$125 out of a typical monthly electric bill of \$200), but no rent. The total yearly budget was about \$75,000. Of this, about \$10,000 was for the feature film package—two hundred features for the year. Thus the cost of the local origination programming was \$65,000 for the year for six to eight hours daily, five days per week. The average cost of the local-origination programming was thus about \$31 to \$42 per hour. The actual costs of particular programs may have easily run from half to four times these average figures.

All live programming was taped for replay and repeated at least once. For example, the teen-talk program—a panel show using high school students—was presented live between 4:30 and 5:00 p.m. and replayed again between 10:00 and 10:30 p.m. Since almost all the locally originated programming was cablecast twice, perhaps a better figure for the average production cost of local-origination programming is double the previous values—or about \$60 to \$80 per hour. The softball games were an exception; they were taped one evening and played once the next evening.

Since no subscriber surveys were made due to high costs and the limited audience, little information is available on the relative appeal of various programs. One exception was the popular-music program, presented from 7 to 9 p.m. High school stu-

⁴For a detailed list of equipment, see "People-to-People Cablecasting," *TV Communications*, Vol. 4, No. 6, June 1967, p. 44.

dents served as disc jockeys on this program, playing records and appearing on camera. Several hundred calls were received during the course of the program. Monitoring the incoming phone calls to check for repeats (simply judging by the sound of the voice) suggested that about half to three-quarters of the calls during a single program were from different viewers. Other high school students appeared on the program as guests; there was always a waiting list for guest appearances. The swap shop was at the other extreme. There was often no apparent audience, since for some shows no one would call in with things to sell or swap.

THE EXPERIMENT THAT FAILED

Despite the appeal of some of the originated programming, the cable operator was not able to attract large numbers of subscribers. Although the installed cable plant passed in front of about 25,000 homes, only 1500 families subscribed to cable service as an alternative to over-the-air broadcast. Since residents of Lakewood could receive a good signal from the Cleveland stations and the Akron UHF station with only a simple indoor antenna, cable television needed other signals to attract subscribers. The plans for CATV in Lakewood assumed approval (not forthcoming, as it turned out) to import two Canadian stations. Part of their appeal was that some Canadian programs are simply U.S. programs released two or three days earlier than in the United States. By the FCC's prohibition on importing distant signals into the hundred largest markets, the cable operator was prevented from bringing in distant, independent TV broadcast signals, and thus had to rely on purchased feature film packages, the AP and stock market ticker tapes, and local origination to attract subscribers.

Several reasons account for the failure to gain subscribers on the basis of these other services. First, Lakewood is a metropolitan suburb of Cleveland rather than a separate community or separate market. Unlike their counterparts in Dale City, its inhabitants tend not to care about local activities or affairs, having little sense of being an independent entity (i.e., apart from Cleveland). The Cleveland stations adequately covered the news and activities of concern to Lakewood residents.

Second, much of the programming had little appeal. A swap show needs a large audience to be successful. Although such a program may be successful once a week for one-half to one hour in a very large system, it is likely to be a waste of time in a very small CATV system. The free industrial films were not interesting, and the feature movies were too dated. The originations were often obviously amateurish; sometimes they seemed too experimental. The parents of the high school students on the school ball teams would sometimes pay \$5 per month only for the season and then terminate rather than subscribe for the full year. No advertising revenue was available to pay for better-quality programming; only the subscriber revenues were available to support the cable system amortization, operating costs, and the origination costs.

As a result of limited budgets, all origination programming—whether from tape, film, or live—was in black and white. Since about 35 percent of the Lakewood households had color sets, this probably reduced the appeal of the origination programming to a key audience—one which valued television highly and could afford a color set.

Third, the state of the art in equipment and techniques did not seem far enough advanced. In general, equipment was in short supply and functioned badly. The AP tape was not particularly pleasant to watch; due to faulty inking, the letters were often not clear. The material was repetitious and could be read much faster than it was presented. In short, it was incredibly boring.

No inexpensive mobile equipment was available. It was a difficult task to move the equipment from the studio to the van and back again. About an hour and a half was required to rip it down and about the same to set it up in the van. Since there was no remote link from the van to the head end, the programs were taped for later replay on a bulky helical-scan videotape recorder which used 2-inch-wide tape. The tapes were reused after a few playbacks, not saved. Tearing down the equipment and restoring it to operating condition in the studio took another three hours.

Cable system engineers now estimate that the new compact equipment available in black and white or color will reduce this overall time from six hours to a half hour for two men. This would considerably facilitate the use of the same equipment for

either studio or remote programming as needed and would significantly reduce programming costs.

Fourth, no inexpensive, effective means was available for informing either subscribers or nonsubscribers about the local-origination programming. For a long time there was no regular, consistent schedule for the programs, which made it difficult to issue a printed program and prevented the development of a loyal audience. A consistent program schedule was finally evolved, but advertising in the Cleveland newspapers was simply too expensive. Two local weekly newspapers are available in Lakewood, but they would not list the CATV programs in their television section free of charge. Since the system served only 1500 households out of 25,000 households (or 6 percent), it hardly seemed worthwhile to the newspapers, though perhaps if the cable system had served 50 to 80 percent of households in Lakewood, the service could have been provided. Thus the cable system had to pay for advertisements in the two weekly Lakewood papers to let its own subscribers as well as other potential viewers know about its local origination. Because direct mail to all subscribers was less expensive than the weekly advertisements in the local papers, the ads were discontinued; thus the system failed to reach nonsubscribers.

CONCLUDING REMARKS

It is conceivable that a cable system in a community such as Lakewood might now be viable under the present changed conditions: (1) the new FCC rules that permit advertising on local-origination channels and authorize subscription television (STV), (2) the new sources of packaged programming (not locally produced), and (3) the availability of improved studio and mobile equipment. Perhaps these services could be of sufficient interest to attract 10,000 subscribers out of the 25,000 households, and with this number of subscribers, it might prove feasible to generate significant revenues from local advertising (the amount of advertising revenue raised would, of course, influence the amount allocated to program origination). With fewer than 10,000 subscribers, there is not likely to be much advertising revenue.

Local programming as carried out in Lakewood could not be expected to attract advertisers, since it

did not attract subscribers. In order to attract the advertisers, special programming may be required, possibly obtained on a nationally syndicated basis. In principle, excess profits from this operation (if any) could be used to subsidize local origination. If such operations, however, are only marginally profitable, there will be no profits from this source to divert to local origination; thus despite FCC requirements for local origination, only token efforts can be anticipated in this case.

Centralized preparation of programming and its marketing among a large number of systems may make its cost relatively low compared to local-origination costs, particularly for small systems. Some software firms have indicated that they expect to be able to provide twenty hours per week of "quality programming" for about \$0.30 to \$1.00 per subscriber per month. On this basis, the cost to CATV in Lakewood would have been \$450 to \$1500 per month for the 1500 subscribers. If the entire twenty hours were repeated once during the week, the yearly cost for the forty hours of programming would be between \$5400 and \$18,000.⁵ The local-origination programming generated in Lakewood (films excluded) amounted to about thirty to forty hours per week (including replays), representing an investment of about \$65,000. Thus it appears that programming possibly having wider appeal for the Lakewood audience may now be available. If such programming had been available to the CATV system in Lakewood, it would have represented a savings approaching \$47,000 to \$60,000 per year. Or, to put it another way, purchased programming would have cost only about 8 to 28 percent of the cost of the locally originated programming. The availability of such programming might have had a significant influence in making the Lakewood CATV operation viable. (Of course, such purchased programming would not provide the sense of localism that generated so much community support in Dale City.)

If network, independent, and educational stations are combined, there are at least fourteen cities which today have six or more TV stations on the air. The aggregate U.S. population within a central 35-mile zone of these fourteen cities totals about 55,000,000 persons. The Lakewood experience particu-

⁵This is only the cost of purchasing the programming. Equipment maintenance and operating costs are not included, but they are not so large as to alter the present conclusions.

larly emphasizes the problem facing CATV franchise holders in these cities. Which distant signals can be imported, and what new services can be provided, to attract a sufficient number of subscribers to make CATV systems profitable in the major cities? Would the Canadian formula work in reverse? Would the importation of Canadian, Mexican, and

European stations (the latter by videotape flown to the United States or perhaps transmitted to CATV studios via satellite) make CATV attractive in the U.S. cities? Few experiments are being run to test mixes that may result in the viability of CATV in the major cities.

V. AN OVERVIEW

Since each community has certain unique characteristics, and since many time-varying parameters are involved, one should beware of overgeneralization from the few examples presented in this report. Nonetheless, it may be useful to attempt some synthesis of the evidence from the preceding cases.

SOME COMPARISONS

Cable television thrives where several broadcast stations cannot be received satisfactorily with merely a simple indoor antenna. For this reason, the importation of distant signals (if it had been permitted by the FCC) would have helped to make the Lakewood system financially viable. To put the case another way, there is no evidence that any community would pay the typical \$5 monthly fee of the CATV system solely for the addition of local programming.¹

Where there is no sense of a separate identity and no community spirit on which to build, local origination may be meaningless. As we have seen, isolation—in both the physical and cultural sense—may make Dale City inhabitants radically different from those of Lakewood. Dale City is physically separated from any other northern Virginia residential community, and many of its inhabitants feel sharply the disparity between themselves and the surrounding rural culture. On the other hand, Lakewood may be too much a part of Cleveland to generate dedicated civic groups.

Even though enthusiasm for local programming may decrease as income, recreational outlets, and

personal alternatives increase, enough interest in local programming may exist in large suburban communities to support an average of a few hours of community-originated programming per week. Thus one might argue that Lakewood, five or six times the size of Dale City, should be able to produce as much programming as the latter in spite of its lower level of interest.

Another factor should be considered in distinguishing between the success of community television in Dale City and the possible response in other communities, i.e., the fact that frequently a great deal depends on a single dedicated leader whose infectious enthusiasm generates community support. For example, a strong, active Junior Chamber of Commerce group in the southeast, reported to be one of the best in the United States, had frequently cablecast its functions on the local system, one with an excellent, fully equipped studio. When repeatedly offered an opportunity to put on a regular program (once a week or even once a month), the group refused the offers on the grounds that it would entail too much time and trouble.

A small community like Dale City possesses neither the financial resources nor the cultural diversity available in the large Canadian cities, yet the amount of experimentation carried out and the degree of community involvement generated are impressive. Under normal circumstances, the channel functioned as both a useful outlet for creative community energy and a source of community entertainment, and also permitted wider and more varied participation in major community events. In times of stress, the channel functioned to provide intercommunication among more people than any single building in the community would have been able to hold. It was a useful tool for promoting democracy in action, whether by explaining issues to the voters, providing time for political candidates, or viewing

¹A variety of CATV origination supported by local, regional, and national advertising and by subscription may be sufficient to attract a high percentage of subscribers without other inducements in some communities, but even this thesis needs to be tested. In the absence of cheap, real-time interconnection, i.e., networking, such origination may lack mass-audience appeal.

local government agencies in the process of deciding local issues. The most important contribution of DCTV has been aggressive, imaginative experimentation. In general, local-origination programming is highly in need of just such creative experimentation.

On the basis of the Dale City experience, it is apparent that a \$5000 investment in equipment for local origination is simply not adequate and results in great frustration. In the long run it is uneconomical, since the equipment rapidly deteriorates beyond repair. Reliable performance and satisfactory picture quality probably require an initial investment of more than \$15,000; even then, spare equipment is essential. Thus a minimum of \$25,000 in equipment seems to be required for extensive local-origination efforts in black and white. For color, the costs may be as much as \$95,000.² In addition, a permanent studio (e.g., even an improved garage) is essential. Funds of this magnitude and adequate space for a relatively permanent studio are not likely to be available to many communities even if the free use of a channel on the local CATV system were assured.

DCTV's basic cost per hour of programming was about \$25. Since (on the average) the DCTV volunteers produced two hours of programming per week, the yearly production cost (including operating costs) would be about \$2500. If we assume a yearly maintenance allowance of 10 percent of the capital investment, then the annual maintenance cost for an investment of \$25,000 in black-and-white studio equipment would be \$2500. Since the head-end equipment for the community channel is maintained by the cable system operator, DCTV pays nothing for transmission. Thus the total yearly cost for a properly equipped DCTV system producing an average of two hours per week of programming is estimated to be at least \$5000. Even if a grant were available to purchase the studio equipment, the recurring costs for its operation and maintenance would still exceed the resources of volunteer groups in most communities.

In large Canadian cities, the many different minority groups provide a rich source of material for local origination.³ Although subscribers to CATV

²For supporting data on equipment costs, see Federal Communications Commission, *First Report and Order*, Docket 18397, October 27, 1969, pp. 11-16.

³There is a wide disparity between what is being done and what has been proposed for urban minorities. See *Telecommuni-*

are primarily lured by more and better broadcast signals, local-origination programming for minorities has been used by the large cable systems as a supplementary inducement. The closed-circuit FM radio channels which cablecast four to ten hours per day may be more important than the brief video sessions in obtaining subscribers from some minority groups.

Canadian local origination by large CATV systems is noteworthy for providing live video programming at a fraction of U.S. costs for local broadcast programming, for being able to generate ten to thirty hours of new material every week, and for providing additional FM radio stations on a closed-circuit basis with astonishing economy. The fact that any CATV system could originate thirty hours per week of local material at an average cost of \$25 per hour and provide numerous closed-circuit radio channels as well is an impressive indication of the potential of cable television for minority programming.

After as much as ten years of local origination, operators of large Canadian CATV systems tend to settle for a modest level of effort with limited experimentation. The fact that no audience surveys have been made to determine the ratings of the local-origination programs, that there is essentially no promotion of the programming, that local advertising was largely discontinued on local sports programs long before the CRTC ban on advertising, and that annual sales expenditures for obtaining new subscribers are three to thirteen times the budget for local origination indicate the negative attitude toward local origination.

Just such an approach, which leads to perfunctory local origination, is apt to characterize U.S. response to the FCC's recent decision to require local origination on cable systems having 3500 or more subscribers.⁴ Token conformity is likely to be the norm.

In its restrained experimentation and its tendency to avoid controversial issues and personalities, Canadian large-system origination points up all too

cations in Urban Development, by H. S. Dordick, L. G. Chesler, S. I. Firstman, and R. Bretz, The Rand Corporation, RM-6069-RC, July 1969, for a detailed discussion of some applications for television in urban ghetto areas.

⁴Federal Communications Commission, *First Report and Order*, Docket 18397, October 27, 1969.

clearly the limitations of local origination under operator sponsorship. The primary function becomes public relations—maintaining favor with regulatory agencies, the government, and the public—and the secondary function attracting new subscribers. All of these factors militate against direct community involvement and against providing an outlet for the nonconformist and the unpopular point of view.

IMPLICATIONS FOR PUBLIC POLICY

From the preceding discussion, certain conclusions about policy can be drawn:

1. Support of local origination by the CATV system does serve the public interest and should therefore be encouraged. It is premature at this time to specify precisely the number of hours, the kinds of programming, or the type and amount of financial support this effort should entail. Wide and extensive experimentation, audience monitoring, evaluation, and study should precede and provide the basis for any regulatory action.

2. Local origination by CATV system operators by means of canned distributed products is a service to the public only insofar as these products increase the diversity of programming available. However, to leave this function entirely in the hands of the operator would place him in competition with all other suppliers of programming who may wish to distribute their product over the CATV system. This competitive relationship may not be desirable in the long run, since the operator, seeking to maximize the value of his programming, might restrict access and therefore limit diversity. In other words, in such an environment the operator may not aggressively seek to expand capacity as a lessor of channels or as a common carrier. As an alternative, he should be required to carry all programming requested at reasonable published rates. The primary restrictions to be placed on the product should be a warning to the producer that he should violate no criminal laws and the requirement that an adequate bond be posted to cover any potential civil liabilities. The producer should be free to seek advertising—local, regional, and national—to pay for his effort. In lieu of advertising, the producer should be free to choose to show the material on a subscription basis, with the CATV

system operator responsible for collection and payment to the producer. In many areas, Pay TV may prove to be one of CATV's most important new services in the attempt of CATV operators to attract sufficient subscribers to make their systems profitable.

3. CATV systems should be encouraged to make some minimum number of channels available full time for local origination to any broad-based association of civic and service organizations. Where such associations are established, can procure their own equipment and their own studio, and can produce programming effectively, this effort should partially satisfy any FCC requirement for local origination by the CATV operator. Considering the expense of such an undertaking, only a few communities are likely to support such arrangements. The precise number of channels to be made available and the relationship of that number to the size of the system, its capacity, profitability, or any other criterion cannot be specified sensibly at this time. More data on CATV systems need to be available and much experimentation on local origination carried out before detailed requirements can be formulated. The desirable number of channels depends, of course, on local needs, and it is not known at this time how these may vary from one community to the next. It is apparent, however, that local origination by civic associations should be encouraged, for they provide the best form of grass-roots television. They assure the relevancy of the local programming to community problems in a way which cannot be achieved by any number of rules imposed by a regulatory body on a profit-making enterprise.

4. The CATV operator should be encouraged to provide a fully equipped studio and mobile equipment for local origination,⁵ and group training courses on the operation of the studio and mobile equipment should be provided on evenings and weekends. The charge for such training should be a nominal fee adequate to reimburse the operator for the direct costs of the training program and provide a margin of profit. The CATV operator should be encouraged to operate as a rental agency, leasing equipment at hourly and daily rates so that individuals and organizations can produce programs on their

⁵This assumes that the association is unable to acquire its own equipment and facilities as described under the previous item.

own premises. The use of the operator's equipment and studio for a reasonable fee should be encouraged. Most community associations that originate local programming will only be able to do so if the training, equipment, and studio facilities are furnished by the CATV operator. Details on procedures and rates as a function of various system parameters remain to be determined.

5. Independent producers using independent studio facilities (e.g., at local UHF broadcast stations) should be encouraged to provide local origination with local commercial sponsorship over leased CATV channels. For example, there is a class of local origination (e.g., local sports) that may prove attractive enough to gain regular support from local advertisers. If coverage by independent producers of such local activities does not materialize, the CATV system operator should be encouraged to carry out local origination of this kind in addition to supporting the community type of local origination discussed above. Arrangements will undoubtedly vary among communities, and considerable flexibility should be permitted at this time.

6. The channel provided for local origination should be equal in quality to the best channel provided by the system when all effects such as ambient temperature changes, reliability, and over-the-air interference are included; the use of a channel of inherently inferior quality should not be permitted. Such a requirement may be a means for improving CATV system design and maintenance.

7. In order to reduce the cost of notifying subscribers of special and common-carrier programs on the local-origination channel, routine monthly direct-mail announcements should be used (a minimum-cost solution may be a three-by-five card enclosed with the monthly bill), as well as regular announcements giving up to several days notice (perhaps on the time and weather channel). The alternate use of the time and weather channel,⁶ or else the use of a separate calendar channel to present the complete schedule regularly for the local-origination channel, deserves evaluation. Another low-cost alternative may be a service by the telephone company that allows customers to dial a number and receive a recorded recital of the day's programming. The mes-

⁶For example, every quarter hour, or continuously in the case of a separate channel.

sage could be played simultaneously over a large number of telephones. Unless subscribers can be notified of local-origination programming in a reasonable, convenient, and effective manner, the medium has negligible value. Study and evaluation of alternative approaches and their costs for the effective promotion of local-origination programming is essential.

8. When the local-origination channel is not in use, it should be made available for leased-channel use, i.e., a type of common-carrier use. Leased-channel experiments should be encouraged under controls that will assure wide access without irresponsibility. The CATV operator should be absolved of all responsibility for the content of the leased channels, and a bonding arrangement should be developed to ensure that the lessee is fiscally responsible for any civil actions brought against him.

9. Selling local advertising in competition with other media such as local radio and local newspapers is an art. Most cable operators have no experience in selling advertising and no knowledge of how to go about it. As in common-carrier operation, the selling of advertising may involve such potential problems as the equal-time provisions, the fairness doctrine, and sponsorship identification requirements. Few CATV systems, regardless of size, are prepared to cope with these issues. In fact, few CATV systems even appear capable of preparing a good rate card. Although the selling of advertising appears to be a promising new area for CATV, it is likely to require a long and painful education for many. It is possible that in many cases a new entrepreneur may be required to supply the missing expertise for matching origination programming, both local and syndicated, with advertisers, whether local, regional, or national.

10. It is clear that certain developments in CATV technology, such as feedback from the viewer and interconnection, are at least as important for local origination as they are for other services. In mass-audience programming, it is important to advertisers to determine whether the audience is 20 or 21 percent of 60 million viewers. For local-origination programming and for all specialized programming, it is even more important to find out if *anyone* is watching. Determination of whether or not there is an audience provides an indicator of whether or not a program is serving the public interest. Local-

origination programming needs to be able to poll its viewers on local issues. To evaluate the effectiveness of local programming and thus to evolve programming better suited to local needs, the producers require feedback from their audience. Thus equipment is needed that will (1) verify whether or not each subscriber's set is turned on, (2) determine to which channel it is tuned, and (3) permit multiple-choice responses from an identified respondent. Regional interconnection can be used to make local issues available to all concerned, since some fraction of local-origination programming is likely to have an appeal outside the community in which it is produced. Regional real-time networking via microwave relay would permit the audience to be structured on the basis of interest.

11. Based on the various possible uses discussed above, it is evident that more than a twelve-channel system will probably be needed in most areas, since excess channel capacity must be provided if experimentation with new uses is to occur. Engineering principles suggest that from fifty to a hundred TV channels per cable should be feasible in a CATV distribution system optimized for high capacity. There is ample evidence that substantial economies of scale can be realized in the installation of multiple cables all at the same time; e.g., four cables in a common sheath may be installed in one operation with the amplifiers added only as needed. Without a study (and possibly experimentation) to establish the costs of increased capacity and another study of the projected growth of demand for the new services (again with experimentation), it is not possible to estimate the minimum capacity that cable operators should be required to provide at this time.

SOME THOUGHTS ABOUT USES IN URBAN GHETTO AREAS

The case studies above, dealing with U.S. middle-class suburban areas and metropolitan Canada, do not relate directly to the potential in the inner city. Yet it is here that the multichannel capability may have its greatest potential to serve society. Some possible roles of telecommunications in urban development have already been described.⁷ While finan-

⁷H. S. Dordick, L. G. Chesler, S. I. Firstman, and R. Bretz, *Telecommunications in Urban Development*, The Rand Corporation, RM-6069-RC, July 1969.

cial resources are more limited than in suburban communities, the availability of a rich source of issues, problems, and dedicated individuals makes the ghetto a logical place for experimentation. Many other aspects of CATV in urban ghetto areas, however, have not been touched on.

The basis of CATV in ghetto areas, as elsewhere, must be that it makes available more and better-quality broadcast signals. Only if the CATV system provides such a service will it be valued and the physical plant protected, and only if the service is valued is it likely to be economically self-sustaining, i.e., supported through monthly payments of the subscribers. The potential of local origination over such a CATV system needs to be fully explored.

Since ghetto areas are generally within strong signal areas of local broadcasting stations, penetration cannot be based primarily on offering better-quality signals (there are exceptional cases of severe ghosts due to multiple reflections). Penetration into the low-income ghettos seems unlikely to succeed on the basis of potential new services (such as facsimile mail and shopping) simply because of the high cost of these services relative to disposable income. Cable television may therefore not be profitable in the ghettos unless the FCC's limitation on the importation of distant signals is removed. Even then—assuming the lower cost per household of the CATV system installation due to the high population density—there is no assurance that CATV will be a profitable venture in the typical urban ghetto in the near term.

The risks and problems of local origination in the ghetto are formidable, since its first effects are likely only to expose the defects of present institutional arrangements and to emphasize the magnitude of the problems. Increased awareness of problems without a program for their alleviation can only lead to frustration. All remedies are likely to require a considerable investment and may require changes in the infrastructure for education, welfare, health services, job placement, job training, etc. CATV is only a communications medium; by itself it can neither generate the funds nor change the infrastructure to evolve workable solutions to present problems.

Some of the expectations for cable TV in the ghetto may be unrealistic. For example, some observers have suggested that ghetto unemployment could be reduced by means of widespread instruc-

tional television on CATV. This assumes that the defect lies in the individual and that an appropriate dose of basic education—prevocational, vocational, or orientation-to-the-world-of-work training—will provide the individual with a job despite the shrinking, constantly changing, highly competitive job market. It can be argued, however, that job training produces people either inadequately trained or trained for jobs which do not exist, and that on-the-job training is the only cost-effective type of training. Cable TV does not provide an answer to this. It can only provide a communication medium for assisting in both prejob training and on-the-job training that may be able to reduce the costs of (and permit comparisons between) the two approaches.

While CATV can provide channels to improve intercommunication among ghetto residents, it is not likely to improve communication between the ghetto

and society as a whole because this kind of local programming will not be of general interest. It is not likely to draw the attention of surrounding neighborhoods to ghetto problems and away from the major network shows. However, local origination in the ghetto can perhaps be used to interest local residents in solving their own problems rather than being totally dependent on outside help. Such a channel (with feedback or response from the viewers) can be used to gather data about problems, to build leadership within the community, and to create the sense of participation essential for the success of almost any program or service. Ghetto programs often fail for much the same reason that foreign aid programs fail; to the extent that they appear imposed from the outside, they stifle local initiative, responsibility, and dedication.

Appendix A

BASIC OPERATING PROCEDURES FOR DALE CITY TELEVISION¹

DEPARTMENT DIRECTORS

Program Director

The Program Director will have complete responsibility over the entire systems operation. All department heads will report directly to him. The Program Director will be responsible in assigning Staff Directors, Producers, Staff Announcers and Assistant Directors for each telecast. All program ideas and policy questions are the direct responsibility of the Program Director. Decisions concerning program policy and station operation are the direct responsibility of the Program Director. He will report directly to the Advisory Board.

Director of Public Relations

The Director of Public Relations will be the official public spokesman for the system. This department will be responsible for supplying the mass media with current information concerning this system. Weekly program logs will be supplied to the local papers from this department. All PR information is to be approved by the Program Director through the Public Relations Office. Anyone is free to submit promotional or public relation ideas; however, they must first be approved by the Public Relations Department. In addition, the Public Relations Director will be responsible for supplying promo-

¹The rather elaborate operating procedures devised for Dale City Television may provide a useful basis for community TV in many other areas as well. For that reason, this description, based on one prepared by David J. Touch, Program Director for Dale City Television, is presented here.

tional information for particular telecasts and assisting Producers and Directors in the writing and placing of promotional and public relations information.

Directors of Sports, Women's Programming, News, and Public Affairs

The Directors of these departments are required to keep on hand a constant approved backlog of program ideas. They will be responsible for producing their own programs, supplying formats and talent, and organizing each show in such a manner that it is ready for airing when it comes into the studio.

Director of Graphics

The Graphics Director will have the responsibility of producing a complete set of graphics as required for each telecast. In addition, a graphics person will be on hand for each production. Graphic requirements will be submitted to the Graphics Director at least one week prior to a telecast.

Scene Designer

The Scene Designer will be responsible for designing and preparing each set for each telecast. Scene requirements are to be submitted to the Scene Designer at least one week before the proposed telecast. Additionally, the Scene Designer will be responsible for all props for each telecast.

Producers

Anyone in the system is encouraged to independently produce programs, under the following guidelines:

1. A program idea must be submitted first to the Program Director and then approved by the Advisory Board.
2. The Producer is required to submit script outlines, budget, story boards, final script, and all production at least one week before the proposed production.
3. The Producer is required to assemble his/her own crew with the assistance of the Production Supervisor.
4. The Producer will be required to supply to the Chief Engineer all technical requirements for the production.
5. The resources of the entire system will be at the disposal of the Producer for a particular program.

PRODUCTION STAFF

Announcers and Talent

As scheduling permits Staff Announcers are asked to be on the set at least one-half hour prior to air time. Coats and ties are required for men, dresses or suits are required for female participants. Sports clothes, etc., are not authorized for on-camera work.

Engineering and Chief Engineer

The Chief Engineer is solely responsible for the system's entire engineering and engineering personnel requirements. He will schedule for each taping a video engineer and audio man. He will be required to supply information on power requirements, camera and audio operation, including mike positioning, to the Producer and/or Director for a program. Additionally, he will be responsible for the setting-up of cameras and the master control area. He will be responsible for maintaining all electronic equipment and keeping it in operating order, and report directly to the Program Director any technical difficulties occurring during any taping session. He will

hold primary instructional sessions in television engineering for both cameramen and audio men. The Chief Engineer will report directly to the Program Director.

Production Supervisor

The primary responsibility of the Production Supervisor is to gather each full crew for a particular session. This includes cameramen, floor audio, lighting, grips, and floor manager. Each individual will know in advance what he is expected to do for a particular taping session. It is the responsibility of the Production Manager to see that his crew stays for the entire session and assists in tearing down the equipment in the studio area after the production. In addition, he will be responsible for familiarizing new people with the systems operations along with formally introducing new people to the television staff. He will be additionally responsible for the scheduling of teaching sessions for both production and engineering, along with teaching primary production techniques to new members. The Director of this section will report directly to the Program Director.

Production Staff

The Production and Engineering Staff are required to be on the set at least one hour prior to technical rehearsal. The Production and Engineering staff will *set up for their area only*. Talent is required to stay out of the production area until the Director is told and set and engineering crews are ready to start shooting. Cameramen, floor audio, and master control staff are the only authorized people allowed to be near or operate equipment, under the supervision of the Chief Engineer and Staff Director. The cameramen for the evening are the only authorized people to operate and man cameras, again under the direction of the Staff Director and Chief Engineer. Lighting, mikes, and other electronic equipment are not to be changed without prior approval of the Director and audio man. Cameramen will assure that their cameras are out of the lights at all times and are not left unmanned or focused on one set for a long period of time. Camera f-stops are not to be changed after they have been set except by the approval of the Director or Chief Engineer.

Since we often have guests in the studio, the entire staff will be required to conduct themselves in an orderly and professional manner. We are with the system to learn and to have fun. Having fun should remain in the realm of good taste.

Questions, comments, or ideas concerning any of the standard operating procedures listed below should be brought to the attention of the Program Director.

Summary of Staff Member Responsibility

| <i>Staff Member</i> | <i>Report to</i> |
|--|-----------------------|
| Cameramen, floor manager, lighting, floor audio | Production Supervisor |
| Audio man, video man, all engineering personnel | Chief Engineer |
| Directors, staff announcers, department heads, talent, producers and writers | Program Director |
| Graphics | Graphics Director |
| Grips, set designers and assemblers | Scene Designer |

Appendix B

PROGRAMMING ON DALE CITY TELEVISION¹

NEWS AND PUBLIC AFFAIRS

On-the-spot news coverage included the campaign speeches of the gubernatorial aspirants who spoke in Dale City, PTA meetings, and a town meeting concerning the direction of DCTV.

The first live cablecasting of DCTV was of the Dale City Volunteer Fire Department. It was a lively telecast, since a fire call was received while the DCTV crew was on the scene.

Interview shows were held frequently with an announcer-interviewer and two guests from the community.

A meeting of the Prince William Board of Supervisors considering zoning changes for Dale City was telecast.

DCTV took part in a voter registration drive just before election time, with a 93-percent turnout. The Civic Association, which has 2000 family members out of the community of 3400 families and is the largest branch in the State of Virginia, made a strong effort; they went from door to door and ran articles in the local newspaper. On DCTV, there were reminders when to vote and on eligibility requirements, e.g., wives of military who maintain residence elsewhere are eligible. Referendums were explained, and their specific implications for Dale City pointed out. The percentage of funds on school bonds that were for Dale City was discussed.

The County Government Study Commission met in Dale City to inform people of their work. The meeting was being recorded for later playback but the recorder broke down.

The interview type of show by far dominated news and public affairs programming because it was

the easiest and quickest way of putting together an informative program. Some of the interview shows were the following:

"Ex-cons Tell It Like It Is." Four ex-inmates of Lorton Prison, which is just 6 miles away, visited Dale City for an interview. These were all men who at the time of the interview were working to help steer the youth of the inner city away from crime by relating their own experiences. They were articulate blacks from the ghetto who came to DCTV to reach a predominantly white middle-class suburbanite audience. The program was well received and, as had been hoped, stirred some controversy. The DCTV staff felt that this kind of programming was necessary and worthwhile.

"The Fire." Following a tragic fire in which one Dale City man lost his life, questions and rumors began to fly concerning the basic safety of certain models of homes and the efficiency of the Volunteer Fire Department. DCTV went on the air with a taped interview with the fire chief and his assistant and a representative of the builder. Results were that rumors were stifled and Dale City residents became more fire-safety conscious.

"Why Hasn't Anybody Asked Us?" This was a panel discussion between teens in the community and the parents of the teens. Problems in Dale City included lack of teen activities and facilities. This program was an attempt to study a community social problem. What was learned was that while teens may be articulate, they are not necessarily good at analyzing their own problems or in devising solutions.

¹Based on information furnished by DCTV.

"Our Telephone System." A sore point with most community residents is the local independent telephone system which serves the area. With a State Corporation Commission service hearing upcoming, the news department interviewed the telephone company president and some of the company's representatives. For that show, the interviewer asked residents in advance to send in their gripes to make certain they were valid and they served as the basis for the interview. The results of the show were not as had been anticipated. The community learned that while service was not what it wanted, in many instances the reason for the inconveniences was that the community was served by a small system, not necessarily a faulty system.

SPECIALS

Specials (full one-hour shows based on a single theme) were usually team efforts, with directors from all departments pooling their ideas and putting together the show. These specials were devised primarily to allow DCTV staff members to indulge their creative energies and to make use of local talent.

"Music of a Season." For that show DCTV went totally mobile, moved equipment (including a piano and a generator) into Washington, D.C., and set up on the steps of the Reflecting Pool in front of the Lincoln Memorial. Special permission was granted for this by the National Park Service. Using this Memorial, the Washington Monument, the Reflecting Pool, the tourists and the park-like atmosphere for sets, talent from the Dale City area sang, hummed, strummed, and played the music of autumn. Talent for the show included a high school chorus, several folk singers with guitars, an a cappella girls' trio, and an operatic soprano. A third camera had been borrowed and equipped with a telephoto lens. That camera was mounted atop a truck. The other two cameras using zoom lenses were used on various levels. A generator was necessary because there was no other power source. A Dale City area merchant donated the one used and a standby. Use of the trucks to transport the equipment was also donated.

"Music of the Community." More than 60 members of the community appeared on camera in a one-hour display of musical talent for DCTV's first special. The show was taped in a school multipurpose room and material for sets was donated by local merchants. The music ranged from country-western through folk songs, show tunes, and folk choir music. Anyone talented in the community was given the opportunity to appear. The M.C. for the show was one of the area ministers who tied together the widely ranging numbers with poetry, philosophy, and talk all written or culled from memory that night. Sylvania sent to Dale City a mobile van complete with studio cameras to do the show. DCTV crew members manned all the equipment under the guidance of Sylvania engineers.

Other specials included "Merry Christmas," DCTV's holiday wish to the community, which included some acting, elaborate sets (by DCTV standards), and a full script; and "Jamboree," a full country-western show taped at the school with very simple mood-evoking sets. The DCTV Birthday Celebration was one of the few shows taped with a full audience. The show featured music by a 35-member Army concert band.

PUBLIC SERVICE ANNOUNCEMENTS, VIGNETTES, AND FILM

For regular weekly shows each department furnished a portion of the hour's programming, any leftover time being filled with the following: community announcements, usually produced like separate short commercials, using special props, lighting and scripts; short humorous vignettes on timely subjects; or (on one occasion) a short documentary film. The film was titled "A Child's First Day of School" and ran approximately ten minutes. It was well received; had a budget been available other films would have been produced. Because of their brevity the public service announcements and vignettes could be rehearsed and staged. These served as cutaways to smooth transitions between two segments and also provided a flexibility for allowing airing of last-minute announcements, since these could be cut or stretched.

AUCTION

A televised auction ran from 8:30 p.m., August 2, 1969, until 2:30 a.m. The purpose of the auction was to raise money to support the system. The auctioning of the merchandise contributed by retailers in the area (value \$2500) netted \$1700; 20 percent of this was donated to the civic center fund. Although DCTV has generally opposed advertising, each merchant who donated merchandise was mentioned.

Ten telephones were installed in the fire station where the auction was held. Volunteers from the Jaycee wives' organization manned the ten telephones and telephoned every listed phone in the community about one hour before the auction began to remind people to tune in to DCTV. The telephones were donated for the evening as a civic project. Bell and Howell of Chicago brought in \$100,000 worth of color equipment and provided three technicians to set it up for the one program.

Three of DCTV's five volunteer production crews operated the color equipment throughout the telecast. The power company donated the power, and the Law Enforcement Committee volunteered to deliver the merchandise. Arts and crafts club members tallied auction items, and the Junior Teen Club sold food; local dignitaries served as auctioneers, and the entire community supported the auction. A later tally of people involved showed that 367 people had helped put the auction together.

WOMEN'S PROGRAMMING

The underlying idea behind all of the shows for the women's department was to bring to the Dale City housewife knowledge of the opportunities around her to help her as a wife and mother. The shows were a combination demonstration and interview with an expert in the craft or art being discussed. The women's department also developed a consumer report on food items which discussed the good buys of the week and ways of taking advantage of them. Some of the women's show topics included ceramics, makeup, decoupage, cake decorating, painting, lawn care, and home decorating.

SPORTS

Originally the sports department wanted to show

the young people of Dale City at their many recreation projects: Little League baseball, Little League football, the soap box derby, and shooter education. Once into the project, it became obvious that weekly "on-location" shows were impossible, since they placed too much wear and tear on the equipment. Often releases to televise the games could not be obtained. Film seemed a good answer but was too expensive for DCTV on a weekly basis. Film was used for one show with excellent results, since the film greatly aided the pacing of the show.

The sports department had to be content with reporting the results of games and using demonstrations. Some of the demonstrations which were most successful were karate, as performed by instructors ranging in age from 6 to 45; modern dance, performed by a club from a nearby high school; demonstration of wrestling holds and countermoves by high school students; pointers on how to improve one's golf game by a local golf pro.

FOURTH OF JULY PARADE AND CARNIVAL

The entire three-hour parade was carried live. The home viewer had a much better view and was better informed about the floats and marching groups than those who saw the parade first-hand. The switcher, audio control, and monitors were mounted in the back of an enclosed truck; camera 1 was on the street, using a borrowed zoom lens, and camera 2 was mounted on top of a station wagon using a borrowed telephoto lens. Announcers were at the edge of the crowd and a monitor was placed near them so they would know what action was being televised.

The annual Fourth of July Carnival is run by the Civic Association. Professional rides are brought in, and civic groups build and man all manner of booths and eating concessions. For the carnival, DCTV used the mobile unit and taped an hour-long show for later cablecasting. Members of the DCTV staff visited each of the carnival booths and rides, and interviewed spectators and concessionaires. The DCTV staff tried videotaping the fireworks which climaxed the evening but learned that picking the rocket bursts out of a black sky and quickly focusing was too difficult.

Appendix C

A CODE OF ETHICS FOR COMMUNITY TELEVISION: THE CASE OF DALE CITY ¹

The System shall be operated on behalf of the Community by volunteer members from the Community, and shall orient its programming toward promoting the interest, welfare, and entertainment of the Community with emphasis on enhancing civic development.

The System shall insure that its programming is on a level of dignity commensurate with the cultural, social and moral standards of the Community and shall insure that programming is impartial and nondiscriminatory and not directed at any specific racial, ethnic, social, cultural or religious group with a latent or implied derogatory intent.

No member of the System shall receive a salary or derive financial benefit from the System.

The System shall not present paid commercial advertising, but shall permit factual mention of gifts, grants, honoraria, services or donations to the System which enhance the technical, artistic, theatrical or public service value of the system.

No member of the System shall accept any personal gift of money or merchandise. Acceptance of a grant, service, loan, or gift of money or merchandise to the System which is considered integral to good programming or which materially adds to the artistic, technical, esthetic, entertainment or public service value of programming shall be permitted.

No member of the System shall use his position or association with the System (or the facilities of the System) for personal (or political) advancement or

financial reward, nor shall association with the System be advertised on the System in connection with partisan political activity.

A formal procedure shall be instituted to exclude from membership in the System any person deemed to have used his association with the System with indiscretion or dishonesty, or to have compromised the integrity, dignity, social value, reputation or ethical standards of the System.

The System shall not exclude any member of the Community from membership in the System nor shall suggestions for programming or requests for Community interest announcements be excluded from consideration unless not commensurate with the ethical standards of the System.

Subjects of specific and direct editorial comment by the System will be accorded equal broadcast time to answer, rebut, counter or explain such editorial material in keeping with the spirit of the "fairness doctrine."

The System shall orient its political programming to contribute toward a better-informed local electorate. As such, it will present a balanced political program schedule, in keeping with the spirit of the "fairness doctrine," and on an equal time basis. To provide a civic forum for the Community the views of the major participants and the major issues confronting the local electorate will be presented. However, the System will not engage directly in partisan political activity, will not present partisan political editorials, and will not present political issues involving the System.

¹Prepared by the staff of DCTV, this code suggests the range of ethical issues involved in community operation of a channel.