Public-Interest Programming by American Commercial Television

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1 I would like to thank Hedahne Chung and Jim Parker for the data analysis and other assistance.

Public television must be carefully distinguished from *public-interest* television. Public TV is an institutional system of nonprofit or governmental broadcasting. Its product tends to be public-interest TV programs. These are programs that go beyond pure entertainment and provide a cultural, civic, informational or educational function. However, a public TV broadcaster can also offer content that cannot be counted among public-interest programs, such as sports, and popular music. Conversely, public-interest television is not the exclusive province of public TV institutions. Commercial program providers, too, can offer news, education and culture.

The question which this article addresses is the extent of the public-interest program performance by *commercial* television in America. Because American television, among the world's TV systems, has evolved furthest into a market-driven multichannel arrangement, a look at the impact of such evolution on the performance of commercial television is significant beyond the American borders. Has commercial television contributed programs that might be classified as serving a broader public-interest, beyond entertainment? The answer to that question is important to private strategy and public policy. If commercial TV, in an expanded multichannel environment, were to provide a rich menu of those programs that previously were available only on noncommercial TV, the mission and strategy of public TV would be affected. Some could conclude that public TV has become less needed. Others might conclude that public TV needs to refocus on a new mission. Whichever way one comes out, public TV would be different than in the past.

1. The transformation of American television

In purely theoretical terms, it is impossible to answer the question whether multichannel TV provides more public-interest television programs than a limited TV environment. On the one hand, such a TV system tends to offer more of everything, and hence more of public-interest TV. On the other hand, such a system tends to be more competitive, thereby possibly pushing programs to more sensationalist formats, greater dependence upon advertisers, and lowered production budgets. This will be discussed theoretically and investigated empirically further below. But first, let us examine the institutional setting.

The first three decades of commercial television in the US were characterized by an oligopoly of three national programs: CBS, NBC, and an initially weak ABC. Public broadcasting was a minor, though respected, participant in terms of resources and audiences. Commercial broadcasting consisted of several hundred local stations, either "affiliates" of the three major program networks (a few large stations were owned by them) or "independents," using programming provided by syndicators and others. Local stations' primary program production contribution were local news, public affairs and sports. The public television system was a federation of several hundred independent local stations,[2] some of them state-owned, and funded from a variety of sources, including the federal Corporation for Public Broadcasting (CPB). Programs were produced by stations and distributed nationally by the umbrella Public Broadcasting System (PBS). In terms of institutional complexity, the system has often been compared to the Holy Roman Empire.

On top of this institutional inefficiency, the public system was underfunded relative to other industrialized countries.

Government support for public TV (1993; per capita)	
Canada	$31.05
Japan	$31.02
UK	$38.99
US (federal)	$1.09
US (all sources)	$6.83

Source: Ledbetter, 1997

2 The emphasis on localism was said to have been a strategy by the Nixon Administration to divert the efforts of public TV from national issues to local ones.

The three commercial networks, physically located in close proximity in New York and continuously interacting and cooperating on issues of mutual self-interest, were at once fiercely competitive with each other for audiences and talent. They worked together when the public image of the TV industry was at stake. Thus, they jointly limited, to some extent, sensationalism and violence in programming. As the prime outlets for national advertising, they could also keep advertisers at bay, both by limiting the supply of advertising time and by curbing advertiser influence on program content. Being legally restricted from entertainment program production, the networks set content guidelines on such programs produced by others. They also invested in extensive news operations in order to serve as more than entertainment media, and protected the credibility and independence of their news. Local stations, similarly, established news operations, both because they were profitable and because they generated much influence by providing politicians with their major access to the public.

Commercial broadcasters basically liked public TV because it did not contest advertising dollars, its audiences were small, and it relieved the pressures for quality content obligations on commercial TV. CBS, under its president Frank Stanton, contributed 1 million dollars to PBS' first season.

The commercial system rested on a government-awarded station license, which could, at least in theory, be withdrawn by the Federal Communications Commission (FCC) for misbehavior or inadequate program performance. (The national networks did not require licensing and were largely outside of direct regulation except in their capacity as station owners.) At license renewal time (originally every three years, later five) the license could be challenged by community groups complaining about performance, and by rival applicants proposing to do better.

Given the major financial value of a license, broadcasters protected it by consciously cultivating community goodwill through various forms of program service, and by avoiding controversy and imbalance in programs. This led to cautious, middle-of-the-road programs and behavior.

This was the past. Today, American commercial media have changed, primarily by adding the distribution capacity of cable television, which reaches over 90 percent of U.S. TV households, and is subscribed to by over 65 percent of them. A large number of these cable systems offer more than 70 channels. Direct broadcast satellites (about 150 channels) and "wireless cable" by microwave transmission (dozens of channels) also offer multichannel packages to several millions of households. And soon, multicast digital signals by regular broadcasters will be added, as will be multicasting on cable, and video transmission over telephone lines and on the Internet. At the same time, many of the regulatory requirements on commercial television were loosened and eliminated, making license challenges more difficult.

What has been the impact of this transformation on television's provision of public-interest programs? To answer this question, we proceed first theoretically and then empirically.

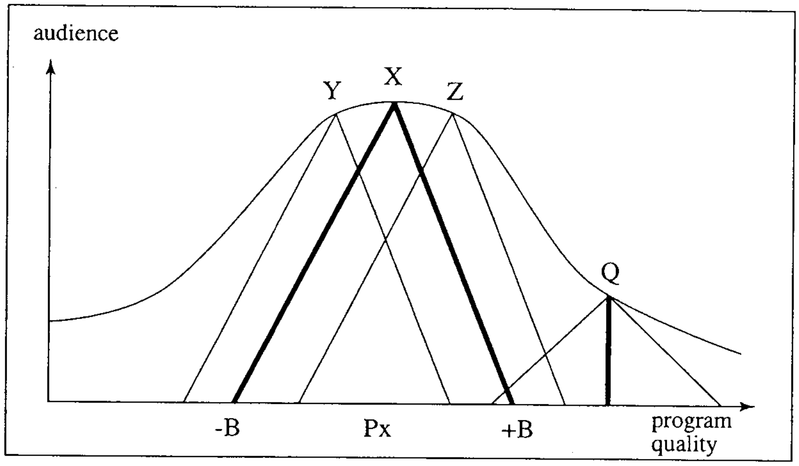
2. A model of program supply

Many people believe that the evolution to a multichannel environment has simply led to "more of the same" – simply to a multiplication of the old type of programming. But the empirical evidence does not support this, nor does economic logic.

Commercial television frequently disappoints those seeking the quality of public-interest TV. This cannot be simply because the medium is commercial. After all, most print publishers and film producers are also profit-oriented, and they turn out many works of high cultural standards (as well as of low ones). The traditional commercial TV system tended to serve popular culture rather than high culture because it was limited in capacity, and therefore served mainly the broad center of the "taste distribution." We can analyze programming choice in a simple model for program supply.

Television programs come in a great variety. Let us assume that they can be ordered along an axis ranging from "low content quality" to "high content quality," with quality in terms of cultural or civic value.[3] Shakespeare's plays would be on the right of the axis, while professional wrestling might be on the left. Any given quality level appeals to a segment of the television viewing audience such that it would designate that particular quality as its first viewing preference. We assume that preferences are distributed normally across the spectrum of program qualities, with a single-peaked distribution as depicted in Figure 1.

Figure 1: Audience distribution and program quality



Although viewers prefer a particular program quality level, they are willing to watch programs in a general range B of their first preference, though at a declining rate. B is not infinite; that is, individuals will not view programs that are too distant from their preferred quality level. The audience is represented, in Figure 1, by the triangle bounded by Px+B and X. (We assume no rival channels, for the moment.)

We define the range of public-interest programs as those program quality levels that are higher (to the right) of PQ.

3 The "program quality" dimension can be supplemented with many other dimensions. This would add mathematical complexity, but would not enhance the schematic analysis that follows.

Programs are delivered to households by private and public broadcasting organizations. One of the broadcaster's fundamental programming policy decisions is the average quality level P for its programming.

A commercial broadcaster X, wishing maximizing advertising revenue, which in turn means – to simplify – to maximize the audience. It is clear from Figure 1 that the maximum area is reached at the peak of the distribution curve.

Suppose now that other commercial channels are added. A second and third commercial broadcaster Y and Z will position themselves relative to an incumbent broadcaster X so as to maximize audiences, too. The decision rule for a choice of program quality levels Py and Pz, given Px, then is to maximize their audience triangle defined by Py and Pz, minus a prorated share of the area of overlap, in which they share audiences equally.

Y and Z settle in an equilibrium at opposite sides of the peak of the distribution. In other words, they do not quite have the same quality pitch. Much of the conventional interpretation of television sees commercial broadcasting as inherently striving for identical and "lowest common denominators." However, one can see from the model that some differentiation, and a focus on centrist viewers rather than on the "lowest common denominator," is the rational policy.

The addition of further broadcast stations repeats the process, placing stations across the audience preference distribution. As the process continues, the total range of quality levels widens, approaching PQ or even surpassing it if enough channels are added. As more stations are added, the spread of commercial offerings moves (rightward) toward higher quality. But it also moves leftward toward the lower-quality offerings. At the same time, the spacing between chosen program pitches also decreases, as new stations squeeze themselves between existing ones. This means that program channels become more specialized "narrowcasters." The inclusion of an audience's income as a factor that is valued by advertisers is likely to lead to a somewhat greater expansion toward higher quality, if income is associated with education and with preference for higher program quality.

Because of such spread to a broader range of quality options with greater capacity, it would be a mistake to restrict commercial TV to a few channels. Where only a few channels exist, they will serve middle-brow programs. Where many channels exist, they will spread to serve high-quality (as well as low-quality) programs. Less of commercial TV means therefore lower quality programs.

Still, it may take a large number of additional channels in a market system to reach the program quality PQ. This may create the impetus to create or maintain regulatory or public ownership solutions as a shortcut to assure the provision of quality programs. There are several possible approaches:

Regulatory mandates on broadcasters

Government regulations may require each commercial station to devote part of its broadcasting time to programs of pitch PQ or higher. The latter policy was imbedded in the U.S. licensing requirement to provide programs that deal with issues of concern to the community, and by expectations to offer quality children's programs of educational value.

Structural ownership rules

For example, if private broadcasters could program several channels rather than only one as in the past, the spread of their offerings would grow, because they would not want to simply duplicate their own other channels. Instead, they would try to attract new audiences. In the extreme, with a private multichannel monopoly, the quality spread could be quite wide. Of course, this would raise serious issues of media power and of *source* diversity of programs, even as *program* diversity increases.

Pay models for TV

If channel providers can sell "TV-tickets" through subscriptions it might serve quality level PQ if the audience is willing to make up in price what it lacks in numbers.

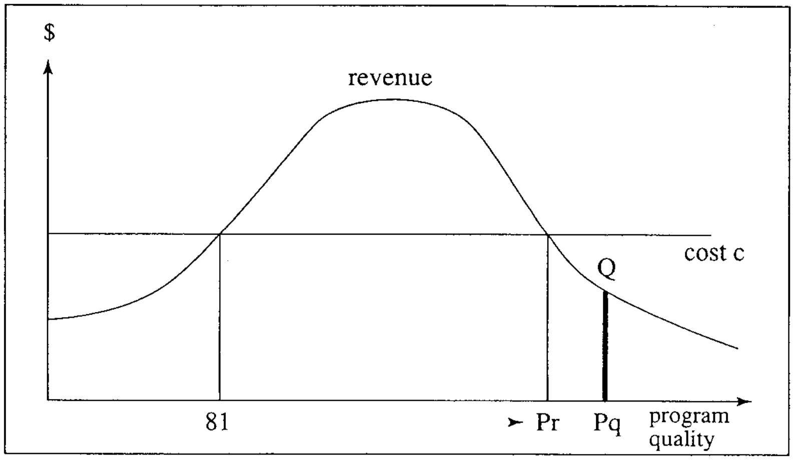
Creation of public TV stations
A government may set up a channel Q with the mission to have an outlying pitch PQ (see Figure 1). This would mean the creation of a broadcasting system that sets a program policy that is different from the pure commercial approach and contains enough insulation to pursue other optimization goals other than audience maximization. This approach for public broadcasting would be one of the "complementarity" approach in programming.

Several observations can be made about the interrelationship of public and private quality levels:

- In a limited TV channel environment, the support of a public channel is less intrusive than the options of regulatory mandates or structural ownership. And it is more equitable in income terms than the pay-TV option.
- Looking at the model, one can observe that one sideeffect of a high-quality public channel Q is, paradoxically, to push commercial stations somewhat back toward *lower*-quality programs. That is, if a commercial channel might have edged towards high quality PQ, the existence of a public station already serving that audience reduces the commercial incentives to locate there. Hence, a casual comparison of the observed quality differential between commercial and public channels will overstate the difference in their program quality.
- Similarly, the introduction of commercial television channels that compete with a previously monopolistic public channel does not necessarily push the public station to lower quality. Commercial stations edging towards quality offerings would push a public station actually toward *higher*-quality programs. Hence, an increased number of commercial offerings can raise the program quality of a public station, too.

So far, we did not consider cost. Adding program channels may not be economically feasible. Suppose, for the moment, that the programming cost for each program channel is the same, regardless of quality level.

Figure 2: Range of feasible quality levels



In Figure 2, program cost at each quality level is represented by the horizontal line C. If each audience represents equal worth in terms of advertising revenues, with a constant CPM "cost per thousand" advertising charge, revenues are also distributed normally. The bell-shaped curve represents revenues for a single channel. Together, the two curves define the range of economically feasible quality levels as the range between the intersection points of cost and revenues. It is possible that the desired public-interest quality PQ is outside this range, and that it would hence not be offered by an advertising-based broadcaster even where there are no limits on the number of channels. This might be mitigated in several ways:

- If the high program-quality audiences are more highly valued by broadcasters than low program-quality audiences (because their income might be higher), the revenue curve tilts upward on the right around its peak, resulting in the feasibility range shifting to the right of PR, possibly reaching PQ.
- If high-quality programs are cheaper to produce than mass-culture ones, the cost line tilts similarly downwards on the right and shifts the feasibility range toward higher quality, to the right of PR. (The opposite is the case if high-quality programs are more expensive to produce.)

- The emergence of new distribution technologies shifts the cost line down by reducing distribution costs, shifting PR to the right, and increasing the range of commercially feasible quality.
- New sources of revenue are created that change the shape of the revenue curve and "stretch" it towards PQ. This means various forms of subscription and of pay TV. Outlying program preferences held only by small audiences could then be satisfied if the demand is sufficiently price inelastic. In such a media environment, the higher taste preferences are better served than before, by permitting the often superior economic position of their holders to make itself felt. On the other hand, such a system creates inequalities.
- Government subsidies encourage commercial supply of programs at or near PQ by lowering the cost line in that neighborhood.

To conclude: Commercial providers of television would supply high-quality programs provided the number of channels is large enough. In some cases, it would be necessary to create funding mechanisms that go beyond traditional theoretical advertiser support. But there is no reason to believe, as some critics of private TV do, that the multichannel environment is nothing but "more of the same." Or, as in Bruce Springsteen's song, that there are "fifty-seven channels and nothing on."

3. Public-interest program offerings by commercial TV

After this theoretical discussion, we can look at the empirical evidence. When commercial TV in the US was limited to a handful of channels, network programming was indeed centrist in orientation. Entertainment programs generally had cheerful conclusions to problems, avoided themes that would antagonize major audience segments, and were action-based to attract young audiences. They also had fairly high production budgets in order to attract viewers with a polished product. Few programs were imported since even a slight reduction in attraction to American mass audiences was costly in terms of foregone advertising earnings. There was little programming for the intellectual elite, but not much programming aimed at the bottom of the educational and income scale, either. Both of these constituencies were supposed to be served by the public broadcasting system, which had a difficult time in reconciling its two conflicting program missions, and which opted to primarily serve high-end programs.

This limited TV environment changed radically. Between 1960 and 1996, the number of commercial television stations in America more than doubled, from 515 to 1181. (Public stations grew even more rapidly, from 44 in 1960 to 185 in 1970, 277 in 1980, and 363 in 1996.) Low-power TV station licenses increased from zero to one thousand. All this created the foundation for additional distribution. A fourth commercial broadcast network, Fox, emerged, targeting in particular young audiences attractive to advertisers. Several smaller broadcasting networks were also entered, with varying success.

The main venue of program diversification was cable television, with its growing reach and channel capacity.

Figure 3: Cable TV channel capacity [4]

Channel capacity	1976	1987	1990	1993	1996
54 and over	0 %	15.1	24.4	38.4	47.9
30 to 53	0 %	63.2	66.4	58.2	49.5
20 to 29	12.0 %	14.3	7.4	2.7	2.0
13 to 19	11.9 %	1.3	0.4	0.2	0.2
12 or less	76.1 %	6.1	1.4	0.5	0.4
Avg. channels	14.0 %	39.0	43.0	47.0	53.0

Cable TV developed its own commercial programming channels to differentiate itself from free-broadcast TV and to generate the new income streams of pay-TV. Its advantage is not merely a large num-

4 Sources: 1. Sterling, Christopher H. and Kittross, John M., *Stay Tuned: a Concise History of American Broadcasting,* Second Edition, Wadsworth Publishing Company, Belmont California, 1990, p. 660; 2. National Cable Television Association, *Cable Television Developments, Spring 1996.*

ber of channels but also a difference in economic foundation. By being both advertiser and viewer-supported (through cable subscriptions), cable TV is able to afford more specialized "narrowcasting" channels. Viewer preferences could be expressed by their willingness to buy, in effect, tickets for basic and premium program channels.

Traditional public TV was largely missing from the emerging, and extraordinarily dynamic, phase of reshaping American television.[5] In the private sector, new program channels emerged, often vertically integrated by ownership to the cable distribution companies. Most new channels were format-based. They provide all-sports, all-news, all-movies, all-religion, all-cartoons, all-science fiction, all-comedy, etc., around the clock. In 1998, over 100 different cable channels are operating.

Many of these formats were merely an expansion of traditional program categories. Even so, this did not mean, simply more of the same. In any medium, format affects content, and TV is no exception. The 24-hour *CNN* news format permits covering breaking stories in greater depth and length. Examples are the Gulf War, the Clarence Thomas Senate confirmation hearings, disasters such as the San Francisco and Los Angeles earthquakes, and the World Trade Center bombings in New York. In sports, the greater availability of air time led to the coverage of national sports by ESPN, regional sports by regional channels such as *Madison Square Garden*, and specialized channels like the *Golf Channel*. For movies, the absence of most regulatory restrictions, coupled with a need to provide audiences with new alternatives, led to the showing of more sexually explicit and violent programs by some channels.

A second type of new channel took up traditional but more marginal program categories and gave them visibility and presence. Religious programming is an example. (Here, the initiative was taken by the more fundamentalist ministries, such as on the *700 Club*, leaving the mainstream churches behind.) *The Discovery Channel* offers nature documentaries. *The Weather Channel* provides signifi-

5 Other noncommercial channels emerged, however, primarily community public access, and municipal channels.

cantly more detailed information to specialized users such as farmers, boaters, or pilots. *The Travel Channel* informs about geography and tourist destinations. *CNBC* provides business information and talk shows. *MSNBC* provides news and interactive links with sites on the Internet.

In addition, multichannel cable also spawned program categories that were new or nearly new to commercial TV. All-music channels for rock, country, and black music emerged, such as *MTV*, *VH-1*, *Black Entertainment Television*, the *Nashville Network*, and *Country Music Television*. *Court TV* entered to cover legal proceedings live, based on the opening of many American court rooms to cameras. *C-SPAN* covers the proceedings of Congress as well as public-affairs events. *Galavision* and other channels provide Spanish-language programs. Other ethnic programming is provided for Japanese, Greek, Hebrew, Italian, Indian, Korean, and other language and cultural groups. *Lifetime* serves mature women. Cultural programs are served by *Arts & Entertainment*, and by *Bravo*. Several shopping channels promote, non-stop, various types of merchandising. The *Learning Channel* provides documentaries.

In this diversity of channels, the channels offering programs which can be categorized primarily as in the categories of *news, culture, education, and information* include the following:

Figure 4: Cable channels providing public-interest programs

Animal World	Fox News Channel
Arts & Entertainment	History Channel
Bravo	Home and Garden Channel
C-Span I	Learning Channel
C-Span II	Mind Extension
CNBC	MSNBC
CNN/CNN Headline News	Nickelodeon
Court TV	Regional News Networks (various)
Disney	The History Channel
Discovery	Travel Channel
Faith and Values	Weather Channel

In addition, several channels are aimed at serving ethnic minorities, not necessarily with public-interest programs:

Black Entertainment Television
Galavision
KBS Television
Univision

The offerings of new cable program networks have increased in recent years. Whereas in 1992, 20 new program channels were concretely proposed or offered to the cable operators, in 1993 it was over 40, and in 1994 over 70. These include many concepts that could not be considered part of public-interest programming, such as channels for dating, games, sports, and entertainment. But others were in the public-interest category, or have the potential to be:

Figure 5: Proposals (for 1996) of channels aimed at public-interest TV programs:

arts performances	inspiration
books	international business
business	jazz
computers	lectures
classic arts	military
deaf and disabled	museums and exhibition
environment; healing	mothers of newborns
health; history	movies; multiculture
do-it-yourself	public affairs
human development	recovery for alcoholics
independent films	Spanish-language programs

This list is impressive, but must be kept in mind that many of these channels might never materialize or make it in the marketplace. Bottlenecks exist due to: (a) insufficient channel capacity; (b) economic infeasibility; and (c) the reluctance of some cable distribution systems to add new channels that compete with their own channels.

4. Viewer preferences for public-interest TV

As cable TV channels emerge that offer public-interest programs, the next question is the extent of their audience popularity.

The new channels compete for audiences with public TV stations. In 1987, according to one study of audience preferences,[6] cable subscribers still indicated that they greatly preferred the public TV programs in a head-to-head comparison over the programs of four specialized cable channels. They preferred public TV for children programs over those of *Disney*; for nature/science over *Discovery*; and for symphony/opera over programs on *Arts & Entertainment*. The exception was for news/discussion, where the commercial *CNN* was more highly valued than public TV. By 1990, however, *Discovery* and *Disney* became the preferred choice. Only in symphony/opera did public TV maintain its lead over *Arts & Entertainment*. In 1990, an audience survey confirmed that "the public perception, commercial specialized channels were seen as substitutes to public TV."[7]

The audiences and reach of cable channels is provided in Figure 6.

These audiences are small, but they add up. For the channels in the public-interest program category, they add up to about 6 percent. While this is not huge, it is about three times as large as public TV audiences have been, which have hovered around 2 percent for years and have inched up to 2.3 percent in 1996.

6 Boston Consulting Group, *Strategies for Public Television in a Multi-Channel Environment*, Corporation for Public Broadcasting, March 1991, p 6.

7 See Richard Somerset-Ward in this volume, citing Robert Ottenhoff, COO of PBS, in describing conclusions of a Total Research Corporation survey.

Figure 6: Reach & prime-time audience share of basic cable Networks[8]

	1996 Reach		Prime Time % of TV HHs			
Cable Network	Mil. HHs	% of TV HHs	1987[9]	1991[10]	1995[11]	1996
A&E	45.5	65	0.2 %*	0.4 %	0.7 %	0.7 %
AMC**	55.0	57			0.2 %	
Animal World**			0.1 %	0.2 %		
BET	32.2	46			0.1 %	0.1 %
Bravo**	22.0	23		0.1 %		
Carto on**	22.0	23	0.3 %	0.5 %	0.6 %	
CMT	23.1	33			0.1 %	0.1 %
CNBC	40.6	58		0.2 %		
CNN**	67.1	70	0.3 %	0.5 %	0.8 %	
CNN* * Headline News	58.9	61	0.6 %	0.2 %	0.2 %	0.2 %
Comedy Central	27.3	39			0.1 %	
Court TV	19.6	28			0.1 %	
C-Span**	64.5	67				
C-Span 2**	41.5	43				0.1 %
Discovery	47.6	68		0.6 %	0.8 %	0.8 %
ESPN	48.3	69	1.3 %	1.0 %	0.9 %	
ESPN2**	26.2	27				
E!	24.5	35			0.1 %	
Faith & Values**	24.1	25			0.1 %	0.1 %
Family Channel	45.5	65		0.4 %	0.6 %	
Food Channel**	13.9	14				
Fox News Channel**					0.1 %	
fX**	24.0	25			0.1 %	
Galavision**	5.1	5				0.1 %
History Channel**	8.0	8			0.1 %	0.1 %
HSN**	45.3	47				
Lifetime	45.5	65	0.3 %	0.7 %	0.9 %	

8 Source: Meeker, Mary. "The Internet Advertising Report," *Internet Quarterly: The Business of the Web*, December 1996, Chapter 3, p. 14. Estimated numbers.

9 "Cable Network Numbers on the Rise," *Broadcasting*, January 9, 1989, p. 96, Source: Nielsen Ratings.

10 *Broadcasting*, July 13, 1992, p. 24.

11 Brown, Rich, "TNT Tops Prime Time for 2nd Quarter," *Broadcasting & Cable*, July 3, 1995, p. 20.

	1996 Reach		Prime Time % of TV HHs			
Cable Network	Mil. HHs	% of TV HHs	1987	1991	1995	1996
Learning Channel**	42.4	44		0.2 %	0.3 %	
Mind Extension**	26.0	27			0.1 %	
MSNBC**						0.1 %
MTV	44.8	64		0.3 %*	0.4 %	0.4 %
Nashville** Network	64.1	67		0.5 %	0.7 %	0.6 %
Nickelodeon	46.9	67		0.4%*	0.6%	1.0%
Nostalgia	7.7	11				
Prevue	21.0	30			0.1%	
QVC**	53.1	55				
Sci-Fi	18.9	27			0.1%	
TBS	47.6	68		1.3%	1.1%	1.3%
TNT	46.9	67		0.6%	1.1%	1.6%
Travel Channel	14.7	21				0.1%
USA	47.6	68	0.8%	1.1%	1.5%	
VH1	38.5	55		0.1%*	0.1%	0.2%
TWC**	60.7	63		0.1%*	0.1%	
WGN**	39.4	41			0.4%	0.4%

* = Full-day share used for these figures, as prime-time share was not measured by Nielsen
** = 1995 Numbers (Source: Nielsen Media Research)

5. Financial resources of commercial public-interest TV

The strength of the commercial channels lies in the financial resources they can apply to programs. Figure 7 indicates the advertising revenues of the seven cable channels providing public-interest programming. Their advertising revenues exceeded $1.2 billion dollars in 1996. This figure does not include most of the smaller channels, such as *Court TV*, *Bravo*, *History*, *Animal World*, *MSNBC* and *Travel*. If the audience shares for these channels are prorated, another $300 million of advertising would be added. *The Disney Channel*, which is partly a pay channel and partly advertiser-supported, has a 1996 budget of $220 million. In total, advertising support for those public interest-oriented channels can be estimated as $1.6 billion in 1997. On top of that, channels have another revenue stream. Cable distribution networks make payments to many channels (see Figure 8). The average payments range from a high of 41 cents (TNT) and 39 cents (Headline News) to a low of 5 cents (The Weather Channel) and 2 cents (Sci-Fi and VH-1). They are, on average, 21 cents per subscriber/month/ channel. Prorating the channels' reach and ratings for those channels serving public-interest programs (Figure 6) listed in Figure 4, we estimate payments of $800 million. Thus, the overall revenues of commercial public-interest channels are about $2.4 billion and rising. In comparison, the overall budget of the public broadcasting system (excluding public access and municipal cable channels) is about $1.9 billion in 1997 and stable.

These financial resources translate themselves into program investments. The chart below (Figure 8) shows the amounts spent by five specialized cable networks on several specialty programming types, and compares this with expenditures by the public TV system on the same program categories.

Figure 7: Basic cable networks: 1986–1996 advertising ($mil)[12]

Network	Unit	1985	1987	1990	1993	1996
CNN	$	70	111	221	269	343
Nickelodeon	$	10	27	69	182	313
Discovery	$	1	6	46	120	211
Learning	$	0	4	9	18	61
A&E	$	6	14	49	112	179
CNBC	$	0	0	23	58	110
Weather Channel	$	8	11	20	34	55
Total		95	173	427	793	1,432

12 Sources: Meeker, Mary, *Morgan Stanley: The Internet Advertising Report*, Harper Business: New York, 1996, Table 3–10, and Paul Kagan and Associates.

Figure 8: Programming networks, subscribers, and license fees[13]

Network	List License Fees (per sub/per month)	Average License Fee (per sub/per month)
A&E	0.27	0.09
BET	0.1	0.07
CNBC	0.17	0.08
CNN	0.38	0.27
COM	0.14	0.07
COURT TV	0.12	0.06
DSC	0.15	0.12
E!	0.09	0.06
ESPN	0.65	0.6
FAM	0.17	0.09
HN	0.38	0.39
LIFE	0.16	0.09
MTV	0.32	0.12
NICK	0.37	0.15
SCI-FI	0.05	0.02
TLC	0.09	0.04
TNN	0.3	0.12
TNT	0.43	0.41
OON	0.15	0.07
TWC	0.1	0.05
USA	0.29	0.22
VH-1		0.1

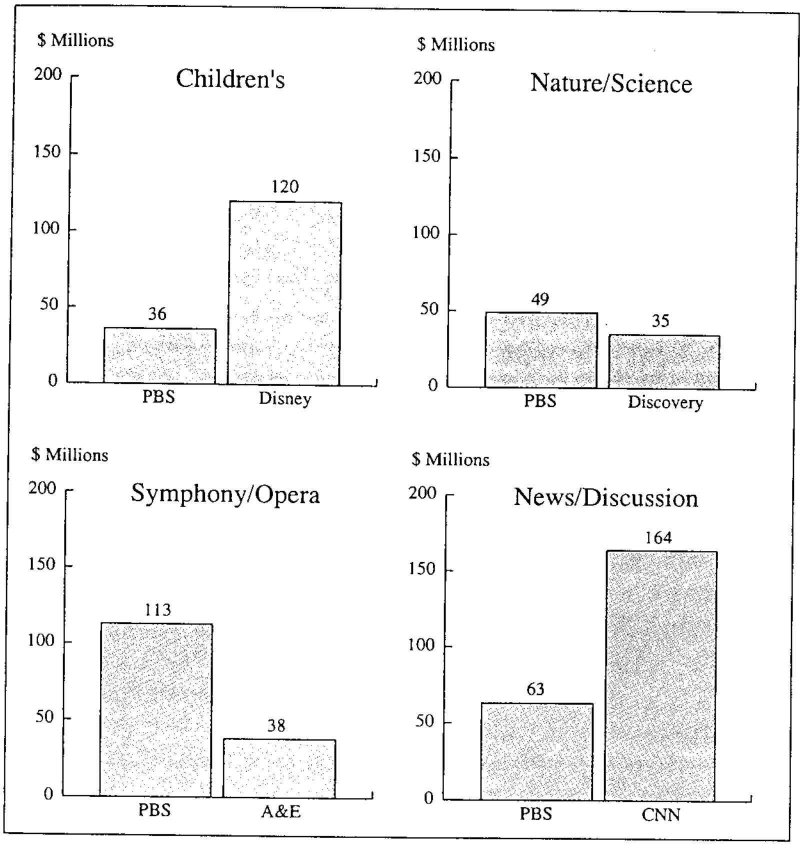
Figure 9: Program expenditures[14]

Cable Channel	1990	1992	1996
Nickelodeon	54.0	77.0	244.0
Arts and Entertainment	38.4	57.2	140.3
The Discovery Channel	38.0	75.0	174.4
Disney		120.0	220.0
The Learning Channel	3.5	8.5	32.2

13 Source: *Economics of Basic Cable Networks*, Paul Kagen Associates, Inc. (1994). As quoted in "Horizontal Concentration and Vertical Integration in the Cable Television Industry," *Review of Industrial Organization*, 12: 501 – 508, 1997.

14 Paul Kagen Associates – quoted in PBS Economic Analysis, March 1992.

Figure 10: Spending on programming types – amount spent by PBS and cable services for each of the following types of programming[15] (in millions $)



Total PBS: $261 million; total cable (Discovery, CNN, A&E, Disney): $358 million

The charts indicate that *Disney*'s and *CNN*'s audience lead over the public TV system are associated with a greater budget. In contrast,

15 Boston Consulting Group. *Strategies for Public Television in a Multi-channel Environment.* March 1991, p. 7. Source: PBS, BCG.

the public TV budget for symphony/opera was higher, and budgets were about even for nature/science.

It should be noted that the comparison of Figure 9 understates commercial channels' combined resources because it lists only one cable channel in each category, whereas there are multiple cable providers in for category, specialized or more general ones.

The commercial cable channels produce some of these programs themselves, and acquire others. *A&E* developed a strong relationship with the British Broadcasting Corporation, including a right of first refusal for programs. In forging these relationships with foreign public TV producers, American commercial channels benefit from the financial pressures on these public TV providers, which lead them latter to unsentimentally sell their programs to the highest bidder. And even when these programs end up with public TV, their price may be higher due to the presence of the cable channels as bidders in the market.

Of course, money isn't everything. Some fairly low budget productions from PBS have attracted loyal audiences, for example, *The French Chef*, or the *PBS News Hour with Jim Lehrer*. Support for public TV can also be inferred from the doubling of dues-paying membership between 1980 and 1993, to more than 5 million, contributing about $400 million annually.

6. Public-interest program availability for American households: a quantification

The programs available to a typical TV household have tremendously increased in the past decades. It is one thing to state this in general terms, and quite another to quantify it. To do so, we categorize and measure the programs available to TV audiences in New York (Manhattan) during one typical week, over a period of three decades. The dates are 1969 (pre-cable, 10 channels), 1985 (20 channels) and 1997 (77 channels). In the pre-cable era, the region was served by 10 broadcasting channels, while the national weighted average was about 5. In 1985, Manhattan's 20-channel system was actually below the national average. By 1997, New York's 77 channels system was in the upper third of capacity, but by no means at the top. Thus, in terms of commercial offerings, New York is not atypical. Where a difference exists is in the noncommercials offerings. Here, New York has four public TV channels, more than twice the national average. There are four community (public access) channels, about three municipal channels, and one City University channel. Combined, the noncommercial offerings in New York City are about 2–3 times that of the national average.

For purposes of the analysis, we looked at a random week in 1969, 1985, and 1997, and assigned every program shown during that period to various program categories. Excluded were pay-per-view channels and the program guide channels. Also excluded were movies, since the selection of some of them as "public-interest" programs would have to be highly subjective. The assignment to program categories was based on individual programs and not on entire channels. Thus, for example, the sports news and entertainment news programs on CNN were not included in the category "News."

Sources were issues of *TV Guide*, the logs of the public access clearinghouse, the organization MNN, and the program guide for the municipal system Crosswalk. The public affairs channel C-SPAN, though technically nonprofit, is included among commercial channels since it is financed and controlled by the cable TV industry.

The results are listed in Figure 11. For each horizontal category, the top (bold-faced) line represents commercial channel hours, and the lower line (italicized) represents noncommercial hours.

Several observations can be made from the data.

- The number of total program hours has increased phenomenally, from 1016 in 1969, to 3431 in 1985, to 9603 in 1997. This amounts to half a million program hours per year! It constitutes an increase of 845 percent over 28 years, or an annual compound growth rate of 10.83 percent.
- The growth of commercial program hours has been faster than that of noncommercial programs (988 percent vs 243 percent), with annual growth rates of 8.9 percent vs. 4.5 percent.

Figure 11: Public-interest TV: commercial and nonprofit program hours and growth (weekly, Manhattan)

	1969	1985	1997	1969–1985	1985–1987	1969–1997	Compounded Annual Growth
News	*55*	*217*	*1631*	*294*	*651*	*2865*	*12.86 %*
	14	22	55	57	150	292	5 %
Financial	*14*	*158*	*335*	*1028*	*112*	*2292*	*12 %*
	3	8	21	166	163	600	7 %
Documentary/ Magazine	*12*	*27*	*380*	*125*	*1307*	*3066*	*13 %*
	10	16	49	600	206	390	5.34 %
Health/ Medicine	*7*	*83*	*185*	*1085*	*123*	*2542*	*12.4 %*
	4	7	42	75	500	950	8.75 %
Science/ Nature	*8*	*26*	*230*	*223*	*784*	*2775*	*12.7 %*
	5	11	14	120	27	220	3.74 %
Cultural	*8*	*15*	*85*	*87.5*	*466*	*963*	*8.80 %*
	17	28	91	64	225	435	6.17 %
Quality Children	*12*	*29*	*94*	*142*	*224*	*683*	*7.62 %*
	36	40	98	11	145	716	3.63 %
Education	*9*	*31*	*112*	*244*	*261*	*1144*	*9.41 %*
	6	14	96	133	585	1500	10.40 %
Religion	*14*	*123*	*149*	*778*	*21*	*964*	*8.80 %*
	6	12	45	50	275	516	7.45 %
Foreign Language	*29*	*187*	*367*	*544*	*96*	*1165*	*9.48 %*
	18	26	42	44	61	133	3.07 %
Total Public Int. Programs	*168*	*896*	*3568*	*433*	*298*	*2023*	*11.53 %*
	119	184	553	54	200	365	5.63 %
Overall Program Hours	*820*	*3215*	*8929*	*262*	*177*	*912*	*8.9 %*
	196	216	674	61	212	402	4.5 %
Overall Channels	*10*	*20*	*77*	*100*	*285*	*770*	*7.55 %*

(a) Commercial channels
(b) Noncommercial stations

- The growth of public-interest programming has been extraordinarily high. For noncommercial channels the increase has been 434 hours per week, or 365 percent. It is even higher for commercial TV, where the increase has been 3,400 hours, or 2,203 percent, for an annual growth rate of 11.5 percent.
- Commercial TV's increase in the supply of public-interest TV has been especially high for news, documentary & magazine programs, health/medicine, science/nature, and finance. All of these show annual growth rates of about 12 percent. Somewhat lower growth rates exist for quality children's programs (7.6 percent), religion (8.8 percent), foreign language (9.5 percent), and education (9.4 percent).
- The number of program hours of public-interest programs is especially high for news, which accounts for 46 percent of all commercial public-interest programs. Documentary/magazine account for 10.65 percent, financial 9.4 percent. The share is lower for quality children's programs, with 2.6 percent or 94 weekly hours.[16] For education, it is 3.1 percent. As a share of all hours, not just of public-interest program time, commercial TV's supply of quality children's programs is 1.1 percent, and for education, 1.3 percent.
- Overall, the share of public-interest programming in total program hours almost doubled, from 28.2 percent to 43 percent. For noncommercial TV, it rose from a high of 60.7 percent to an even higher 82 percent. Thus, multichannel competition did not lead to lower quality standards on public TV.
- The number of channels offering primarily public-interest programming is quite large. By our count, there are 18 such commercial channels in New York. There are 3 foreign channels. There are also 11 nonprofit channels, 3 public stations, (3 municipal, 1 City University, 4 public access). This adds up to 32 channels on the cable dial. That dial comprises in theory 77

16 The category of "quality children's programs" was the most subjective and hardest to acertain. It is hard to draw the line. A study focusing on children's TV would have to use more detailed information than that available for this article. For now, the children's program quality data should be viewed as orders of magnitude rather than as an exact figure.

channels, practically 74, from which one should exclude the 5 pay-per-view channels, for a real channel count (including pay-TV) of 69. Channels representing nonprofit and public interest-oriented commercial offerings hence account for 46 percent of the cable dial! (But they account for only 8.5 percent of viewership.) Commercial public-interest channels alone account for 30 percent of the dial, accounting for a quarter (26 percent), of all channels, and a third (32 percent), of all English-language commercial channels.

- A final observation: the growth in the number of hours for most categories of public-interest programs has been so large as to make most potential objections to the inclusion of this program or that channel largely irrelevant. Even if one disallowed a full three-quarters of all programs which we counted as belonging to public-interest categories, the increase would be still be a whopping 600 percent!

7. News, commercial TV's major contribution

The greatest contribution of commercial TV to public-interest TV has been in news and public affairs. Multichannel commercial TV has generated vastly more such programming than in the past. In New York, there are 233 hours of news available each day, not counting financial news, entertainment, specialized weather, and interview programs. Some of it is national, such as CNN, Fox News Channel, and MSNBC. One 24-hour news channels is local. Some cable channels run a few hours of foreign-language news for various language minorities, such as in Korean, Chinese, Japanese, Italian, French, Hebrew, and Polish.

Furthermore, the news coverage of traditional local broadcasters has expanded considerably in terms of hours. The reasons are good audience ratings and relatively low production costs. Some of the "local" news is essentially nationally syndicated news that is packaged as local.

On the other hand, with profits squeezed, the budgets of the national commercial news operations of the major networks have been curtailed, after a period of great increase.

Similarly, competition has led news magazine shows to focus more on sensationalist subjects, and the shrill tone of syndicated "tabloid" shows like *Hard Copy*, *Inside Edition*, or *A Current Affair* has spilled into the more serious news magazine. Yet this pales in comparison to the fact that serious news magazine shows (like *60 Minutes*, *20/20*, *Prime Time Live*, *48 Hours*, *Dateline*, *Now*, and *Turning Point*) have proliferated (to 14 in 1996) and become popular (four were in the top 20 shows in 1996).

8. Missing public-interest programs

It would be a mistake to draw the policy conclusion that just because many categories of public-interest programs are satisfied by commercial channels, all of them are adequately provided for. The question therefore is which public-interest program categories are *not* being offered by this system. They are not easy to identify. In the future, with hindsight, we may recognize missing categories. Others might be determined by reference to what is available today on video cassettes, the Internet, and public TV. This would include:

Cultural performance programs
There are relatively few programs on commercial TV in the category of cultural performances, especially in comparison to public TV series such as "Masterpiece Theater," "American Playhouse," "Great Performances," "Dance in America," and "Live from Lincoln Center." The cable channel *Bravo* comes closest, but it has moved to focus on quality motion pictures; the *Arts & Entertainment* channel, similarly, has moved more towards documentaries and away from the arts.

Specialized instructional programs

Programs in languages without a geographically concentrated U.S. base of speakers

Foreign channels,
outside of Mexican ones.

Ethnic channels,
outside of Hispanic and African-American ones.

Controversial political programs
There are no commercial TV channels of extreme left-wing or extreme right-wing content, though there are plans for such channels. Some of these programs are available, through nonprofit public-access channels that are local, rather than national, in scope. In general, commercial channels try to avoid giving offense.

Children and education
The main failing of the traditional limited broadcasting system has been in quality programs aimed at children. In the past, the major commercial television networks provided mostly cartoon shows and uninspired fare, and with advertising aimed at very young children. When such an approach proved socially and politically untenable, many broadcasters reduced such children's programming as far as they could without losing so much goodwill that they would jeopardize their license renewal.

Partly in consequence, the public TV system received much support in order to serve children's needs. Top-rated programs for children became *Sesame Street*, *Barney and Friends, Shining Time Station, Mr. Roger's Neighborhood* and *The Electric Company.*

In principle, there is nothing inherent in commercialism to prevent the provision of quality children's programs. The publishers of quality children's books are mostly commercial firms. The missing element in TV is a funding mechanism that is not advertising-based. Cable television provides, at least in theory, such a link by offering programs to subscribers as a differentiating attraction relative to free broadcasting, and as a special for-pay feature, at the price of income-based inequality of access. This is the theory. And it raises equity issues.

The most successful channel for children is Viacom's *Nickelodeon*, which has 30 percent of the viewing time of 6 – 11 year olds, in contrast to less than 4 percent of ABC and CBS (The NBC network has dropped children's programming altogether). In the process, *Nickelodeon* is doing quite well financially, also adding spin-offs such as a magazine and toys. Its programs, on the whole, are more entertaining than educational, but it also produces "Nick News" hosted by a respected newswoman. Programs for children are also on the *Disney Channel*, and on *USA, Discovery*, ("Ready, Set, Learn") and other commercial cable channels.

For pre-school children, however, there are still very few quality programs on commercial cable channels. There is no "Fairy Tale Channel" or "Elementary School Channel." *Nickelodeon* started a lineup for pre-school kids (Nick Jr.) including four minutes of advertising. The Children's Television Workshop, producers of *Sesame Street,* considered offering programs for commercial channels. The creators inside the organization were split. They wanted to strengthen the quality of TV available to children, but feared denying this to children from households too poor to afford cable TV.

Because this area is underserved by commercial providers, Congress, by law, required broadcasting stations to serve "the educational and informational needs of children." Initially the FCC gave stations considerable latitude in fulfilling this obligation. This flexibility led some broadcasters to count their cartoon programming as serving these needs. Eventually, the FCC made quality children's programs a priority. After considerable political jaw-boning, the industry committed itself "voluntarily" to 3 hours a week of quality children's programs.

Local programs

Almost all commercial public-interest TV programs outside of local news are national rather than local in nature, origin, and distribution.

Programs aimed at the poor
These tend to be uninteresting to advertisers and cable operators.

9. Conclusion

Multichannel television has transformed the nature of audiences. In that process, the public-interest program contribution of commercial TV increased considerably. It provides channels of quality (together with channels of low standards). Its audiences are modest (6 percent) but not trivial, and larger than those of public TV (2.3 percent). Its budgets are higher, \$2.1 billion vs. \$1.9 billion for the public system. Its hours of programs are large and growing, especially for news.

But this is not to say that a market-based system works fully in the supply of public-interest programs. Some content categories, including quality children's programs, are not commercially offered in a major way. Controversial programs are being avoided. There is therefore still ample room for alternative suppliers such as public TV or other noncommercial systems.

Multichannel TV supports diversity. It also creates problems. Except for unusual events, the electronic hearth around which the entire country used to congregate nightly is no more. But such communal experience of continuous information-sharing was a historical aberration, clashing with a more fragmented media past and a more information-rich future.

Multichannel TV also creates gatekeeper power, if a single firm controls the distribution. It can limit the access to audiences by independent or competing providers of quality programs. Satellite TV and cyber-TV are likely to reduce that problem over time.

There is also the question of affordability. Multichannel TV is not free, and hence burdens the access of some poor population groups to commercially provided public-interest programs.

On the whole, however, the positive program contributions of multichannel TV are impressive. Those who are critical of the performance of the limited commercial television often tend to believe that the less there is of it, the better. Actually the opposite is the case: the most problematic system is a limited but powerful commercial system. Others believe that the high profits of a limited TV system are required for high-quality programs. But that assumes that public-interest programming must be based on a subsidy system in which rich TV institutions pass on some of their resources to public-interest concerns. What the American experience shows is that the provision of public-interest programs by commercial TV can flourish in an environment of many avenues of production and distribution serving numerous tastes. It shows that one can do well by doing good. This trend is likely to continue, and accelerate on a cyber-TV that is based on computer networks and video servers.

It would be myopic to claim that all program needs have already been met by the commercial system. But it would be equally narrow-minded to deny that improvement has taken place.