

Basic Concepts for the New
Television Environment

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To analyze the changes in the media environment it is necessary to understand some of the basic concepts and forces that affect it. The preceding chapter looked at the forces of internationalization in television media. This chapter continues the analysis of television more generally.

The Shift of Information Products from Public to Private Goods

What is the setting for communications media? The changes in mass media have to be viewed as part of the underlying shifts in the economy and society toward information. Information, broadly defined, is becoming the major input and output of advanced societies. Their economies are in the midst of painful transitions from an industrial to an information base. Mass production is moving to less developed countries, and the manufacturing that does remain in the First World has a high information content. In highly developed nations, the core of economic activity increasingly centers on producing, manipulating, and distributing information. But politicians still tend to think largely in the traditional categories of industrial production and of information as something in need of control. Consequently, public policies tend to favor the producers of hardware rather than the producers and users of information, and to seek the increasingly unattainable goal of gatekeeping its distribution.

Technology and labor productivity directly affect media. Originally, entertainment was only produced live. Theater, song, dance, opera, and vaudeville productions were expensive, because of their relatively small output in terms of audience-hours. As industrial productivity rose, and with it the general wage level, live shows became still more expensive. But technology created substitutes; and the advent of film recordings radically reduced the cost of repeat performances. The economies of information distribution were further boosted with the advent of broadcast technology, which permitted the reaching of a mass audience at extraordinarily low cost, and this reach was later extended further by satellites. But the advances in distribution were not matched by an ability to establish orderly markets for broadcast information, because of the

limits to the number of distribution channels and because of the impracticality of charging users for a program they watched. This tended to transform video programs into quasi-public goods (i.e., services not offered through a market mechanism and necessitating cumbersome financing schemes—either the sale of viewers' attention time to advertisers or a governmentally enforced user tax—instead of regular exchange transactions). Much of this has changed through the new forms of distribution media, which permitted an increase in the quantity of programs offered at any time. Even more important, they made it possible to extract payments from viewers directly, thus turning the public good back into a private good, similar to theater, film, magazines, and books. With television back as a private good, the consequences cannot be contained in market-based economies. An expansion of the realm of the market into what Arthur Okun has called the "realm of rights" is always painful, because it offends our basic democratic and egalitarian sensibilities (Okun, 1975). But a similar expansion of the realm of the market was equally resisted when it challenged feudalism and mercantilism. This, of course, provides no dividing line or justification, only a perspective on the ceaselessly shifting and overlapping domains of economics, politics, and culture.

Media Integration

One of the most important economic forces in the present evolution of media is *integration* in the various modes of information production and distribution. Publishing, film, television, and computer applications are merging to form the information industry. Computers, for example, already play a media role in videotex and in generating graphics; they are emerging as a major tool for video editing and special effects; and they may become an element in open-architecture television receivers, which can handle any technical transmission standard, and in the down-loading, storage, selection, and 3-D applications of video media.

Integration means that alternative pathways for the delivery of information are not neatly segregated, as they have been in the past. Video programs can be distributed via terrestrial transmitters (using conventional UHF/VHF frequencies as well as over microwaves), from various types of satellites, over coaxial and fiber cables, over upgraded telephone wires, and by cassettes, records, computer disks, and photographic film. The written word, similarly, can reach users by a variety of paths. This inevitably leads to turf battles among the various interests allied with one form of delivery or another. The disputes, however, are not typically between the public and private sectors. In America, private broadcasters opposed private cable television. In Australia, the public ABC and the private broadcasters were united in their dislike of satellite broadcasting, public or private. It is often more useful to analyze new media issues not along the dimension of private versus public, but along that of newcomers versus incumbents that do not wish to share their favored position.

The various transmission paths are not economically equivalent. Cable tele-

Table 3.1 Theatrical Film Release Sequence: Price, Revenues and Audience Data for Major Media in the United States¹ (1985)

Media	A Effective Retail Price per Viewer	B Net Distributor ² Revenue per Movie	C Estimated Total Audience	D = B × C Estimated Total Distributed Revenue
Theaters	\$3.00–\$5.00	\$0.75–\$1.25	5 million	\$3.75–\$6.25 mil.
Pay-Per-View Cable	\$0.67–\$1.33	\$0.30–\$0.60	10,000–20,000	\$3000–\$12,000
Pay Cable/Sub- scription TV (prorated)	\$0.50–\$1.00	\$0.11–\$0.14	10–15 million	\$1.1–\$2.1 million
Network Tele- vision	free	\$0.04	65 million	\$2.6 million
Syndicated Tele- vision	free	\$0.01	45 million	\$450,000
Videocassette sales	\$4.17–\$12.50	\$1.04–\$3.12	8,000–24,000	\$8320–\$74,880
Videocassette rentals	\$1.25–\$2.50	\$0.31–\$.62	480,000–960,000	\$148,000–\$595,200

Source. Waterman (1985).

1. Assuming a \$20 million theatrical grossing film.

2. Net of distribution expenses (but excluding advertising).

vision, because of its technological and economic advantages, emerged in the United States as the central medium of distribution, though some of the others hold market niches. In Europe, cable distribution similarly became a main form of multichannel video delivery in several countries.

In addition to the increasing technological overlap of the various forms of delivery, there are strong economic incentives for their integration. The key element is the importance of controlling and coordinating the release of a media production in distribution. Book publishers have traditionally sold hard-cover books first and released lower-priced paper-back editions later; movie distributors initially screened films at major ("first-run") theaters and then at secondary theaters. In America, new television programs went first to the major networks and later to independent station syndication. The underlying principle is the attempt to price-discriminate between classes of viewers of different demand elasticity. Table 3.1 shows the relative revenue per viewer at various distribution modes in the United States.

The ability to price-discriminate is important, because many viewers receive what economists call a "consumer's surplus"; that is, they have to pay less than they would be willing to (e.g., certain sports events, for which audiences would pay substantial sums if they were forced to). The magnitude of this surplus was estimated in 1973, before television became a private good, as \$20 billion in the United States (Noll et al., 1973). The significance of most of the

new media is that they permit the extraction of this significant consumer surplus by a refinement of price discrimination in which a cascading chain of distribution is set up from low-elasticity audiences down to high-elasticity ones. The former are served first and at higher prices. This requires a coordination and separation of distribution media. A possible release sequence for a work of fiction with popular appeal is as follows:

- Hard-cover book or Broadway theatrical production
- Soft-cover book or traveling theatrical productions
- First-run movie theater exhibitions
- Videocassettes
- Pay-per-view television
- Regular pay television
- Network television
- “Second-run” pay television
- TV syndication to independent stations
- Late-night TV

Reducing the previously existing consumer surplus contributes to inequality, because it creates pricey versions of formerly free products. But a historical perspective is necessary. The present consumer surplus has been a temporary rather than a typical arrangement, and it is attributable to the peculiarity of conventional TV as an excellent distribution channel but a highly inefficient collection mechanism for program providers. Television became a public good (i.e., there was no charge for usage). By contrast, few people attend movies, major sporting events, or arts performances for free. Even the Bolshoi Ballet charges for tickets. Between 1948 and 1972, the share of income devoted to movies fell considerably, from 8.7 percent to 2.2 percent, suggesting that viewers, if forced to, would be willing to pay a similar share today for video programs, and probably more, given increased leisure time, greater convenience of home media, and more viewing choices. This dormant demand was targeted by the producers of the new media.

With the incentives for sequential discrimination, there are strong economic reasons for a producer of a program to control, directly or indirectly, the stages of its distribution, because they can establish the most profitable sequence of releases. A series of contractual arrangements could serve a similar role, but their transaction costs in a dynamic environment with constantly varying products are high.

Furthermore, there are externalities from one stage of distribution to the next. Advertising and promotion for the theatrical distribution stage, for example, benefit subsequent cable and broadcasting distribution. There are advantages, therefore, for media firms to be present in every phase of distribution, from books and motion picture to cable and broadcasting (at times offset by the benefits of specialization). This leads to large, diverse, multimedia firms such

as Time Warner in America; Bertelsmann in Germany; Murdoch (News Limited) in Australia, Britain, and the United States; Havas in France; Berlusconi in Italy; and CLT in several European countries. Such incentives are not unique to private firms. They affect public broadcasters too. Although they are not profit maximizers, they operate under budget constraints, and they seek to expand their revenue and diversify its sources. Public broadcasters are affected by a greater variety of integrated distribution modes in two distinct and contrary ways. In their capacity as producers of programs, they benefit by being able to sell them more expensively according to the logic of a release sequence. But in their capacity as distributors of others' production, they will be further down the release sequence than before. To maintain their previous position, they would have to pay more than before or else accept a delayed access to programs. In the future, and with more channels under their control, they are likely to establish a release sequence of their own—pay TV, cable channels, over-the-air broadcasting, rebroadcasts, and syndication.

The Distinction Between Distribution and Production

Most discussions of broadcast issues make the analytical mistake of failing to separate the roles of television distribution and production. But these roles are quite distinct. In their purest form, broadcasters are simply outlets for programs produced by others. In that sense, a national market fragmented among "too many" broadcast outlets would not prevent the production of high-cost programs. To claim the opposite, as broadcasters frequently do, is analogous to claiming that books would not be written and published if there were "too many" book stores. The opposite should usually be true: the greater the number of outlets, the more demand would be generated and the more production would be encouraged. Only where significant monopoly rents could be extracted would a more limited number of outlets, under certain demand conditions, provide for greater revenue to support production. In actuality, however, most broadcasters fulfill more than the pure distribution function; they are also producers of programs. Such a function may make sense for productions such as local news or sports, for which they are the only outlet. (Even here, local or regional production companies could take over.) But for more general productions, such as films and national events, the vertical integration of program production and distribution is a much more tenuous affair. In purely economic terms, it does not make sense for a broadcast institution to be a large-scale producer, unless it also tied into a strong international distribution and marketing system, enabling it to defray production costs beyond its immediate range of viewers. Although the primary articulated reason for integration, production, and distribution is the public broadcaster's cultural mandate to produce programs of value and importance, the fulfillment of these obligations does not require in-house production. Programs could be selected from those offered by outside producers, whether public or commercial; when offerings prove to be insufficient, they could be commissioned on the outside. Moreover, it is not

necessary that the financing of such productions be the broadcaster's responsibility. This is merely one possible arrangement among several.

Although some cultural and organizational arguments can be made in support of a vertically integrated system, such a system is basically a garden variety vertical extension of a monopoly. In this case, the monopoly over distribution is extended into a substantial role in production. Because viewers (and program producers) have nowhere else to go, broadcast institutions can "buy" more of their own programs, and possibly pay for their own productions' higher prices, than they would otherwise.

It might be argued that a broadcast monopoly would not favor itself, but would let its programs be produced by the cheapest bidder, relative to desired quality. But this implicitly assumes a perfectly elastic (i.e., horizontal) supply curve. As soon as one allows for the more realistic upwardly sloping supply curve, in which a higher market price increases the supplied quantity, a "producer's surplus" exists (i.e., equilibrium is reached at a price where many program producers are able to sell their product at a price higher than the minimum they would accept). This is also known as "economic rent." By purchasing from his own program subsidiaries, a broadcast monopolist can therefore appropriate part or all of this rent or surplus to himself (unless it could discriminate perfectly with regard to price).

Thus, the argument that the existence of vertical integration is necessary to finance the creation of worthwhile programs involves much fuzzy thinking. The basic issue is how to subsidize productions that the market would not undertake. Vertical integration coupled with monopoly in transmission is one way to do so. It shifts monopoly rents of distribution downstream into the program production stage. These rents can be either due to advertising revenue that is higher than that in an open system, because neither advertisers nor audiences have easy alternatives, or due to an undivided hold over the TV set license fee. But as has been argued, other support mechanisms for worthwhile programs other than monopoly rent and vertical integration are possible. For example, the TV license fee could be used to fund a program foundation that would support worthwhile productions by various sources. A monopoly system is not a necessary condition for the creation of quality programs that the market does not provide.

The Supply and Consumption of Information

Although there is much talk about the information society, changes in the media information available to households are rarely quantified. Nor is the shift from print to electronic media measured. Yet it is useful to look at some numbers. One approach to investigate the changes in information that reaches households and its distribution over different media was created for Japan by Tomita and applied comparatively for the United States and Japan by Pool, Inose, Takasaki, and Hurwitz (Pool et al., 1984). They show that the average American "consumed" in early 1980 about 60,000 "words" of mass media

every day, about 4000 per waking hour, one word per second. Total TV consumption doubled over two decades from about 20,000 to 40,000 words per day, a growth of 3.3 percent annually. In terms of words consumed, electronic media were gaining, and print media, mostly newspapers, were losing. Television in 1960 accounted for 50 percent of information consumption. By 1980, this had risen to 64 percent. Because only words and not graphic images have been counted, this calculation even tends to understate the informational role of television. These figures relate to *consumption* of information. *Supply* of information is much higher. In 1960, mass media supplied about 3 million words per capita per day—including unwatched TV, unread papers, and so on. By 1980, this figure had increased by 267 percent to 11 million words per capita per day! The ratio of words consumed to those supplied fell in two decades to less than one half of what it had been (from 1.4 percent to 0.6 percent), and this ratio declined for each mass medium. Over the two decades, TV words available daily per person grew from 0.5 million to 2.18 million at an annual rate of 8.8 percent, for a total increase of 436 percent. It further accelerated significantly in the 1980s, because of the penetration of cable.

Radio is the cheapest mass medium in terms of production and consumption, and the most verbose in terms of the total words supplied to the typical household (75 percent of all words in 1960 and 72 percent in 1980). Radio proffered 2.2 million words in 1960 and 7.8 million words in 1980, growing by 252 percent. Consumption grew 150 percent through the period to 14,000, a stable 23 percent of total words consumed.

On a per-word base, books are easily the most expensive of mass media. But they have the highest ratio of words consumed relative to supply. This figure was declining (46 percent in 1960, versus 35 percent in 1980). It is lower (15–20 percent) if one subtracts students and professional browsing and leaves only leisure reading. The number of words supplied is fairly low (4738 in 1960, 6090 in 1980), and growing at 1.3 percent for a total of 29 percent. Home consumption is static, with 2160 words per week per person in 1960 and the same rate twenty years later.

The new viewing options lead to an increase in total viewing time. According to the Nielsen figures for 1985, U.S. households with television but without cable watch television forty-five hours and twenty-two minutes per week, whereas cable households (about half of all TV households), watch a remarkable fifty-eight hours. (Of course, the latter may be self-selected heavy viewers.) Researchers at Michigan State University found that greater viewing options change viewing styles. Viewers tend to move rapidly from channel to channel, watching several programs almost simultaneously. This viewer-active channel hopping is likely to favor programs that are visually arresting and whose plot line is simple to move in and out of. Some TV sets and cable channels permit the simultaneous watching of several channels, and viewers can select the audio signal of the visual image they prefer. Of course, newspaper- and magazine-reading is similarly nonlinear insofar as stories compete for attention and lack a coherent plot.

Just as households allocate time to different media, they also apportion money

for them. In 1976, expenses per typical U.S. household were \$40 for books (11 percent of total media expenditure); \$90 for newspapers and magazines (25 percent); \$33 for movie admissions (9 percent); \$179 for TV sets, records, etc., plus \$16 for TV repair (55 percent) (Sterling and Haight, 1978, p. 117). Thus, more than half of the media budget was spent on electronic media, but this was still less than their percentage in total words consumed (67 percent). Books, on the other hand, were consumed much less (4 percent) than their share in a household budget (11 percent). With movies, the discrepancy was 0.3 percent versus 9 percent, and with newspapers and magazines it was 10 percent versus 25 percent.

Thus, radio and television "words" are a bargain relative to those of movies and print. It is not surprising, in economic terms, that the consumption of TV "words" increased and that attempts were made to raise their price.

Program Diversity: Empirical Observations

Many analyses of the media environment seem to prefer reinterpreting old data to collecting new ones. According to one frequently made assertion, multichannel television (i.e., cable TV) is essentially the same as traditional commercial broadcast television, except that there is more of it. But this view is not empirically based. The diversity of programs available on American cable TV, for example, is much greater than that under the earlier restricted systems, particularly in smaller towns and cities, because additional and specialized program channels provide more variety. In 1990, there were in the United States sixty national satellite-distributed basic channels, five pay-channels, six pay-per-view services (some in the planning stages), thirteen audio services, eight text services, four computer-download services and two cross-channel promotion services over cable (*CableVision Magazine*, 1990, communication). These channels provide programs such as news (CNN), public affairs (C-SPAN), popular movies (HBO, Showtime), special movies (USA, Cinemax, TNT), performing arts (Arts & Entertainment, Bravo), documentaries (A&E and Discovery), children programs (Nickelodeon, Disney), Black-oriented (BET), Hispanic (SIN), sports (ESPN), business (FNN), health (Lifetime), soft-core pornography (Playboy), religion ("pray-TV," such as CBN), music (MTV, VH-1, Nashville), and shopping (CVN, HSN).

It is useful to compare the evolution of viewing options over time, and across the Atlantic. Table 3.2a shows program availability in New York and London in 1969. Table 3.2b, prepared for the British cable industry in 1982, similarly compares viewing options. The table illustrates the program diversity of cable, in terms of quantity, diversity, and quality (Veljanovski and Bishop, 1983).

At that time, London offered three channels, and New York (Manhattan) had twenty-six. In 1990, the number in New York, depending on location in the city, was as high as 70. In London, in the areas where cable television was available, there were 15 channels. The program choice in 1990 is shown in

Table 3.2 TV Viewers' Choice in New York and London

(a) Wednesday, November 5, 1969 at 9:00 pm*

New York

Channel	Program
2	Sinatra (music)
4	Music Hall
5	David Frost Show (talk)
7	Movie: Man and a Woman
9	Rouge's Regiment
11	Ben Casey
13	News in Perspective
21	University of the Air: Eye of Universe (documentary)
31	All About TV (documentary)
41	Mas Alla de la Muerte (Spanish)
47	Secuesto en el Cielo (Spanish)

London

Channel	Program
BBC1	Wednesday Play: All Out for Kangaroo Valley
BBC2	Rowan and Martin (comedy)
ITV	Special Branch: The Children of Delight

(b) Monday, June 7, 1982 at 9:00 pm

New York

Manhattan Cable

M*A*S*H (sitcom)
 Black Ghetto Life (documentary)
 Sister, Sister (film)
 Merv Griffin (talk show)
 The Kennedy Years (documentary)
 Baseball
 Spanish Play
 Variety Show
 Adam and Eve, with Nureyev (dance)
 Spanish Drama
 Orpheus (opera)
 International Education (public access discussion)
 Seminar on Nuclear Arms
 Baseball
 Bye, Bye Birdie (film)
 Danger UXB (drama)
 Dog Day Afternoon (film)
 Gymnastics
 Classified Advertisements
 Royal Ballet
 Folk Art (discussion)
 Chinese Cooking
 News

London

BBC 1	News
BBC 2	Hitchhiker's Guide to the Galaxy
ITV	Minder

Channel	Network/Service	Program
1	Preview Guide	Program guide
2	WCBS	Jake and the Fatman (detective)
3	The Weather Channel	Weather Watch
4	WNBC	Dear John (sitcom)
5	WNYW	Movie: Stripes (comedy w/ Bill Murray)
6	MTV	"Prime" Music
7	WABC	Doogie Howser, M.D. (Sitcom)
8	ESPN	College Basketball (Kentucky v. Cincinnati)
9	WWOR	B.B. King: King of the Blues (documentary)
10	CNN	Larry King Live (talk)
11	WPIX	Movie: Night of the Fox (George Peppard)
12	USA	Movie: Silhouette (Faye Dunaway)
13	WNET	Power of the Past w/ Bill Moyers: Special about Florence
14	A&E	Our Century: The Vietnam War (documentary)
15	Nickelodeon	Green Acres (sitcom from 1960s)
16	VH-1	Prime Time Music
17	TBS	Professional Basketball (Atlanta Hawks v. Boston Celtics)
18	TNT	Movie: Gone with the Wind
19	Family Channel	Movie: The Man in the Iron Mask (Dumas novel)
20	Lifetime	Six Ladies Laughing (comedy)
21	WLIW	The Unforgettable Nat King Cole (documentary)
22	CNN Headline News	News
23	FNN	Business Tonight
24	HBO	Movie: Descending Angel (George C. Scott)
25	WNYE	Ko-Hyang (Korean)
26	BET	Video Soul (Black Entertainment)
27	TDC	"Wings" (aviation documentary)
28	MSG	Professional Hockey (Wash. v. N.Y. Rangers)
29	Sports Channel Am	College Basketball (Indiana v. Notre Dame)
30	Sports Channel	Professional Hockey (Philadelphia Flyers v. N.J. Devils)
31	WNYC	New York Hotline (talk)
32	TLC	Quarks: Lecture by Leon Lederman (science)
33	CUNY (City Univ. Ch.)	The Constitution (documentary)
34	QPTV Pub Access	Community Bulletin Board (non-profit announcements)
35	QPTV	Is this Your Neighborhood? (documentary on zoning)
36	C-SPAN	Senate Armed Services Committee Hearings
37	C-SPAN II	House Banking Committee Hearings on the Economic Impact of the Persian Gulf
38	TNN	Nashville Now (variety show)
39	E!	Entertainment
40	Comedy Channel	Young Comedians
41	WXTV	Mi Pequena Soledad (Spanish telenovela)
42	Showtime	Movie: Beaches (Bette Midler, Barbara Hershey)
43	TMC	Movie: Karate Kid, part II (Ralph Macchio, Pat Morita)
44	QVC	Diamonique jewelry (shopping)
45	MAX	Movie: L.A. Bad
46	Disney	Movie: Chariots of Fire (Ben Cross, Ian Charleson)
47	WNJU	Movie: La Fichera Mas Rapida del Oeste (Spanish)
48	AMC	Movie: Broken Arrow
49	Bravo	La Gazza Ladra (by Rossini, Cologne Opera Company)

Table 3.2 TV Viewers' Choice in New York and London (Continued)

50	WNJM	Movie: All Creatures Great and Small
51	CNBC	America's Vital Signs (medical)
52	JC Penney	"Junior's" (fashion/sales)
53	Prayer Channel	Religion
54	Jukebox Network	Country Music
55	TV55	Movie: Interiors (Woody Allen)
56	QPTV Public Access	Belle of New York (local entertainment/interview)
57	QPTV Public Access	coverage of local events in Greek community
58	HSN	Home Shopping Network
59	PPV	Movie: The Guardian
60	PPV	Movie: The Last of the Finest
61	PPV	Movie: Grave Secrets
62	The Korean Channel	KBS: Korean News via Satellite
63	NATV/Sinovision	Chinese Program
64	ITV/Indian Channel	Movie: Atithee (Indian)
65	The Greek Channel	Sports Programming from Greece
66	Shalom America	Hebrew/Jewish Program
67	Playboy	Fantasies
68	HSN II	Sports Emporium
69	Travel	Video Visits (travelogue)
70	Galavision	El Chavo del Ocho (Spanish)
71	HSN	Electronics (shopping)
72	MSG	Professional Basketball (N.Y. Knicks v. Detroit Pistons)
73	Country Music TV	Country Music Videos
<i>London</i> ²		
	Network/Service	Program
	BBC 1	Nine O'Clock News
	BBC 2	M*A*S*H (U.S. sitcom)
	ITV London	Medics
	Channel 4	Dispatches: Profile of Margaret Thatcher's Press Secretary, Bernard Ingham
	Sky One ³	Moonlighting (U.S. detective drama)
	Sky News	News
	Sky Movies	Movie: Cherry 2000 (Sci-fi)
	Eurosport	Boxing
	Screensport	Boxing
	MTV	Music Videos
	Lifestyle	JSTV
	BSB Movies ³	Movie: The January Man (Kevin Kline)
	BSB Galaxy	Baby Boom
	BSB Sport	Motorcycling
	BSB Now	Sex, Lies and Love
	BSB Power	Music Videos

*Sources: New York Times (1969).

London Times (1969).

1. For Queens. Similar upgrade for Manhattan system required by 1992.

Sources: Preview Guide, TV Guide, N.Y. Times.

2. Where cable available.

Source: Time Out Magazine.

3. BSB and Sky merged in late 1990 into a single 5-channel system.

Table 3.2c. It is difficult not to conclude that the diversity of program choice has increased considerably, and that it includes programs of high quality.

On a randomly picked evening at 9 P.M., one could watch in New York's borough of Queens the movies "Chariots of Fire," Woody Allen's "Interiors," "Gone with the Wind," Dumas' "The Man with the Iron Mask," and "The Karate Kid." There were thirteen other films shown at that time, starring Faye Dunaway, George C. Scott, George Peppard, and Bette Midler. There were films in Chinese, Spanish, and Indian. One could watch at that time separate documentaries about the history of Florence, the Vietnam War, the singer Nat King Cole, another famous blues singer, aviation, physics, the U.S. Constitution, and medicine. There was an opera by Rossini, two channels of popular music, three of country music, and one of soul. There were variety and entertainment (2 channels), comedy, soft-porn, and shopping (4). There were channels in Spanish (2), Greek (2), Korean, Chinese, Indian, and Hebrew. There was basketball (3), hockey (3), and a Greek sports program. There was religion, news (4) including in Korean and Greek, talk, business, weather, congressional hearings (one channel for the Senate and one for the House). Local programming was served by community bulletin board, a program on local zoning, a local interview program, and a local Greek program. Of traditional T.V. series, one can count five.

As large as this diversity is, it was scheduled to be doubled, with an announced upgrade for Queens to 150 channels, to start operation in 1993.

Comparisons of program content are difficult to make. For example, one study compared the share of informative and entertaining programs during the late 1970s in Germany, Great Britain, and the United States (using New York as the American sample point). The findings were that the percentage of informative programs was clearly higher for the public broadcasting authorities (Kellner and Schmidt, 1979). The two public German networks ARD and ZDF had, respectively, a very high 62 percent and 58 percent of programs in the informational category. In contrast, the British commercial ITV and the New York commercial station had 47 percent and 36 percent respectively of such programs. At the same time, New York had eleven over-the-air and twenty-six cable channels, whereas German and British television had only three or four channels. Therefore, in *absolute* terms, the study finds a larger quantity of information programs available in New York. This is an important point. As the number of channels goes up, the likelihood of audience satisfaction, including demanding segments thereof, increases, even if the additional channels are largely "more of the same." A good test is to take a program guide for a multichannel cable system and to check off the programs one deems good and interesting. Even discerning viewers will come up with a surprisingly large number of such programs, probably many more than they could actually watch. Furthermore, as will be shown in Chapter 4, it is unlikely that new channels would merely duplicate existing offerings.

The Center for Telecommunications and Information Studies at Columbia University (now Columbia Institute for Tele-Information, C.I.T.I.) conducted

several analyses of the program diversity in American cities by comparing a typical week's programs in 1985 with those of 1970. The results show tremendous change. In 1985, a medium-sized heartland city like Tulsa, Oklahoma, had a program diversity and quantity far beyond anything that existed only a few years earlier in a much larger city like New York. During the fifteen-year period, Tulsa added two broadcast stations to its initial four, while building a thirty-five-channel cable system that carried the broadcast stations as well as additional channels. In 1990, forty-one channels were active. To analyze changes in program quantity and distribution, broad categories of programs, such as "Informational" and "Feature Film," were defined. These were then subdivided into forty-two subcategories, such as "Police, Mystery, and Suspense" and "Current Issues Documentary." The numbers show that total program hours increased elevenfold from 1970 to 1985 (See Table 3.3) (Jackson, 1985). Of major program categories, informational programs increased tenfold, from eighty-seven to 1015 hours per week; entertainment quadrupled, to 768 hours; news increased tenfold to 612 hours; and religious programs popular in the Bible belt community, increased fortyfold to 400 hours. These are phenomenal quantities. Among subcategories, there are major quantity increases in every segment. Even where the percentage is small, the absolute number of hours is high: performing arts were offered 54.5 hours during the week, up from 4.5 hours. Public affairs were 181.3 hours per week, up from 2.3; money and finance were 120 hours, up from 1.0; children's informational programs were offered 30.8 hours, up from 13.0; arts documentary had 9.8 hours, up from zero. Every program type had at least 43 percent more time, and ten new program types appeared. On the other hand, programs specifically aimed at American Indians, who comprise a part of Oklahoma's population, fell from one hour to zero. Thus, even by 1985 not all segments of the population were equally served, which raises the question of how such programs can be provided. A similar analysis—see Table 3.4—was conducted for New York City, for the years 1970 (precable) to 1985 (twenty channels). The increase in the staples of popular programming was huge: movies, 1098 percent; music, 3764 percent; religion, 864 percent; science, 188 percent; and sports, 970 percent. But other program categories also had major increases, though of a lesser magnitude: children's programs, 142 percent; cultural programs, 127 percent; documentaries, 95 percent; drama, 194 percent; financial, 867 percent; foreign language, 354 percent; news, 224 percent; and science, 188 percent. In contrast, the popular categories of variety fell by 73 percent and games and quiz shows stayed unchanged.

Barriers to Entry

Even in the absence of legal restrictions there are economic barriers to entry. New entrants must bear a substantial cost to establish themselves alongside incumbent public broadcasters. Barriers can be created, for example, by cost structures that are hard for newcomers to meet. Labor agreements are one such

Table 3.3 Changes in Television Program Availability, 1970–1985, Tulsa, Oklahoma

Program Type	Total Hours			Proportion of Total Hours		
	1970	1985	% Change	1970 (%)	1985 (%)	% 1985 1970
CHILDREN'S	43.5	297.2	683	9.60	5.62	56
Animated Ent.	15.0	170.4	1136	3.43	3.22	94
Live Entertain.	15.5	96.0	619	3.55	1.22	51
Live Information	13.0	30.8	237	2.97	0.58	20
ENTERTAINMENT	149.0	768.0	515	34.11	14.52	43
Situation Comedy	38.0	172.0	453	8.70	3.25	37
General Drama	4.5	125.5	2789	1.03	2.37	231
Adventure, SciFi	6.5	76.5	1177	1.49	1.45	97
Quiz, Game	24.9	70.5	283	5.70	1.33	23
Police Myst. Susp.	8.5	70.4	828	1.95	1.33	68
Daytime Drama	37.1	60.0	162	8.49	1.14	13
Performing Arts	4.5	54.5	1211	1.03	1.03	100
Western	8.0	44.5	556	1.83	0.84	46
Variety	12.5	39.5	316	2.86	0.75	26
Humor	4.5	29.8	662	1.03	0.56	55
Adult		24.8	na		0.47	na
INFORMATIONAL	87.2	1015.0	1164	19.95	19.21	96
Classrm. Instruc.	32.8	187.0	570	7.51	3.54	47
Public Affairs	2.3	181.3	7883	0.53	3.43	652
Finance, Money	1.0	120.2	12020	0.23	2.27	994
Instruct., Advice	6.3	113.0	1794	1.44	2.14	148
Health, Fitness		112.1	na		2.12	na
Conversation	33.0	98.6	299	7.55	1.87	25
Wildlife Nat. Doc.	0.5	27.5	5500	0.11	0.52	455
Travel	0.5	25.5	5100	0.11	0.48	422
Entertain. News		23.6	na		0.45	na
Biography Docu.	1.0	23.3	2330	0.23	0.44	193
Auction, Sale		20.0	na		0.38	na
Curr. Issue Doc.		16.0	na		0.30	na
Medical Instruct.	1.0	15.5	1550	0.23	0.29	128
Law Documentary	0.5	10.5	2100	0.11	0.20	174
General Document.	4.5	10.0	222	1.03	0.19	18
Arts Documentary		9.8	na		0.19	na
Foreign Language		7.3	na		0.14	na
History Document.	0.5	4.8	960	0.11	0.09	79
Local Affairs	2.7	3.8	141	0.62	0.07	12
Hearing Impaired		3.0	na		0.06	na
Farm	0.8	2.3	288	0.18	0.04	24
SPORTS	25.7	361.2	1407	5.88	6.83	116
Spts. Event Report	2.0	136.0	6800	0.46	2.57	562
Sports Anthology	4.1	131.2	3200	0.94	2.48	265
Sports Event Live	19.6	94.0	480	4.49	1.78	40
UNPROGRAMMED						
Off Air	235.2	564.3	240			
To Be Announced		31.3	na			
TOTAL PROGRAMMED HOURS	437.0	5284.6	1209			
TOTAL HOURS CHANNELS	672.0	5880.0	875			
	4	35				

Source. Jackson, 1986.

Table 3.4 Changes In Television Program Availability, 1970–1985, New York City (Manhattan)

Program Category	Hours		Absolute Change	% Change	% of total	
	1969	1985			1969	1985
Children's	127	307	180	142	12.5	9.0
Comedy	46	169	124	271	4.5	4.9
Cultural	25	43	18	73	2.4	1.2
Disc./Talk/Int.	138	315	177	127	13.6	9.2
Documentary. Biog.	22	43	21	95	2.2	1.3
Drama	77	227	150	194	7.6	6.6
Financial	17	166	149	876	1.7	4.8
Foreign Language	47	213	166	354	4.6	6.2
Game/Quiz	54	74	20	4	5.3	2.2
General News	69	239	169	244	6.8	7.0
Health/Medicine	11	90	79	718	1.1	2.6
Movies	258	540	282	1098	25.4	15.7
Music	11	425	414	3764	1.1	12.4
Religious	14	135	121	864	1.4	3.9
Science/Nature	13	37	24	188	1.3	1.1
Soaps	30	65	35	117	3.0	1.9
Sports	31	337	305	970	3.1	9.8
Variety	26	7	-18	-73	2.5	0.2
TOTAL	1016	3432	2416	340	100.0	100.0
Herfindahl Index (Program Diversity) (1.0 = Total Concentration)					0.1207	0.0874
Concentration (top 4 categories as % of total)					59.1	47.1

Source. Fleischmann (1986).

factor. Another way to deter entry is for the incumbent to possess excess capacity (Spence and Owen, 1977), such as the expansion of its previous broadcast activities into additional channels (terrestrial and satellite) and additional times of the day. Entry barriers are higher in a monopoly market, since a new entrant will qualitatively alter the industry structure much more than where no monopoly exists. Adherents of contestability theory (i.e., of the view that a monopoly does not necessarily translate market share into market power) argue that a potential entrant can affect a monopolist's behavior as much as an actual entrant (Baumol, et al., 1982). However, this theory entails the absence of irreversible (sunk) costs for entry as well as other assumptions about the incumbent's reaction (Brock, 1983; Shepherd, 1983). Applied to television, a public broadcaster could move to a centrist programming policy in order to preempt commercial entry. But as the program model described in this book demonstrates, there will be room on either side for rival program supply. The only way to ward off rivalry would be for the public broadcaster to operate multiple

channels covering the entire taste spectrum. This would expand the broadcaster's scale of operations, its political influence, and its financing requirements.

One entry barrier policy is to permit only a small number of private broadcasters to operate by strictly limiting licenses and frequency allocations. This is the cautious, evolutionary approach that several European governments have taken, with the exception of Italy, where events could not be contained. This limited barrier policy leads to a tiny number of highly profitable and influential private channels, at or near the center of the preference distribution.

Whereas a wide-open system would eventually lead to a broad diversity, a limited license policy creates centrist program approaches. Furthermore, the scarcity of such licenses turns their distribution into a high-stakes game of politics and money, as the French experience demonstrates. The holders of scarce commercial licenses quickly become staunch opponents of further liberalization. In Britain, the ITV companies hold highly profitable regional monopolies over television advertising, and they opposed the entry of newcomers with almost as much fervor as the BBC. In the United States, commercial broadcasters fought the FCC's intention to add stations by spacing them closer to each other. U.S. broadcasters also succeeded, for a decade, in blocking the expansion of cable television's transmission of programs otherwise unavailable over the air.

Although limited licensing is often justified by the scarcity of frequencies, this argument has always been overstated. First, if the huge segment of spectrum that governments assign to themselves were reduced, a great deal of room would be immediately available for additional television channels. This would be much more possible in Europe in the 1990's with the reduction in military forces. Second, a surprisingly large number of low-power television stations can fit within the existing frequency allocations. Third, the microwave range has been opened to low-cost broadcasting, both terrestrially and by satellite. Finally, but perhaps most important, cable television has thoroughly overcome over-the-air spectrum limitations. A coaxial cable can carry, depending on the associated hardware, over 100 video channels; if more channels are needed, several cables can be run in parallel. Fiber-optic lines have an even greater potential capacity and a dramatically smaller size. Twenty-six-gigabit transmission rates over a single fiber were achieved in 1988 in the laboratory, which would be enough for hundreds of channels. Soon both cable and telephone companies will use fiber video transmission. For all of these reasons, any "scientific" argument for a limitation of television licenses lives on borrowed time.

A government can try to diversify centrist program offerings of limited private broadcasters by imposing entry conditions that aim at opening up diversity. Grantees of licenses can, for example, be required to provide programming that appeals to minority tastes. Yet if experience is a guide, such obligations are subsequently opposed by commercial broadcasters, because they lead to lost profits. Another strategy to assure program diversity is to award licenses to a diverse set of operators. The Netherlands provides the best example; there, several ideological "pillar" organizations are licensed to share broadcasting.

This chapter provided an analysis of several basic concepts of the new television environment—the shift of TV from a public to a private good, release sequencing and the vertical integration of media, the distinction between distribution and production, the quantitative supply and consumption of information, the empirical extent of program diversity, and barriers to entry. With an understanding of these elements, we can now proceed to the next chapter.