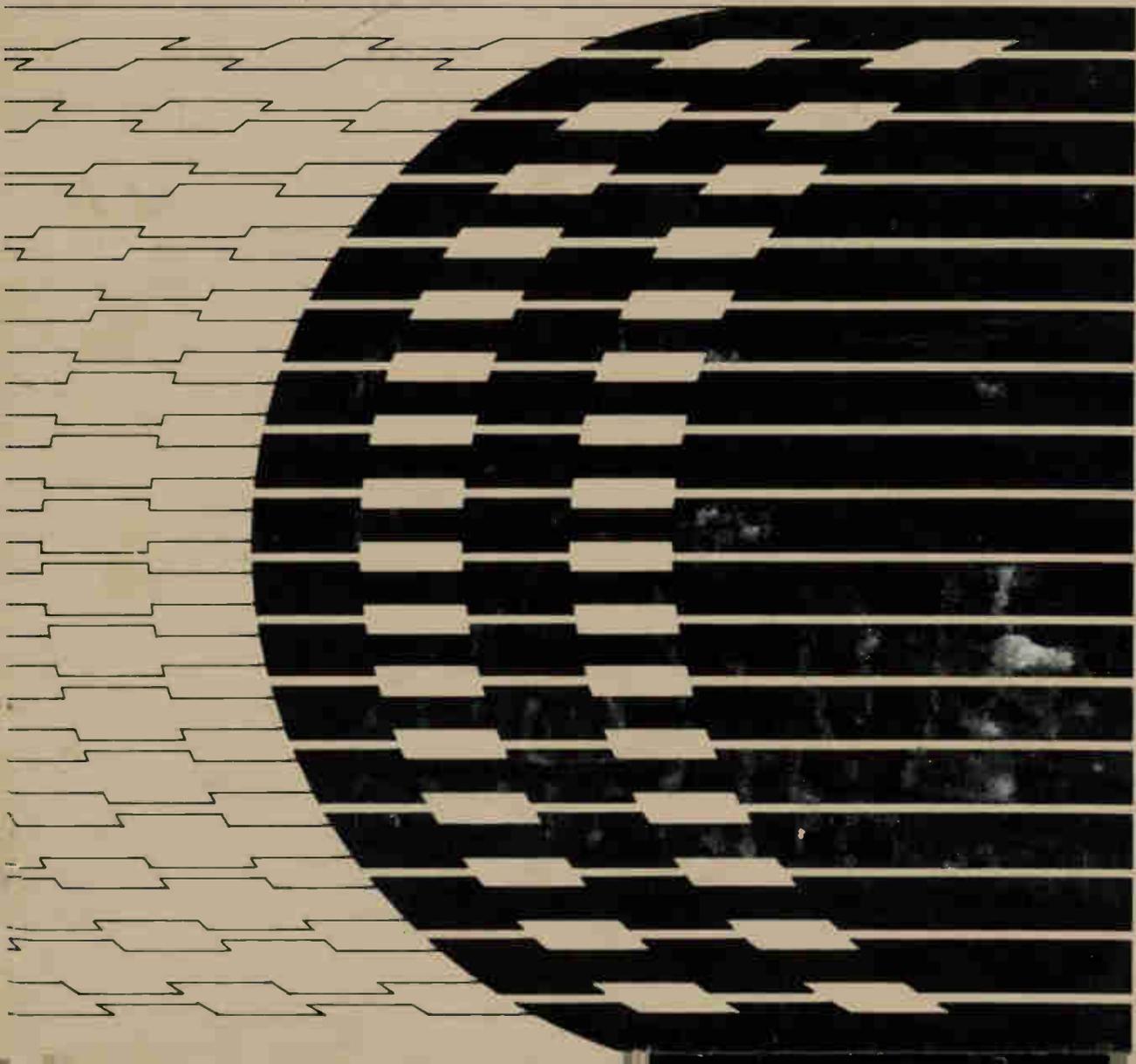


Sydney W. Head

BROADCASTING IN AMERICA

A Survey of Television and Radio

3rd Edition



BROADCASTING IN AMERICA

Third Edition
A SURVEY OF TELEVISION AND RADIO

HOUGHTON MIFFLIN COMPANY • Boston
Atlanta • Dallas • Geneva, Illinois • Hopewell, New Jersey • Palo Alto • London

Copyright © 1976, 1972 by Houghton Mifflin Company. Copyright © 1956 by Sydney W. Head. All rights reserved. No part of this work may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or by any information storage or retrieval system, without permission in writing from the publisher.

Printed in the U.S.A.

Library of Congress Catalog Card Number: 75-19534

ISBN: 0-395-20644-8

SYDNEY W. HEAD

Professor of Communications
Temple University

BROADCASTING IN AMERICA

Third Edition

Contents

Exhibits	xiii
Preface	xvii

CHAPTER 1	PROLOGUE: BROADCASTING IN AMERICA — AND THE WORLD	1
1.1	Global context	1
1.2	National systems	4
1.3	Authoritarianism	6
1.4	Paternalism	7
1.5	Permissivism	8
1.6	Trend toward pluralism	10
1.7	U.S. influences abroad	14

PART ONE **Use and Management of Radio Energy**

CHAPTER 2	NATURE OF RADIO ENERGY	21
2.1	A conceptual model	21
2.2	Sound waves	23
2.3	Radio waves	25
2.4	Modulation	26
2.5	Electromagnetic spectrum	27
2.6	Wave propagation	29
2.7	Spectrum management	34

CHAPTER 3	BROADCAST CHANNELS	37
3.1	Interference	37
3.2	Standard broadcasting	38
3.3	Frequency modulation broadcasting	42
3.4	Short-wave broadcasting	43
3.5	Picture channels	44
3.6	Electronic picture processing	47
3.7	Television signal requirements	49
3.8	Television channel specifications	51
3.9	Television transmission and reception	53
3.10	Nonbroadcast video systems	56
CHAPTER 4	STORAGE, DELIVERY, AND DISTRIBUTION SYSTEMS	58
4.1	Syndication and technology	58
4.2	Sound recording	60
4.3	Picture recording	62
4.4	Terrestrial relays	65
4.5	Space relays	66
4.6	Hybrid configurations	71
4.7	Community antenna (cable) television	74
4.8	Cable use of emergent technology	76

PART TWO

Origin and Growth of Broadcasting

CHAPTER 5	PRECONDITIONS: THE STAGE IS SET	81
5.1	Meaning of "mass"	81
5.2	Mass appeal newspapers	82
5.3	Wire communication	83
5.4	News syndication	85
5.5	Patents	86
5.6	American Telephone and Telegraph Company	87
5.7	General Electric and Westinghouse	89
CHAPTER 6	WIRELESS	90
6.1	The "right releasing touch"	90
6.2	Marconi	91
6.3	Early wireless telegraphy services	93

6.4	Invention of the audion	95
6.5	Dawn of the electronic age	97
6.6	Radiotelephony	98
6.7	Fessenden and Alexanderson	100
6.8	Developments during World War I	101
CHAPTER 7	EMERGENCE OF BROADCASTING	102
7.1	Government monopoly: The road not taken	102
7.2	Founding of RCA	103
7.3	Cross-licensing: Prebroadcasting phase	106
7.4	The concept	107
7.5	The "first" station	109
7.6	Intervention of AT&T	113
7.7	Divergent theories	114
7.8	"Toll" broadcasting	116
7.9	"Chain" broadcasting	117
7.10	Cross-licensing: Broadcasting phase	118
7.11	National networks	120
7.12	Triumph of commercialism	121
7.13	A still, small voice	124
CHAPTER 8	ORIGINS OF GOVERNMENT REGULATION	126
8.1	Wire regulation	126
8.2	Wireless regulation	127
8.3	Failure of Radio Act of 1912	128
8.4	Origin of Radio Act of 1927	130
8.5	Start of regulation by commission	132
8.6	Passage of Communications Act of 1934	133
CHAPTER 9	RADIO AFTER 1928	135
9.1	Radio in retrospect	135
9.2	Phases of development	137
9.3	Syndication: Networks	140
9.4	Syndication: Recordings	143
9.5	News, commentary, and documentaries	144
9.6	The "parsimony principle"	146
9.7	Radio as popular art	148
9.8	Advent of fm	149
9.9	Educational radio	150
9.10	Eve of television	152
9.11	Radio renascent	153
9.12	National Public Radio (NPR)	157

CHAPTER 10	HISTORY OF TELEVISION	160
10.1	Quest for higher resolution	160
10.2	Freeze of 1948–1952	162
10.3	Uhf’s hard times	167
10.4	Network rivalries	168
10.5	The “live” decade: 1948–1957	170
10.6	Syndicated programming	172
10.7	A vast wasteland?	176
10.8	News and public affairs	178
10.9	From “educational” to “public” broadcasting	181
10.10	Public Broadcasting Service (PBS)	183
10.11	Fourth network or cottage industry?	185
CHAPTER 11	CABLE TELEVISION	189
11.1	Parasitism and the television set	189
11.2	Development of CATV	190
11.3	Impact of CATV on broadcasting: Carriage rules	192
11.4	CATV origination	194
11.5	Access channels	195
11.6	Subscription television	197
11.7	Promises, promises . . .	199

PART THREE

Economics of Broadcasting

CHAPTER 12	FINANCIAL AND ADMINISTRATIVE ORGANIZATION	207
12.1	Investment, revenue, and income	207
12.2	Operating expenses	210
12.3	Economics of television networking	212
12.4	Prime-time access	215
12.5	Station organization	218
12.6	Employment	220
12.7	Economics of noncommercial broadcasting	222
CHAPTER 13	AUDIENCE MEASUREMENT	226
13.1	Need for audience measurement	226
13.2	Concepts of “market”	227
13.3	Coverage area and circulation area	228

13.4	Program rating concepts	231	
13.5	Measurement from samples	232	
13.6	A sampling demonstration	235	
13.7	Collecting rating data	238	
13.8	Demographics and CPM	243	
13.9	Abuse and misuse of ratings	244	
13.10	Methodological studies and innovations	247	
13.11	Nonrating research	251	
13.12	Audience characteristics and tuning behavior	252	
CHAPTER 14	ECONOMIC ROLE OF ADVERTISING	256	
14.1	Advertising market	256	
14.2	Advertising as subsidy	258	
14.3	Effect of advertising on consumption	260	
14.4	Case against advertising	262	
14.5	Case for advertising	264	
14.6	Public attitudes toward advertising	267	
CHAPTER 15	BROADCAST ADVERTISING PRACTICE	270	
15.1	Integration of advertising in program structure	270	
15.2	Advertising vehicles	271	
15.3	Saliency of commercial content	274	
15.4	Bases of advertising rates	275	
15.5	Rate cards	278	
15.6	Rate differentials	280	
15.7	Local, network, and national spot advertising	285	
15.8	Advertising agencies	286	
15.9	Creative aspects of advertising	291	
CHAPTER 16	ECONOMIC CONSTRAINTS ON PROGRAMMING	296	
16.1	The price of localism: Marginal stations	296	
16.2	Service to minorities	298	
16.3	The quiz scandals	299	
16.4	Blacklisting	301	
16.5	Network clearance	305	
16.6	Economics of "cultural democracy"	309	
16.7	Economic constraints on public broadcasting	311	

PART FOUR

Social Control of Broadcasting

CHAPTER 17	LAW OF BROADCASTING	319
	17.1 Communications Act of 1934	319
	17.2 Federal Communications Commission	321
	17.3 "Public interest" standard	322
	17.4 Rights to hearings and appeals	324
	17.5 Licensing powers	326
	17.6 Uniqueness of broadcasting	327
	17.7 Doctrine of local access	329
	17.8 Program regulation	330
	17.9 Constitutional challenges	332
	17.10 Law of public broadcasting	334
	17.11 Enforcement provisions	335
	17.12 Other laws affecting broadcasting	336
CHAPTER 18	ADMINISTRATION OF THE LAW: FCC AT WORK	340
	18.1 Independent regulatory agencies	340
	18.2 FCC budget and organization	341
	18.3 FCC Rules and Regulations	341
	18.4 Obtaining a license	347
	18.5 Basic licensee qualifications	349
	18.6 Program criteria	350
	18.7 Ascertainment of community needs	352
	18.8 Operating under license	355
	18.9 Renewing a license	357
	18.10 Losing a license	360
	18.11 Regulation of networks	363
	18.12 Regulation of public broadcasting	365
	18.13 Regulation of CATV	366
	18.14 Regulation of advertising	368
CHAPTER 19	REGULATION: ENEMY OF FREEDOM	371
	19.1 Danger! First Amendment ahead	371
	19.2 Broadcasting and the system of free expression	373
	19.3 Restraints on freedom	375
	19.4 Obscenity	377
	19.5 The social value test	379

19.6	Libel and "the right to defame"	381
19.7	Previous (prior) restraint	384
19.8	Alternative views	386
CHAPTER 20	REGULATION: ALLY OF FREEDOM	389
20.1	The marketplace of ideas	389
20.2	Preservation of competition	390
20.3	Monopolistic media concentrations	392
20.4	Newspaper-broadcasting cross-ownership	394
20.5	"Equal time" for political candidates	395
20.6	Editorializing by licensees	397
20.7	Development of fairness doctrine	398
20.8	Fairness in practice	400
20.9	Editorial advertising	403
20.10	Access: For issues or people?	405
20.11	Private censorship: "Bias" and "balance"	407
CHAPTER 21	REGULATION AND THE PUBLIC INTEREST: FACTS AND FICTIONS	411
21.1	Defects of the regulatory agencies	411
21.2	Decisional inconsistency	412
21.3	Lobbying and ex parte intervention	412
21.4	FCC commissioners—Before and after appointment	414
21.5	Congressional intervention	418
21.6	Executive branch intervention	419
21.7	Mythology of regulation	422
21.8	Proposals for FCC reform	427
21.9	FTC's concern with advertising	429
CHAPTER 22	BEYOND THE FCC: NONREGULATORY SOCIAL CONTROLS	432
22.1	Industry self-regulation	432
22.2	Professional self-regulation	436
22.3	Education for broadcasting	438
22.4	Professional criticism	439
22.5	Influence of public broadcasting	440
22.6	Broadcasting and consumerism	443
22.7	Mechanisms of broadcast consumerism	444
22.8	Negotiated settlement	448
22.9	Problems of consumer intervention	451

PART FIVE

Assessment: Influence of Broadcasting

CHAPTER 23	MASS COMMUNICATION RESEARCH AND THEORY	457
23.1	Scope of research in broadcasting	457
23.2	Place of broadcasting in communication research	460
23.3	Development of mass media research concepts	461
23.4	"Who says what . . ."	466
23.5	Problems of effects analysis	471
23.6	Theories about effects	473
23.7	Trend toward functional perspective	475
23.8	Conditions for effectiveness	477
 CHAPTER 24	 EFFECTS OF BROADCASTING: PRAGMATIC ASSESSMENTS	 480
24.1	Varieties of effects	480
24.2	Reciprocal media effects	481
24.3	Social change and conformity	485
24.4	Diffusion of information	486
24.5	Socialization effects	488
24.6	Violence	490
24.7	Shaping of events	494
24.8	Political campaigns	497
24.9	Effects on conduct of government	500
24.10	Effects on high culture	504
24.11	Gratification effects	507
24.12	Conclusion	509

Further Reading: A Selective Guide to the Literature of
Broadcasting 511
Christopher H. Sterling

Citations 551
Index 613

Exhibits

1.1	U.S. share of world broadcasting facilities	2
1.2	Ownership of world broadcasting systems	2
1.3	Major international broadcasters	3
2.1	A communications process model	23
2.2	Wave motion concepts illustrated by pendulum	24
2.3	Amplitude modulation	28
2.4	Electromagnetic spectrum	30
2.5	Subdivisions of radio frequency spectrum	31
2.6	Ionosphere and wave propagation paths	32
2.7	Some characteristics of the radio frequency spectrum	33
2.8	Nongovernment radio station authorizations by class of service	35
2.9	Nongovernment broadcast station authorizations	36
3.1	Am broadcast channel and station classification systems	40
3.2	Am channels by frequency, class, and number of stations	41
3.3	Short-wave (high frequency) broadcast bands	43
3.4	Picture structure	45
3.5	Motion picture film formats and soundtrack types	46
3.6	Composite television signal	50
3.7	How the television channel is used	51
3.8	Summary of U.S. domestic broadcast channel specifications	52
3.9	Major world television standards	53
3.10	Block diagram of television system components and signals	54
3.11	Television antennas	55
4.1	Magnetic video recorder scanning systems	63
4.2	Coaxial cable	66
4.3	Microwave relay station	67
4.4	An earth station and its satellite	70-71
4.5	Community antenna television cabling system	75
6.1	Guglielmo Marconi (1874-1937)	92
6.2	Lee de Forest (1873-1961)	99

7.1	David Sarnoff (1891–1971) as a boy of 17	105
7.2	Conrad's amateur station and its successor	108–109
7.3	Crystal receiving set	111
7.4	KDKA's studio in 1922	112
7.5	Ownership of broadcast stations as of February 1, 1923	113
7.6	"The Cliquot Club Eskimos"	124
8.1	Herbert Hoover (1874–1964) as Secretary of Commerce	130
9.1	Trends in rate of broadcast station authorization	139
9.2	Trends in radio receiver production	155
10.1	Experimental low-resolution television of the 1920s	162–163
10.2	Mechanical television scanning system	164
10.3	Vladimir Zworykin and his iconoscope tube	165
10.4	David Sarnoff (1891–1971) unveiling electronic television at 1939 World's Fair	166
10.5	Number of commercial network affiliates	169
11.1	Types of cable subscriber terminals	202
12.1	Trend in national income, selected industries	208
12.2	Stations' investment in tangible broadcast property	208
12.3	Broadcast income	209
12.4	Ratio of broadcast station income to tangible investment	209
12.5	Trend in broadcast earnings since 1958	210
12.6	Distribution of station operating expenses	211
12.7	Distribution of network operating expenses	212
12.8	Average prime-time television network program costs by type and rating	214
12.9	Trend in sources of television network prime-time programming, 1957–1968	216
12.10	Effect of prime-time access rule	218
12.11	Broadcasting employment	221
12.12	Trends in public television station financial support	224
13.1	Television markets	229
13.2	Rating concepts	233
13.3	Effect of sample size on accuracy of rating estimates	237
13.4	Instruction page from radio listener diary	240
13.5	Excerpts from local television rating report	242
13.6	Television and radio usage	254
13.7	Contrasts in program preferences by program type, sex, and age	255
14.1	Leading nations in advertising expenditure	257
14.2	U.S. expenditures on major advertising media	258
14.3	Broadcast advertising growth rate compared with other media	259
15.1	Summary of NAB television code commercial salience standards	276
15.2	Sample rate card listings in SRDS publications	279

15.3	Top 10 U.S. advertisers' use of media	287	
15.4	Relative importance of network, national spot, and local revenue	288	
15.5	Ten U.S. advertising agencies largest in broadcast billings		289
15.6	Broadcast advertising routing patterns	290	
18.1	FCC Broadcast Bureau organization chart	342	
18.2	Example of daily program log form	344	
18.3	Measures of "substantiality" of public service television programming	352	
18.4	Public complaints received by FCC	356	
18.5	Reasons for license deletions	361	
21.1	Landmark FCC appointees	416-417	
22.1	NAB membership and code subscribership		434
22.2	Increase in petitions to deny license renewal		452

Preface

The third edition of *Broadcasting in America* follows only four years after the second, whereas sixteen years elapsed between the first two editions. This change of pace, though due in part to personal circumstances, reflects the accelerated growth of broadcasting studies in recent years.

On the basis of advice from users of the second edition, I at first singled out certain chapters and topics for major revision. When it came to the writing, however, I found that every chapter had to be completely reassessed and in large part rewritten. The third edition, therefore, is truly two removes from the first.

In the 1950s, when I wrote the first edition, it was possible for one person to master the basic available literature of the broadcasting field. The exponential growth of the literature since then makes such mastery improbable. Yielding to that fact, I asked Christopher Sterling to lend his unparalleled knowledge of the bibliography of the field to the new edition. His guide to further reading assured that the principal booklength publications would be annotated, freeing me to use periodical sources more liberally than before in the text citations.

Growth of the literature has also created the problem of keeping the survey comprehensive without also making it too long. I have sought to avoid encyclopedism, at the expense of severe condensation in some cases, outright omission in others. To save space I reduced citations to shorthand parenthetical entries within the text, instead of encumbering the pages with footnotes. Though less convenient for those wanting to pursue the sources, this method has the advantage of making possible a single, composite source list, incorporating both the books annotated by Sterling and the materials cited in the text.

Still another consequence of the growing complexity of the field of broadcast studies is the need to rely increasingly on the help of specialists. Assistance came from a variety of generous individuals and organizations, all of whom I thank. I would like to mention by name those who read and criticized portions of the manuscript: Barry Cole (federal regulation), Don Le Duc (cable televi-

sion), Thomas Gordon (research and theory), Irwin Ross (engineering), Erwin Krasnow (law and consumerism), Norman Marcus (public broadcasting), and Frank Tooke (commercial practice). In addition, Richard Ek, Saul Scher, and Robert Smith commented on the manuscript more generally. Needless to say, they bear no responsibility for any failures on my part to heed advice.

Among those who helped with manuscript preparation, special thanks must go to my wife, Dorothy, whose unerring ear, keen eye, and incredible patience assured technical accuracy and observance of stylistic amenities. Harvey Jassem and Jean Sullivan cheerfully underwent the drudgery of verifying legal citations and other bibliographic details.

Finally, I am grateful to the students and teachers who have used the previous editions, many of whom have made useful suggestions, not the least of which was the suggestion that there should be a third one.

Sydney W. Head
Coral Gables, Florida

BROADCASTING IN AMERICA

Third Edition

Prologue: Broadcasting in America — and the World

The title *Broadcasting in America* gives rise to the following question: Does American broadcasting in fact have unique characteristics that set it apart from world broadcasting?¹ Radio communication had a highly cosmopolitan parentage. The French date its invention from 1891, when Edouard Branly first demonstrated his *coherer*, a radio wave detection device. The USSR celebrates Radio Day on May 7, commemorating a demonstration made by Alexander Popoff in 1895. Even the Italian Marconi's British patent of 1896, often regarded as the practical beginning of radio communication, depended on essential prior discoveries by British, French, German, Italian, and Russian scientists.

Subsequent contributions to the technical development of the art have continued to come from many countries. In the 1930s electronic television demonstrations were taking place in Britain, France, Germany, Italy, Japan, Russia, and the United States. America led in the development of electronic television as a practical mass medium, but that leadership hinged on two key personalities, both Russian immigrants — Zworykin in the technical sphere and Sarnoff in the business sphere.

1.1 Global context

Without detracting from the pioneering contributions of other countries, it can be fairly said that America has led the world in developing many aspects of the social phenomenon we know as broadcasting. Not everyone, either in America or elsewhere, may agree that the present system is altogether ideal, but whatever one's value judgments, American broadcasting does have a number of unique features and has substantially influenced world broadcasting.

¹ The term *broadcasting* in this text will include both sound radio and vision radio, or television.

Exhibit 1.1
U.S. share of world broadcasting facilities

Class of facility	World total ^a	U.S. share	
		No.	%
Radio transmitters	19,110	6,870	36
Radio receivers	653,000,000	290,000,000	44
Television transmitters			
Primary	3,925	868	22
Secondary ^b	10,545	2,482	24
Television receivers	251,000,000	84,000,000	34

^a Not including China. Data for most countries refer to 1970, but some are older; U.S. share is therefore somewhat inflated.

^b Refers to translators and boosters.

Source: Based on statistics that appeared in *Unesco Statistical Yearbook 1971*. © Unesco [Paris] 1972, except for U.S. transmitter data, which are taken from FCC records.

Certainly in terms of sheer size American broadcasting warrants special attention. Although the United States has less than 6 percent of the world's population, exhibit 1.1 shows that it has about a third of the world's broadcast radio transmitters, a fifth of the world's television transmitters, and over a third of its radio and television receivers. Because of size (and also because of the political, economic, and social context in which the system has evolved), broadcasting in America presents a more varied face than it does in other countries. Its combined total of nearly eight thousand primary broadcasting stations gives scope for every conceivable variety of program service. Such lavish choice has made the American listener/viewer rather parochial. He feels no need to reach out beyond the confines of his own country to vary his broadcast diet. He is hardly aware that other countries often organize broadcasting along lines quite different from those he knows at home.

In contrast to the United States, most nations have only a few domestic stations, and those few are likely to be either run directly by the government or under tight government control (exhibit 1.2). They usually offer a limited range

Exhibit 1.2
Ownership of world broadcasting systems

Type of ownership and control	Radio systems ^a		Television systems ^a	
	No.	%	No.	%
Government	130	69	82	66
Private enterprise	14	7	25	20
Mixed government and private	46	24	17	14
Total	190	100	124	100

^a "Systems" refer to separately enumerated areas, not all of which are independent countries.

Source: Based on statistics that appeared in *Unesco Statistical Yearbook 1971*. © Unesco [Paris] 1972.

Exhibit 1.3
Major international broadcasters

Country	Estimated hours per week	
	1960	1973
USSR	1,015	1,952
China	687	1,326
United States (VOA)	640	929 ^a
West Germany	35	606
Great Britain (BBC)	589	751
Egypt	301	613
Albania	63	490
Netherlands	178	399
Spain	207	361
Australia	254	348
Cuba	—	354
India	154	321
France	326	306

^a Adding the unofficial American-sponsored Radio Free Europe and Radio Liberty to the VOA brings the U.S. total to 2,060 hours.

Source: *BBC Handbook 1975*. British Broadcasting Corporation, London, 1975, p. 71.

of program choices so that consumers interested in alternative points of view or nongovernment-approved entertainment must turn to foreign stations for satisfaction. This they can do more easily than American audiences. Most nations have a smaller geographical spread than the United States so domestic stations in one country can often be easily picked up in the neighboring countries. Some countries built up substantial television set ownership even before they had so much as a single television station within their own borders.

Other external sources of programs are not wanting: powerful, commercially oriented radio stations located in ministates like Andorra and Luxembourg; elaborate propaganda services, not only from major powers but even from small countries like Albania or Ghana (exhibit 1.3); quasi-governmental services like Radio Free Europe (aimed at communist satellite states from transmitters in West Germany and elsewhere); the American Forces Radio and Television Service, with transmitters at United States military bases throughout the world; the United Nations, with facilities in New York and Geneva; and unlicensed “pirate” stations broadcasting from offshore locations. In much of the world short-wave receivers are commonplace so that distant radio stations a thousand or more miles away are regularly received.²

International exchange of both radio and television programs occurs much more frequently abroad than it does in America. Even the highly developed

² Limited research data indicate that in America less than 10 percent of the adult population listens even occasionally to foreign short-wave stations (Smith, 1970).

countries of Europe, taken individually, represent markets too small for efficient program syndication. They therefore enlarge the market base by co-production agreements.

The European Broadcasting Union has operated an elaborate program exchange system, Eurovision, among nations of Western Europe since 1954. The East European bloc has a similar service, Intervision, operated from Prague by the International Radio and Television Organization. Exchanges between these two European regional systems have become commonplace. Asia and Africa also have broadcasting unions, although not yet on the European scale. The smaller and the less developed countries of the world perforce depend heavily on syndicated television materials from the few major production centers in the larger nations.

Both viewer and listener in other countries thus receive far more programming from external sources than do American audiences. However, several recent developments have begun to break down this isolation. Where before the program flow was almost exclusively outward, the United States now imports a certain amount of programming from foreign sources. This trend was encouraged by the striking success of *The Forsyte Saga* and subsequent series imported by the Public Broadcasting Service; other BBC and independent British television series entered the U.S. commercial market because of new demands for syndicated material created by the FCC's prime-time access rule (see §18.11). American producers also began to undertake co-production ventures with European organizations. Time-Life Films and the BBC, for example, co-produced Alistair Cooke's *America* series, first aired in the United States by NBC. And increased use of satellite interconnection has made every major international news event a worldwide broadcasting event. In 1972 the 277 worldwide satellite transmissions from the Munich Olympic games set a new record.

1.2 National systems

Each country has adapted broadcasting to its own basic national philosophy, to its own geographic, social, economic, and cultural problems. Comparative study of broadcasting systems discloses a wide range of solutions, with no two countries having arrived at precisely the same answer.

Broadcasting necessarily becomes deeply involved in questions of national policy for two main reasons. First, without national (and indeed international) regulation of the physical aspects of radio transmissions — wavelength, power, technical characteristics, points of origin, and so on — conflicting signals would soon make the whole system useless. This actually happened in America in the 1920s, forcing revision of government regulations (§8.3). Second, because broadcasting can be used as an instrument of social control, laws to govern it are a political necessity. No country can afford to leave so

powerful and persuasive an avenue of public communication completely unregulated without shaping it to some degree in accord with public policy and national interest.

A common principle underlies the diverse national systems: the “airwaves” — the electromagnetic frequencies used by broadcasting and other forms of radio communication — are public property, to be administered by each government according to its concept of what is best for its own people. The interests of other people must be kept in mind as well:

One clearly cannot communicate by radio with another country without its cooperation as to frequency, time, power, and place of communication. In some cases one cannot even use radio within one’s own boundaries without the forbearance of other nations. These and other limits on national discretion could be said to make the spectrum an international resource comparable in theory to airspace over the high seas, to international waterways, or even to migratory fisheries. (Levin, 1971: 37)

This special character of the electromagnetic spectrum sets broadcasting apart from other communication media. No other medium requires as a prerequisite to its very existence the use of a resource that cannot be manufactured or privately owned but is, on the contrary, a possession of mankind as a whole.

This principle places a duty on any government to administer the use of radio frequencies in the national interest. The interpretation of this duty, of course, differs widely from one nation to another, and that is one reason we find such a diversity of national broadcasting systems in the world.

The differences revolve around three key questions that every national broadcasting system has to answer for itself:

1. *How shall broadcasting be managed?* Directly by the state? Indirectly by the state through a semiautonomous chartered organization? By private operators subject to some degree of state regulation? Or by some combination of these?
2. *How shall broadcasting be financed?* By state subsidy? By license fees on receiving sets? By revenue from broadcast advertising? Or by some combination of these?
3. *By what criteria shall programming be controlled?* By the desires of the generality of set owners, as determined by audience research? By judgments made by political leaders? By professional broadcasters? By committees representing major social institutions such as education, religion, the fine arts? By regional interests as reflected in political subdivisions, parties? By national subgroups with special ethnic, linguistic, or cultural identities? Or by some combination of these?

Each of these alternatives has been adopted in practice in one country or another. Often, local circumstances dictate the choice. For example, the economies of many countries could not finance a full-scale broadcasting serv-

ice solely from advertising revenue, even if that were the desired form of support. Most developing countries have so many different linguistic and ethnic subgroups that it would be impossible to give each one its own broadcasting service.

Nigeria broadcasts in 30 local languages, still far fewer than the number spoken by its 250 tribal groups. Nor is the problem of multilingualism restricted to developing countries. The widespread use of both English and French in Canada and of both Dutch and French in Belgium necessitates full-scale broadcast services in each language. Switzerland broadcasts in five domestic languages. Dutch suffices for all of Holland, yet broadcasting there is nevertheless divided into seven distinct services, each representing a different religious or political affiliation.

Aside from such specific variations, each national broadcasting system tends to generally reflect that country's underlying political philosophy. This philosophy in turn can be broadly viewed in terms of the attitude assumed by the country's leadership toward people. What are considered the rights, the duties, the capacities, the potentialities of each individual citizen? And what are considered the duties of the country's leadership toward these ordinary individuals who make up the ultimate "mass" audience? In this generalized perspective we can discern three basic orientations, three kinds of attitudes toward people that determine how broadcasting is managed, financed, and programmed. We can call these three orientations *authoritarianism*, *paternalism*, and *permissivism*.

1.3 Authoritarianism

The authoritarian attitude characterizes the systems adopted in the USSR and other communist countries. The state operates broadcasting and harnesses it directly to the implementation of government policies. In the USSR, broadcasting is a function of the Ministry of Culture, under the guidance of a special committee set up for the purpose by the Council of Ministers. In other communist countries, the Ministry of Education, the Ministry of Information, or a special administration directly responsible to the top political level oversees broadcasting.

The guiding philosophy of these systems disdains catering to frivolous tastes and wasting time on ideologically barren entertainments. Hence the programming under such systems could hardly be called "popular," and audiences are under constant temptation to seek satisfaction elsewhere by tuning in (often illegally) foreign broadcasts. For this reason, in recent years even the USSR's rigidly doctrinaire approach has been somewhat softened by the realization that an appeal to popular tastes can serve as a wedge for propaganda (Vronitsyn, 1965).

It might be asked how broadcasting succeeds at all in such circumstances.

Broadcasting has a peculiar ability to compel attention, regardless of content. In the absence of a better alternative, even the most didactic programming seems to have a certain fascination. In addition, radio systems in communist countries tend to rely heavily on wire distribution systems (the radio equivalent of cable television), which eliminate the need for listeners to buy and maintain off-the-air receivers. Thus state-subsidized distribution systems compensate somewhat for the low motivational power of the programming itself.

A somewhat different type of authoritarian attitude prevails in developing countries. A great cultural gap separates the educated elite, who provide the political leadership, from the mass of the people, who remain largely untouched by modern education and outlook. Governments in most developing countries vest program control in departments or ministries that have control of such fields as education, culture, or information generally; program decisions must often be referred to top political leadership. The leaders, not trusting the native common sense of the illiterate and unsophisticated masses, dish up a spoon-fed broadcast diet. Authoritarianism of this type prevails even in developing countries that make no claim to socialistic philosophies modeled on the example of communism.

1.4 Paternalism

The paternalistic attitude shows more faith in the basic intelligence of the masses and in their capacity to deal with ideas. Its concern is not to suppress information and to dictate conclusions but rather to maintain a healthily balanced program diet, with neither too much spinach nor too much ice cream for social and psychological well-being. Paternalism assumes (1) that popular taste is by definition taste for frivolous entertainment, (2) that leaders have the duty to limit the extent to which such tastes are gratified and to balance them with programming of a more serious or cultivated nature, and (3) that this experience will gradually ameliorate the low level of popular taste.

Most noncommunist industrialized countries practice varying degrees of paternalism in their broadcasting systems. For purposes of comparison, the system of pretelevision Great Britain is fitting, for it was originally designed explicitly to avoid the "mistakes" the British felt had been made in America (Briggs, 1961: 67). The British Broadcasting Corporation, founded in 1927 to replace a short-lived private commercial company, is a public chartered corporation. It derives its funds from license fees on receiving sets. Although the state appoints its board of governors and although it has many other links with officialdom, the corporation operates with a recognizably independent scope of discretion in program matters within the terms of its charter.

The BBC views its duty to society as a responsibility for basing program judgments on its own conscientious evaluation of society's best interests. This evaluation has naturally been colored by the paternalistic outlook of the social

class from which the BBC leadership has been drawn. It is revealing, for example, to follow the reluctant acceptance by the BBC of the idea of audience research. In the earlier years, BBC officials simply refused to acknowledge that their own judgments needed to be qualified by objective facts about listening behavior or listener preferences.

The discovery in the late 1930s that a large proportion of the BBC's supposedly loyal audience was actually tuning to a foreign commercial station, Radio Luxembourg — plus the insistent demand for audience facts by producers of educational programs — finally broke down the BBC's paternalistic isolationism from the reality of the mass listener's tastes and habits. But not until the 1940s did the BBC seriously embark on systematic scientific audience research. Even so, in 1949, for example, a British government committee could report that if research indicated that the public disliked a BBC series, "such findings would be considered with the utmost care and weighed with other considerations which were relevant. But the decision, when taken, would be a responsible decision, come to in the light of what was considered ultimately to be in the best interests of the public and the service" (quoted in Madow, 1961: 10). As recently as 1960 a BBC official could write,

The real degradation of the BBC started with the invention of the hellish department which is called "Listener Research." That Abominable Statistic is supposed to show "what the listeners *like*" — and, of course, what they like is the red-nosed comedian and the Wurlitzer organ. (Quoted in Briggs, 1965: 261)

The BBC philosophy of today holds that neither extreme paternalism nor extreme permissivism makes any sense. The question remains, however: Can a balance between the extremes be ideally attained by any single organization? Or does effective balance require an interplay of two or more organizations representing alternative points of view? A BBC official told a government investigating committee that it recognized the "risk of paternalism" in its policy of "giving the lead" to public taste but that it was a risk that had to be taken (Great Britain, 1962: 38). The risk could be eliminated — or at least the danger could be decreased — by the presence of another organization representing another philosophy of programming.

1.5 Permissivism

All countries, even those with the most authoritarian outlooks, have by now accepted audience research as a useful and necessary guide in programming. But the uses of research differ according to the attitude toward the audience. The authoritarians use research to make their propaganda more effective. The paternalists use it to temper, but not replace, their personal judgment of what the people *ought* to have. Only the permissive systems regard the results of audience research as a controlling mandate over programming policies.

Broadcasting in America provides the major example of permissiveness. In the United States government operation of broadcasting was briefly considered but quickly ruled out in favor of private operation subject to federal licensing and the general requirement that stations operate “in the public interest, convenience, and necessity.” Interpretation of this phrase in practice is left largely to the broadcasters themselves, so government control over programming is minimal, in keeping with the constitutional guarantee of freedom of speech and press.

After a little more hesitancy, alternative ideas for financing the new medium were ruled out in favor of allowing stations to support themselves through the sale of broadcast advertising. These two decisions automatically made the primary criterion of commercial programming whatever seems most popular with most people. The profit incentive, freed from independent standards of program content, resulted in catering to the common denominators of popular taste.

American commercial broadcasters have surpassed all others in skillfully producing mass entertainment and exploiting it as a vehicle of advertising. The result is a broadcasting service characterized by an extraordinarily high degree of technical competence devoted to programming of which an extraordinarily high proportion consists of light entertainment. The American commercial approach to programming has focused attention on finding out what the mass of the people want — or what they think they want, or what they are most likely to accept (some critics argue that the people either do not really know what they “want” or merely learn to “want” what they are given). This approach has required, of course, intensive development of audience research.

The permissive system has been extraordinarily successful in quantitative terms — partly because of its permissiveness but also because broadcasting developed at the critical moment in time to participate in America’s mid-century economic boom. Broadcast advertising played a major role in the consumer revolution. It helped to create and has benefited by the enormously expanding mass market for consumer goods and services.

American broadcasting thus developed largely unhampered within the permissive framework of the free-enterprise system. The style of American broadcasting has been characterized by all the pragmatism, aggressiveness, materialism, improvisation, expansionism, and free-swinging competitiveness of American marketing. Whatever its critics may say, the overall result has been a more lively, inventive, and varied broadcasting system than can be found elsewhere in the world.

Not only can America afford to support far more broadcasting stations than other countries (exhibit 1.1), but the dynamics of its system have also produced a far greater variety of stations. Broadcasting in America has responded to the infinitely varied demands of the marketplace so that despite an average sameness, a close look reveals at least some stations devoted to almost every kind of

special interest — not only stations of great size and reach in metropolitan areas but also tiny, localized stations within metropolitan areas and in small communities; not only stations motivated by profit but also nonprofit stations licensed to educational institutions, foundations, and municipalities; stations not only combined into massive networks but also operated independently; not only stations devoted to trashy entertainment but also stations devoted to education, culture, and a wide range of minority tastes; stations using not only English but also many other languages, including Eskimo, Serbo-Croatian, and Turkish.

Even so, most governments disapprove of the extreme permissiveness of the American commercial system, with its emphasis on what people “want” rather than what they “need.” They feel that programming cannot be left entirely to the uncontrolled interaction of popular supply and demand but must be balanced in accordance with judgments about the need to preserve national cultural traditions and about the relative importance of information, education, and entertainment.

Americans in general, with their diverse ethnic origins and their carelessness about language, seem to feel no chauvinistic anxiety that broadcasting may undermine the national cultural identity or debase the purity of the English tongue (see Newman, 1974). Indeed, recent trends have been toward preserving ethnic diversity, alternative lifestyles, dialects of English, and foreign languages, and toward encouraging the expression of all these in broadcasting. By contrast, most other countries closely monitor broadcasting to keep it from diluting their national cultural heritage and debasing the purity of the national language or languages. Many countries impose ceilings on the amount of television programming that may be imported from abroad.

Although the United States need not fear being overwhelmed by foreign syndicated material, some critics do worry about some of the social effects of a permissive broadcasting system. An American student of European systems comments,

Europe can look to American broadcasting for enthusiasm and drive as well as for production ingenuity. But the United States can acquire from Europe the concepts that broadcasting is a public service rather than an industry, and that program policies should be determined by social values rather than investment returns. (Paulu, 1967: 245)

1.6 Trend toward pluralism

Of course, the three prototypes we have described exist nowhere in pure form. American commercial broadcasting’s permissiveness is tinged with a sense of responsibility. The BBC’s paternalism is qualified by a “duty to keep sensitively aware of the public’s tastes and attitudes as they now are” (Great Britain, 1962: 18). The USSR’s authoritarianism, if only calculatingly, finds paternalis-

tic head-patting and occasional permissive eye-winking sometimes to its advantage. The point is that even with the best of intentions, a single institution (or group of institutions ruled by a single philosophy) tends toward rigidity.

In the light of over half a century of broadcasting experience, a pluralistic system seems best able to assure that the medium will develop its full potentialities within a given national framework. A single monolithic system seems to inevitably cramp the potentialities of the medium in one respect or another. By providing divergent methods of program control and alternative programming philosophies, a pluralistic system introduces elements of diversity and competition. Pluralism also prevents a system from drifting too far away from the realities of audience interests and tends to stimulate creativity and innovation.

The power of competition was illustrated by the remarkable popularity of European pirate stations in the 1960s. These stations operated on ships or abandoned offshore forts in the coastal waters of western Europe. The first such station started in 1958 on a ship anchored between Sweden and Denmark. Frankly imitative of American popular music formats and capitalizing on American advertising techniques, the pirates quickly captured huge audiences and created national demands that could not be ignored. In 1965 the popularity of a television station off the coast of Holland escalated the issue of commercial television to the point where it caused the resignation of the Dutch cabinet. The pirates made the monolithic systems of Europe acutely aware of neglected audience tastes. Britain and other western European countries significantly liberalized their broadcasting policies to serve audiences whose wants had theretofore been unsuspected or ignored (Great Britain, 1962: 18).

An emergent feature of modern world broadcasting is its increased tolerance of advertising. Although the majority of the earlier radio broadcasting systems were noncommercial, today over 60 percent of the world's national television systems operate commercially, wholly or in part. Alternatively, in countries like the United States, which started with commercialism, the emergent element is a viable noncommercial service. In either case, the trend is pluralistic.

Advertising support, as one element in a pluralistic system, has arguments in its favor quite aside from its being the most painless and least discriminatory way of taxing the set owner. Advertising can perform a useful function in a national economy, and broadcast advertising has unique advantages as a sales tool over all other media. A BBC film producer traveling around the world in the early 1960s to collect material on television developments described a visit to a Japanese house. The house was traditional in every way except for an array of electric utensils in the cooking area. The housewife explained that "until she saw TV advertising she didn't even know such gadgets existed" (Cawston, 1962: 8).

Dependence on advertising income focuses management's attention on objective analysis of audiences and their desires, providing a counterbalance to

noncommercial services, which respond less sensitively to popular taste. Advertising by its very nature stresses competition and so provides a spur to innovation and creativity.

Britain again is an apt example. Until 1954, the BBC had a national monopoly on both radio and television. From the outset the corporation recognized the potential dangers in its monopoly position. Its directors realized that lack of competition could lead to falling into a rut, becoming stuffily bureaucratic and unresponsive to new developments and creative improvements. The high level of dedicated professionalism of the BBC staff was largely responsible for avoiding these outcomes. BBC news, for example, has earned worldwide respect over all other news services.

Genuine professionals set their own high standards. They have well-developed drives for conscientious, prideful workmanship. The BBC's peculiar brand of professionalism could not have originated solely within the organization. It springs ultimately from the roots of British tradition and character. Any other country, given the BBC charter to work with, would never come up with the same results — as has been proved by the many countries once part of the British colonial empire that started with BBC-type charters but have since greatly modified or even abandoned them.

The BBC still does not have commercials in its radio and television services, depending entirely on license fees for its funds. Since 1954, however, it has had to compete for viewers with private, commercially supported television companies. A 1972 law further increased the competition by authorizing commercial radio services as well. These moves by no means indicate that British broadcasting has become entirely permissive. An ingenious system for maintaining a degree of paternalistic control forecloses the possibility of rampant commercialism.

The Independent Broadcasting Authority, like the BBC a nonprofit, chartered corporation, owns and operates all the transmission facilities used by commercial broadcasters. Private program companies rent transmission facilities from the IBA, supply the programming, and sell the advertising. The IBA retains control of both programming policies and advertising practices, standards for which are spelled out in its charter. This division of responsibilities restrains the influence of commercial interests because it gives the IBA no reason to defer to advertisers. It can fine a contracting program company for infringement of rules and can even cancel its contract altogether. The program companies are all regional rather than national in scope, so no single company achieves a dominant position, nor can regional interests be neglected.

Thus benefits of constructive competition in broadcasting, which pluralism promotes, have been recognized. Most highly developed systems now try to provide for it in some way. In the German Federal Republic, for example, each of the nine federal political units has its own broadcasting system. When the

state decided to broaden program choice by developing an alternative service, it did not allow the existing broadcasting units to furnish this second service but instead established an entirely separate organization to compete with existing stations. French broadcasting, although one of the most authoritarian systems in the western world, was reorganized in 1974 so as to create at least intramural competition (Robertson, 1974). New Zealand undertook a thoroughgoing study before revamping its national system, one of the principal recommendations being the creation of two networks in order "to bring about a system of 'guided' competition" (New Zealand, 1973: 40).

The value of competition was also recognized by the Carnegie Commission in its recommendations for U.S. public television. The commission proposed the establishment of more than one national program production center, in part because "competition between two or more centers will act as a spur and will provide a basis for comparison" (CCET, 1967: 43).

Canada and Japan are other major foreign examples of the pluralistic approach. The Canadian Broadcasting Corporation, a noncommercial public chartered body, modeled originally along BBC lines, operates a national network of stations. Privately owned, commercial local stations also exist, but they must carry CBC noncommercial national programs as well as their own. Japan has a government-sponsored national network, operating side by side with relatively unrestricted private commercial stations.

American broadcasting has always been at least incipiently pluralistic. Educational and religious institutions were among the first to obtain radio station licenses (exhibit 7.5), and from the outset the desirability of reserving some broadcast channels for exclusively noncommercial use was discussed. However, the landslide success of commercial broadcasting smothered most of the pioneer noncommercial licensees as well as the proposal to reserve noncommercial channels. It took some thirty years for effective alternatives to commercialism to begin to reassert themselves.

Although the reasons for this lag are complex, they come down fundamentally to a lack of unified support within the educational power structure for the noncommercial service and consequent lack of political influence. Commercial broadcasters, for all their intense competitiveness among themselves, had no trouble closing ranks and uniting their forces to support a congressional lobby and to bring the regulatory agency to heel. Commercial interests harassed those of the pioneer educational radio stations that survived the first flush of enthusiasm during the late 1920s and early 1930s, until all but 25 gave up the costly legal battle to hold on to their channels. The regulatory commission did its part in 1935 by turning down for the second time proposals to reserve am channels for educational use. Only with the advent of television did the drive for a viable noncommercial broadcast service get the unified support from the educational establishment and the political leverage needed to overcome op-

position and apathy. During the 1960s, the stage was set for the growth of a genuine alternative to the theretofore overwhelmingly dominant commercial service.

1.7 U.S. influences abroad

Foreign examples gave encouragement and inspiration to American supporters of a noncommercial alternative service, but the flow of influence has been generally stronger in the other direction. Some countries, at least, have regarded American broadcasting more as a warning of what to avoid than as an example to follow. Nevertheless, the worldwide trend toward the commercialization of television created an automatic market for American expertise in commercial management, programming, sales, and promotion. Networks, advertising agencies, and program syndicators entered into a variety of business relationships with foreign broadcasting organizations, both private and government owned.

Program producers distribute syndicated television materials to over a hundred foreign markets. Indeed, American programs command such popularity with audiences abroad that some countries, including Great Britain, Canada, and Australia, have imposed quota limitations on American program imports. Despite language and cultural barriers, action-packed syndicated programs fascinate audiences everywhere in the world. Illiterate viewers without a word of English, whose culture and daily life differ completely from the milieu depicted on the screen, become as involved in American cowboy, detective, and adventure stories in English as their original audiences.

In addition to these pervasive influences exported through commercial channels, American broadcast materials and concepts also reach foreign countries through political channels. The United States foreign aid program and the Information Agency of the State Department (USIA) have furnished equipment and advisors to assist media in many developing countries. The Peace Corps has supplied technicians and operational personnel to help establish educational radio and television systems. The United States Information Service (USIS)³ posts supply local media generously with program materials and arrange scholarships and tours in the United States for foreign media personnel. World audiences can learn of American program methods by example from the Voice of America, the radio-television arm of the USIA, which in 1972 broadcast 931 radio hours a week in 35 languages (USIA, 1972: 21). In addition to its own pool of over a hundred powerful transmitters, located both at home and abroad, VOA has access to thousands of foreign stations that broadcast VOA material.

³ The United States Information Agency is the head office of the State Department's propaganda arm in Washington; its field posts in foreign countries are known as United States Information Service posts.

Less often noted at home but nevertheless influential abroad is the American Forces Radio and Television Service, which broadcasts worldwide radio and television programming for American servicemen. AFRTS operates more than thirty overseas television stations. Powerful stateside short-wave radio transmitters relay a wide selection of American programming, including the news services of the commercial radio networks — with all the commercials deleted, of course. AFRTS thus brings American-style domestic programming within the reach of many foreign viewers and listeners. According to a British commentator,

There is little doubt that British soldiers and civilians alike [during World War II] thoroughly enjoyed the more relaxed, informal atmosphere of American-style broadcasting and found the entertainment more sprightly than that of the pre-war BBC. To some extent, at least, the dreaded “Americanization” of British tastes by Hollywood and “pop” records was given additional impetus by the American Forces Network. (Wilson, 1961: 23)

Clearly, America influences world broadcasting on a massive scale — although whether for good or ill may be open to debate. Many deplore the materialistic values implied by American-inspired commercialism and by the content of American syndicated programming. Foreigners often regard broadcasting as an aspect of “Coca-Colonization,” a process of cultural-economic exploitation alleged to be the modern equivalent of old-fashioned political-military colonialism. Some American critics agree. An economist who has made a specialty of the subject asserts that

unhindered movement has been the ideal to which most of the world has paid lip service. But in recent years support has grown for the idea that complete freedom of exchange — both in goods and in communications — between nations unequal in economic strength may be harmful to the weaker societies, and that some action must be taken to equalize these flows. (Schiller, 1974: 110)

On first impact American television programming and commercial practices undoubtedly tended to be overwhelming in areas of U.S. dominance. But more recent evidence suggests that foreign countries have begun to reassert control and to find ways to redress the imbalance. Among these are two devices already mentioned: import quotas on foreign programming and co-production agreements. The trend toward self-sufficiency has been noted in South America, a region particularly subject to direct U.S. influence (Maidenberg, 1972).

The prospect of increased use of satellite relays, especially direct broadcasts (picked up directly from satellites at the point of reception by antennas at community viewing facilities or even at private homes), raises new concerns along the same lines (Newsom, 1973). Until recently, the chief concern was over indirect influence through programs purchased for release over domestic stations; the new concern is over direct influence via U.S. programs relayed throughout the world by satellites without being filtered through domestic

channels. This possibility poses the threat of completely unsupervised foreign influence, a prospect few countries regard with favor. In fact, only the United States dissented in the United Nations to a Soviet motion to set up an international agreement to give each country the right to prevent direct satellite reception from abroad.

Some critics worry less about the impact of U.S. broadcasting on foreign cultures than about its reciprocal effect on America. The motion picture industry (which profits more from showing its products abroad than at home) has for years been scolded because its films create a false impression of the United States. Television now shares the blame. The Westerns, domestic comedies, and crime and adventure stories that form the bulk of syndicated program exports project neither an accurate nor a flattering image of American character and society.

The problem is how to reconcile fiction with social documentation, trade with diplomacy, entertainment with propaganda. A free society can hardly set up censors to control the export of media materials, nor can private producers for the domestic market be expected to follow propaganda guidelines. Even the factual news events of the country can be easily used to show America in an unfavorable light. The editor of *TV Guide*, after a study of programs about the United States seen on European television stations, concluded that the simplicities of the average U.S. television entertainment series give a more favorable picture than many European news programs, which use American newsfilm to picture the United States as “a horrifying country” (Pannitt, 1972).

Then too, self-critical American documentaries seem even more critical when removed from the context of predominantly entertainment programming at home. Edward R. Murrow offers the classic illustration of the problem. Murrow became head of the USIA in 1960, after a long and distinguished news career in commercial broadcasting. One of his last major television documentaries as head of CBS News, *Harvest of Shame*, dealt controversially with the exploitation of American migrant farm workers. Soon after Murrow took over at USIA, the BBC scheduled the American documentary for telecast in Britain.

The man who a few months before was disparaging his own network for not protesting attempted Government intervention in the field of news now attempted Government intervention of his own. He . . . asked that *Harvest of Shame* be canceled, as a “personal favor.” . . . The request was refused as it surely would have been by Murrow if he were in [the BBC’s] place, and the USIA director realized it never should have been made. (Kendrick, 1969: 458)

Finally, to answer our initial question: Yes, American broadcasting does have unique characteristics — but so does every other national broadcasting system. The American system deserves special attention, however, because of its influence over other systems. Candor requires admission that this influence is not always emulative; the American example has sometimes given other countries

a model of what they want to avoid. And in America itself the system undergoes constant modification. As American broadcasting entered its second half-century in 1970, the most conspicuous modification in process seemed to be a trend toward pluralism — the development of public broadcasting as an alternative to the commercial service and the development of cable television as a means of further extending the range of program choice — in short, a trend that world experience in general recommends.

PART ONE

**Use and Management of
Radio Energy**

Nature of Radio Energy

All broadcasting systems, whatever their type of organization and philosophy of operation, share one thing in common: all must deal with the same limiting set of physical facts. We can change national or international radio regulations in keeping with changing economic, political, or social conditions, but we cannot change the laws of nature.

Most of the important problems connected with broadcasting reach back ultimately to these stubborn physical facts. They place limits on where and how far broadcast signals can travel and how much information they can carry. They govern the way transmitting stations can be distributed geographically and the number that can be accommodated in any one place or area. They commit us to standardizing systems and equipment. They demand a high degree of international cooperation. They necessitate special types of regulation not common to other mass communications media. They affect program policies and public attitudes. In short, its physical nature gives broadcasting its unique character.

2.1 A conceptual model

Scholars use a variety of pen-and-paper models to schematically depict communication processes. The one developed by Shannon, shown in an adapted version in exhibit 2.1, best serves our purpose here (Shannon & Weaver, 1949).¹

From some original source, *information* (by which we mean any kind of communicable material, whether words, pictures, abstract symbols, gestures, or even meaningless signals) must be encoded into the special language of a given communication channel. Each medium uses channels of a type peculiar to that medium, and each type of channel has its own maximum capacity. Channel capacity refers to information delivery rate — the amount of informa-

¹ Shannon's information theory used a mathematical approach to generate concepts that have since proved extremely valuable in the development of modern communication technology. For a brief summary of some major alternative models oriented more toward psychological considerations, see Schramm, 1973: 297–301.

tion that can be fed through the channel per second. At the receiving end, decoding reproduces the original input with a certain degree of fidelity.

We speak of a “certain degree of fidelity” because some degradation of the original information takes place in all these operations. Errors occur in the encoding-decoding processes; inherent imperfections in equipment cause distortions; extraneous noise contaminates the channel; overloading may cause more distortion. Some noise contamination and fidelity loss can be tolerated. The threshold varies with the nature of the communication.

This conceptual framework enables us to recognize and compare some of the elements that all communication media have in common. It can be applied to talking face to face, to writing letters, to telegraphing and telephoning, to using a public address system, to semaphoring, to using smoke signals, to reading Braille, and to other specialized media and their channels. This model does not, of course, pretend to take into account all aspects of all communication situations, but it does focus attention on essential aspects of the physical nature of broadcasting.

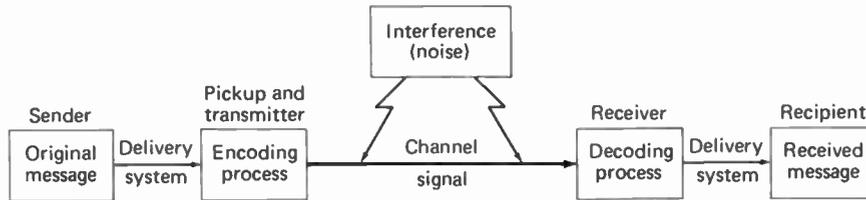
Returning once more to exhibit 2.1 as a model of radio and television broadcasting, we know that at the outset a program originating in a studio, playback device, or at some remote location must be delivered to a microphone, camera, or other pickup device and encoded into electrical form. It then travels through cables, or perhaps through an intermediary radio relay transmitter-receiver combination, to the main transmitter, where the information is encoded into the electronic language of the broadcast channel. The transmitter feeds the information into its designated channel, and the receiver tunes to that same channel to pick up the program, decode it, and deliver it to a loudspeaker or picture tube. It may be delivered to the consumer either directly (via a receiver in the home, for example) or indirectly (via cable television, for example).

The role of the *channel* is central to our present inquiry, just as it is to the configuration of the model in exhibit 2.1, and we shall return to it again and again.² Each type of channel affects communication content in its own special way.

Channels of communication take many forms and have many subtle properties. They differ enormously in length and capacity and in the speed and fidelity with which they can transmit signals. . . . The overwhelming bulk of information we receive and act on in our waking moments is carried by electromagnetic radiation in the form of light waves that travel from a few inches (for example the print on this page) to a few hundred yards (for example traffic signals). (Busignies, 1972: 99)

² Some commentators use the terms *channel* and *medium* interchangeably. Here we will use *channel* in the limited sense of the physical connecting link between sender and receiver; we shall use *medium* in the broad sense of the totality of any method of communication — including the social, psychological, and organizational aspects of the method — as well as its physical components.

Exhibit 2.1
A communications process model



Radio waves too are a form of electromagnetic radiation but a form that requires its own encoding and decoding devices before it can be used for human communication.

2.2 Sound waves

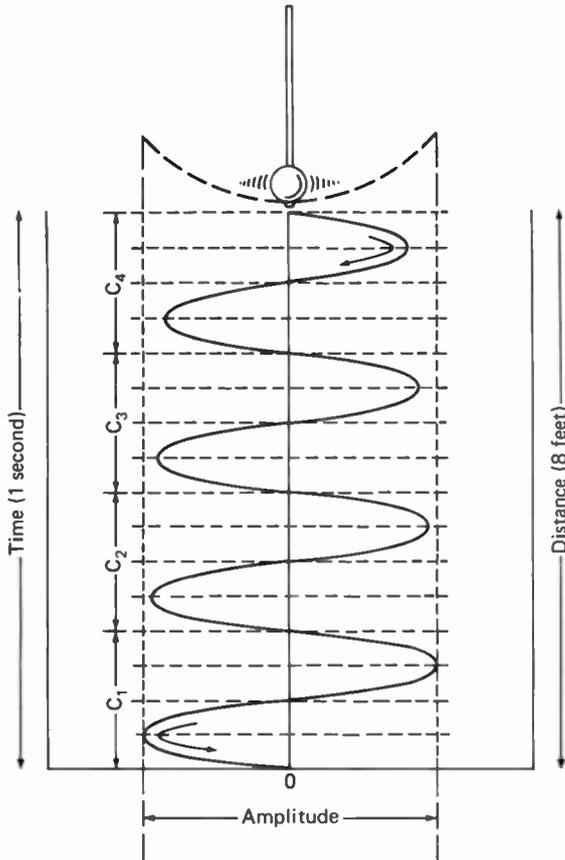
Before considering broadcasting channels in more detail, let us examine, in terms of our model, some aspects of a simpler communication system — ordinary conversation between two people. In this situation the speaker may be regarded as encoding his message into speech sounds. The vibration of air molecules, which transfers the sound energy across the room, may be regarded as the channel. The listener's ear picks up the vibrations, decodes them, and delivers them to his brain for interpretation. Since the ear cannot tune from one channel to another as can a radio receiver, it will pick up other voices in the room that may interfere with the message. Extraneous sounds may also impinge on the ear — noise, or *static*, that also interferes with clear reception.

The critical link in this process is the transmission of sound from one place to another, what we have described as the transfer of energy by means of vibrating air particles. Let us examine this concept of *vibration* — the vibration of the vocal cords, of the air particles, of the eardrum — in more detail. Such movements, although far too small to be observed directly, can be analyzed by observing a very slow form of vibration, the swinging of a pendulum, as shown in exhibit 2.2.

At rest the pendulum hangs straight down at the point of zero motion. Given a charge of energy by means of a push, it begins to swing back and forth. The extent of the swing, its *amplitude*, depends on how much energy is given to the pendulum by the first push. In sound, we perceive this aspect of vibration as loudness.

A single complete cycle of motion by a pendulum includes a swing in each direction, once to the left and once to the right. The number of cycles occurring in a given time period defines the *frequency* of the vibratory movement. We perceive frequency as pitch. Large, heavy objects (the bass drum, the tuba, or

Exhibit 2.2
Wave motion concepts illustrated by pendulum



First view the pendulum from this perspective. Picture it swinging back and forth. As it does so, a pen at the tip draws a continuous line on a moving roll of paper. Now turn the figure sideways to study the resulting wave-train diagram.

Viewed from this perspective, the pendulum's motion becomes a series of waves. Each complete cycle of movement consists of two phases, one above and one below the zero line, representing the right and the left swings of the pendulum. Four cycles have been depicted (C_1, C_2, C_3, C_4). The four cycles reached a distance of 8 feet; hence the wavelength is $8 \div 4$, or 2 feet. It took one second for the pendulum to complete four complete swings, i.e., to produce four cycles; hence the frequency is 4 cycles per second. Since the waves (actually the paper) traveled 8 feet in one second, the velocity is 8 feet per second. Finally, note that the amplitude decreases as the pendulum's energy attenuates.

the string bass) vibrate with low frequencies and so have low pitches. Small, light objects (the triangle, the fife, or the snare drum) vibrate with high frequencies and so have high pitches.

The pendulum swings in place, whereas sound travels from one place to another. In order to simulate the pendulum's vibratory motion through space, let us imagine a pen attached to its tip so that it can trace its own movements on a roll of paper. If we move the paper vertically past the pen point at a constant

speed, the pen will trace out a line that symbolically depicts a *wave train* — a series of waves of the same frequency being radiated through space (turn exhibit 2.2 sideways). We have now given the components of time and distance to the pendulum's movement. They enable us to measure *wavelength* (how far a wave travels to complete a single cycle) and *velocity* (how far the wave train travels in a given unit of time).

In terms of sound we perceive wavelength — just as we did frequency — as pitch. Large vibrating objects have long wavelength (e.g. the long strings at the left end of the piano keyboard), small vibrating objects have short wavelength (e.g. the short strings at the other end of the keyboard). We become aware of the velocity (rate of travel or speed) of sound whenever we notice that a sound (a thunderclap or the report of a gun) reaches us later than its corresponding visual impression (a lightning flash or a muzzle flash).

These three quantities — frequency, wavelength, and velocity — are in fact bound together in the following strict mathematical relationship: $f \times wl = v$. The logic of this relationship is readily seen in a simple analogy: Think of a man marching at 100 steps per minute, each step 3 feet long. His velocity will be 100×3 , or 300 feet per minute. Suppose he is too short to take 3-foot steps comfortably and so takes 2-foot steps, but he still wants to maintain the same velocity. To do this he must increase his step frequency to 150 per minute to compensate for the shorter step length. The new relationship becomes $150 \times 2 = 300$.

The wave train of exhibit 2.2 illustrates one further basic principle of wave propagation: as radiated energy travels away from its source it gradually loses strength. This *attenuation* is represented by the running down of the pendulum; we perceive acoustic attenuation as the fading of a sound as we move farther away from its source.

2.3 Radio waves

Each of the measurable concepts illustrated by the pendulum's motion and by their familiar analogies in sound apply equally to radio waves: they, too, have characteristics of amplitude, wavelength, frequency, and velocity. Before leaving the sound analogy however, we must take care to note the great differences between sound and radio energy. Radio travels much faster than sound. At its rate of about 186,000 miles a second, a radio wave could travel around the earth seven times in a single second. That is over 900,000 times as fast as sound, which travels in air at only about a fifth of a mile per second.

Second, sound needs some kind of physical conductor — if not air, then other gases, liquids, or solids. Not only do radio waves require no tangible material conductor, they actually travel best in a vacuum. Air merely impedes them.

Radio frequencies are measured in cycles per second. The international unit

for one cycle per second, the hertz, is named for Heinrich Hertz, the scientist who first generated and detected radio waves (see §6.1). The standard metric prefixes used with hertz (which is spelled the same in both singular and plural forms) are shown in exhibit 2.5, the most common frequency ranges used in broadcasting being measured in kilohertz and megahertz.

Wavelength is measured in meters, velocity in meters per second. Radio waves have a constant velocity in a vacuum of 300,000,000 meters per second. Since velocity is constant, only frequency and wavelength change. The relationship is inverse, with wavelength going down as frequency goes up. In the United States radio waves are usually identified by their frequency, whereas Europeans often use wavelength.³

2.4 Modulation

So far, we have established that radio is a form of energy that has wavelike characteristics and travels through space at a velocity of 300 million meters per second. But we are not, of course, interested merely in transmitting radio energy. We want to use this energy to transmit information. The process of encoding information into the language of radio energy is called *modulation*. A radio broadcast transmitter radiates energy continuously as long as the transmitter is turned on, whether or not any information is being transmitted. This basic and continuous transmission of the station is known as its *carrier wave*.

Each radio transmitter runs in its own “groove,” the channel, or band of frequencies to which it has been assigned. A transmitter’s carrier wave has a single specified frequency, but one single hertz can carry only one bit of information per second.⁴ When a carrier is modulated, adjacent frequencies above and below the carrier, called *sidebands*, become involved. The number of these additional frequencies determines the “width” of a channel and hence the amount of information it is designed to carry.

Methods for modulating radio waves have been classified as either *continuous* or *discrete*. Ordinarily, the waves of broadcasting channels are modulated continuously, but in some circumstances sound or picture information is converted into discrete binary digits. For example, satellites exploring space sometimes send back digitized television pictures because discrete modulation of this type is less subject to distortion than continuous modulation. A digital audio system for television, DATE, has been developed and may become

³ To find either wavelength or frequency when the other is known, divide the known quantity (in meters or hertz) into 300,000,000. For example, a wave with a frequency of 100,000,000 Hz would have a length of 3 meters.

⁴ Another of Shannon’s contributions is the concept of the unit *bit*, an abbreviation for *binary digit*, which refers to a number system based on only two alternatives, such as 0-1, yes-no, on-off, or plus-minus (Shannon & Weaver, 1949: 4, 100). This system is used universally in computer work and increasingly in telecommunication (see Busignies, 1972: 100).

valuable in providing several alternative sound components — for example, a choice of several languages to go with the same pictures (Wetmore, 1974).

The chief methods of modulation associated with broadcasting, however, are the two continuous methods whose names are familiar — amplitude modulation (am) and frequency modulation (fm). As the names imply, in the one case the encoding process varies the amplitude, or strength, of the carrier wave; in the other case, encoding varies the frequency of the carrier.

As a simple example of amplitude modulation, imagine a transmitter being fed a pure sound having a pitch of middle C, an acoustic vibration of 264 cycles per second. Such modulation of an am carrier would produce 264 alterations per second in the amplitude of the carrier. The loudness of the sound would be encoded in terms of the amount rather than the frequency of amplitude change in the carrier. Theoretically, therefore, if the sound suddenly doubled in volume, the carrier would double in average amplitude.

Because modulation depends on amplitude (amount of energy), am signals are vulnerable to electrical interference. Free charges of radio energy in the atmosphere between the transmitting and receiving antennas may interact with the modulated carrier, adding or subtracting randomly (exhibit 2.3). The average amount of atmospheric static present varies with latitude, increasing rapidly toward the equator.

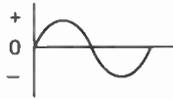
Because frequency modulation encodes information in terms of frequency instead of amplitude, it avoids this kind of interference. In fm, the amplitude of the carrier remains constant. Random variations in amplitude are simply clipped off the peaks of the waves.

A good deal about the process of modulation has to be accepted on faith by the nonmathematically inclined. Nevertheless, it is easy enough to conceive of communications as patterns of light and sound energy. Once we think of a message as consisting essentially of an energy pattern, it takes no great leap of the imagination to reach the concept of transferring patterns from one energy channel to another. We can signal by switching a flashlight on and off, for example. Such switching amounts to a crude form of amplitude modulation. It uses, in fact, a binary system limited to the signals “on” and “off.” The information has to be encoded into light flashes by means of a special code language adopted for the channel. The transmission of sounds and sights by means of radio channels involves the same basic processes, although it requires channels of much greater capacity and hence encoders and decoders of much greater complexity.

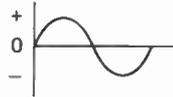
2.5 Electromagnetic spectrum

We have noted that the velocity of radio energy in space is approximately 300 million meters per second. This quantity has great significance in modern physics, for it is the one absolute in the Einsteinian concept of the physical

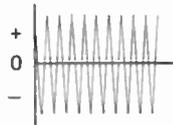
Exhibit 2.3 Amplitude modulation



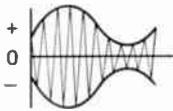
Hypothetical sound, consisting of a single complete cycle of a pure tone. The reference line at the left represents relative amplitude.



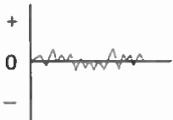
Electrical wave produced by microphone, having the same amplitude and frequency as the original sound.



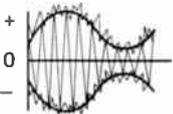
Sample of unmodulated carrier of a transmitter, consisting of many cycles in the time occupied by only one cycle of the signal.



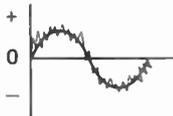
Amplitude of carrier modulated by the signal. Frequency of carrier remains constant. Note that both the plus and the minus phases of the carrier are modulated in patterns that are images of each other. Either pattern is sufficient to convey the signal.



Erratic wave caused by static electricity in the atmosphere.



Energy from the static wave interacts with the amplitude of the carrier, distorting its modulation pattern.



Resulting signal delivered by the loudspeaker. The receiver has stripped off the carrier wave but cannot remove distortion caused by static.

universe.⁵ That 300 million meters per second is also the speed of light is no mere coincidence, for light energy and radio energy are basically one and the same thing.

A tremendously varied group of physical phenomena falls under the single concept *electromagnetic energy*. This form of energy may manifest itself as light, radio waves, x rays, or cosmic rays. All these types of energy have that same significant velocity of 300 million meters per second, all have the characteristics of wavelike behavior previously described, and all have the capacity to radiate through space. Electromagnetic energy saturates the universe, reaching the earth even from the depths of outer space in the form of cosmic rays.

Wavelength (or frequency, which amounts to the same thing since velocity is constant) determines the characteristic properties of the various types of electromagnetic energy. Wavelengths or frequencies laid out in numerical order form a *spectrum* (exhibit 2.4). The keyboard of a piano represents a spectrum of sound frequencies in ascending order, from low frequencies at the left end to high at the right end. A visible example of a spectrum occurs when a prism or a rainbow breaks up sunlight into its component colors. This color sequence is also laid out in terms of frequency, the red end of the spectrum representing the lower visible frequencies, the blue end the higher frequencies. Adjacent to the limits of visible light occur frequencies of invisible "light" — infrared (below visible frequency) and ultraviolet (above visible frequency).

The radio part of the spectrum starts at a frequency of about 10,000 Hz, where each wave is 30,000 meters (over 18 miles) long. At the upper end of the radio part, waves have a frequency of 3,000 billion Hz and a length that is microscopic. Beyond this point the radio frequencies begin to merge with those of infrared electromagnetic energy. Just as the behavior of the electromagnetic spectrum as a whole differs radically at different frequencies, so does the radio part of the spectrum differ in its various frequency ranges. Waves of frequencies useful for radio communication have been classified into frequency bands by international agreement (exhibit 2.5).

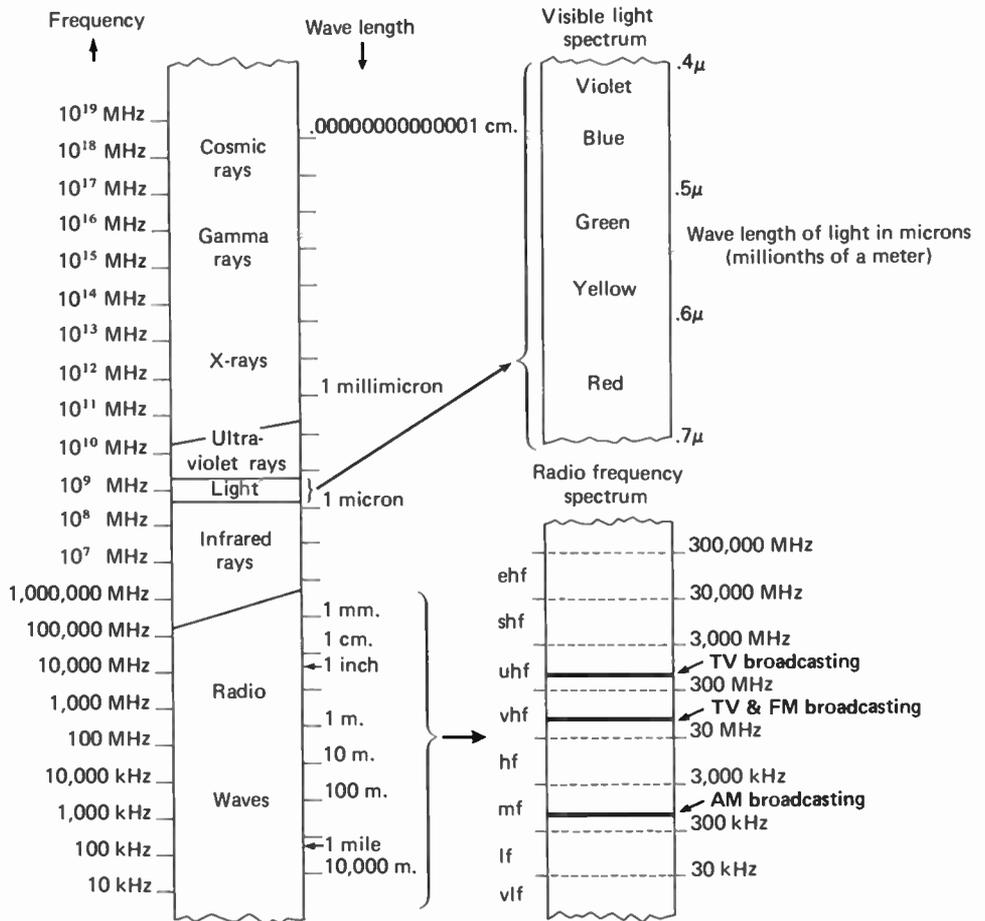
2.6 Wave propagation

Radiation of waves outward from an antenna is referred to as *propagation*. The transmitter encodes information received from a studio or other program source into electromagnetic energy, at the same time tremendously increasing its power. The transmitter feeds this energy to a physical radiating element, the antenna, from which it escapes into the surrounding space.

In order for a radio antenna to work efficiently, its length must accord with

⁵ The expression c in the most famous equation of modern times, $E = Mc^2$, stands for the speed of light. This, Einstein's equation that predicts the tremendous energy released by atomic fission, is so well known that CBS used it as the title of its program in memory of Einstein after his death in 1955.

Exhibit 2.4
Electromagnetic spectrum



the length of the waves it is designed to radiate. In general, an antenna should be either one-half the length of its carrier wave or some multiple thereof. An amplitude modulation antenna, however, works against a system of ground wires buried in the earth surrounding the antenna structure. The radiator is the lattice-work steel tower itself, which is usually only one-quarter the length of the carrier wave. At a quarter wavelength, the height of a standard broadcast tower at the lower end of the band will be about 138 meters, whereas that of one at the high end will be only about 46 meters. Frequency modulation and television station towers, on the other hand, merely support their antenna

Exhibit 2.5
Subdivisions of radio frequency spectrum

Name of subdivision	Frequency range expressed in		
	Kilohertz (kilocycles per second)	Megahertz (megacycles per second)	Gigahertz (gigacycles per second)
Very low frequency (vlf)	Below 30	—	—
Low frequency (lf)	30–300	—	—
Medium frequency (mf)	300–3,000	—	—
High frequency (hf)	3,000–30,000	3–30	—
Very high frequency (vhf)	30,000–300,000	30–300	—
Ultra high frequency (uhf)	300,000–3,000,000	300–3,000	—
Super high frequency (shf)	3,000,000–30,000,000	3,000–30,000	3–30
Extremely high frequency (ehf)	30,000,000–300,000,000	30,000–300,000	30–300

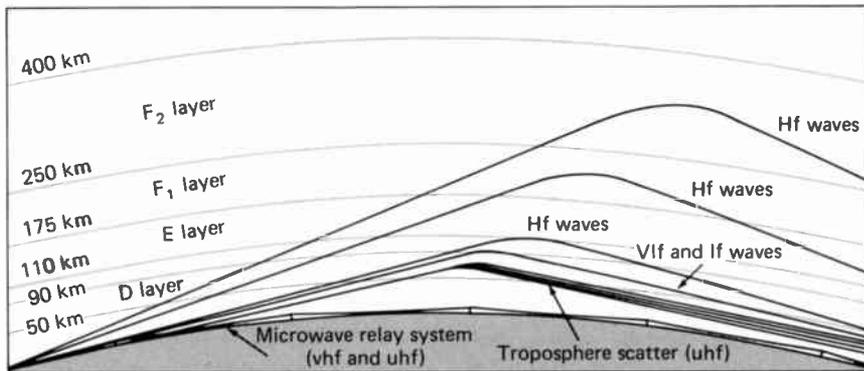
elements, which are quite small. For example, the waves of the upper uhf channels are less than half a meter long (see the uhf television antenna pictured in exhibit 3.12).

Theoretically, radio energy radiates from a transmitter into space equally in all directions, forming a circular pattern, and the energy attenuates uniformly as distance from the transmitter increases. Attenuation occurs because as the signal travels straight out from the point of origination, it is distributed over a progressively larger area and becomes more and more thinly dispersed. However, refraction (bending), reflection, absorption (loss of radio energy by conversion into other forms of energy), and interference (distortion of signal by energy from other sources), caused by conditions encountered in the propagation path, affect the geographical pattern of coverage so that in practice a transmitter's coverage area has an irregular shape.

Directional antennas can be used to change the shape of a coverage area. Concentrating the radiated energy into a limited sector increases its strength in that direction, just as the reflector in a flashlight creates a beam with far greater reach than the light of the bare bulb.

How much a given wave will be affected by given propagation conditions depends on the frequency of the wave. Take, for example, refraction — a change in a wave's direction caused by its passage from one medium to another of differing density. This bending of the rays results from the change in velocity that occurs when they pass from one medium to the next. The higher the frequency of a wave, the more markedly a new medium changes its velocity, and hence the more sharply it changes direction. Since the frequency of light is

Exhibit 2.6
Ionosphere and wave propagation paths



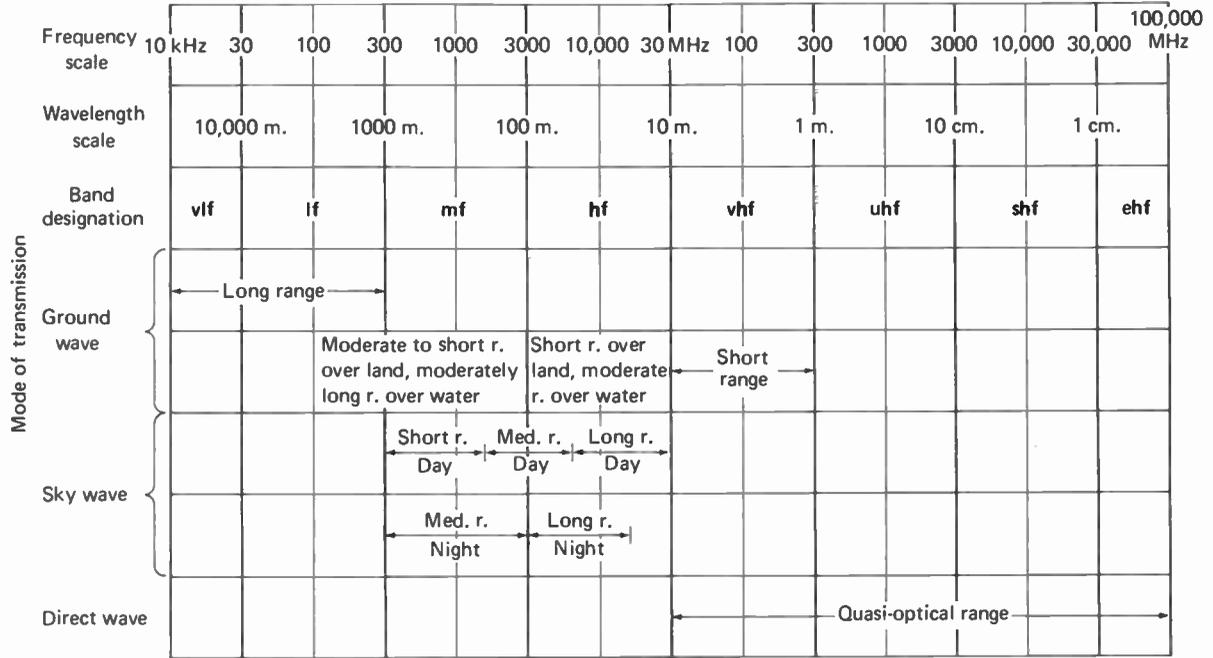
The ionosphere consists of several layers of rarified atmosphere with differing electrical properties, identified as D, E, and F layers. Each layer tends to refract waves of a particular frequency band. At vhf and uhf frequencies most of the radio energy passes through the entire ionosphere to be dissipated in space. There is some scattering of uhf energy as it passes through the lower atmospheric layers, however, which enables recovery of signals at medium distances by the technique of tropospheric scatter propagation (see §4.4). Microwave relays concentrate uhf or shf waves into narrow beams for propagation in short line-of-sight hops close to the surface of the earth.

Source: Adapted from "Communication Channels," by Henry Busignies. Copyright © 1972 by Scientific American, Inc. All rights reserved.

so high, it is particularly subject to refraction. The optical effects of lenses depend on the refraction that takes place when light passes from air to glass and glass to air.

In choosing the frequency for a given communication service, the characteristics peculiar to the several frequency ranges must be matched to the special needs of the service. Some services require communication at distances of hundreds, even thousands, of miles; others require distances of only two or three miles; some require continuous, around-the-clock communication, others only occasional contacts; some can justify large, expensive antenna installations, whereas others must have portable, inexpensive transmitters; some require radiotelephony, others radiotelegraphy.

In the strategy of efficient frequency allocation, one of the basic considerations is the type of propagation path by which waves travel. Waves of some frequencies travel in a straight line to the horizon, then off into space; some tend to follow the curvature of the earth; some travel away from the earth but are turned back toward it by the ionosphere (exhibit 2.6). Thus three basic types of waves can be distinguished in terms of transmission path: direct waves, ground waves, and sky waves (exhibit 2.7).



Rough approximation of service ranges: Quasi-optical = to horizon; short = up to 50 miles; medium = 50-500 miles; long = above 500 miles.

Source: Adapted from data in President's Communications Policy Board, *Telecommunications: A Program for Progress*, Government Printing Office, Washington, D.C., 1951: 22.

Direct waves reach only about as far as the horizon. How far that is depends on the height above average terrain of the transmitting point, but in any event it is not likely to be much more than 60 miles,⁶ except in the case of an extremely high transmitter or receiving antenna.

Ground waves reach somewhat farther than direct waves, the distance depending on transmitter power, conductivity of the soil, and other factors. Sky waves, however, reach almost unlimited distances. They depend on the ionosphere, a series of rarefied atmospheric layers 30 to 300 miles above the earth that become ionized (negatively charged) by the sun. Waves of some frequencies, when radiated at an upward angle, bend back (refract) toward the earth when they encounter the ionosphere (exhibit 2.6).

Exhibit 2.7 shows the relationship between range and mode of propagation in the radio frequency spectrum. Amplitude modulation (standard) broadcasting falls in the mf frequency band, enabling it to benefit from both ground-wave and sky-wave propagation. Television and fm sound radio fall in the vhf and uhf bands, which limit these services to short-range direct waves.

This brief survey of the propagation characteristics of the radio frequency ranges may be summarized by saying that ground waves are most useful at the lower frequencies, sky waves at the middle frequencies, and direct waves at the higher frequencies (exhibit 2.7). The lowest frequencies are most subject to atmospheric noise, the highest frequencies to electron noise. In general, it may be said that the higher the frequency of radio energy, the more it behaves as light does — for, indeed, the higher the frequency of radio energy, the closer it comes to the frequency of light itself.

2.7 Spectrum management

The chief problem of allocation is how to use each frequency range to best advantage by capitalizing on its strong points and avoiding degradation of service because of its weak points. Unfortunately, the allocation of frequencies was begun before the facts just outlined were known. By the time this knowledge had been developed, hundreds of thousands of transmitters were already in operation throughout the world. It would have been prohibitively expensive and difficult administratively to change them around to suit a master plan. Furthermore, there are never enough frequencies to satisfy all needs. New services constantly emerge, and old services expand; the demand for radio frequencies always exceeds the supply, and this condition grows steadily more acute. The allocation problem is a serious one on the international as well as the national level (President's Communications Policy Board, 1951).

⁶ This estimate of distance refers to consistently usable coverage. Unusual meteorological conditions sometimes produce a "ducting" effect; television waves, for example, may get trapped between two layers of atmosphere and travel hundreds of miles.

Exhibit 2.8
Nongovernment radio station authorizations by class of service^a

<i>Class of service</i>	<i>Stations authorized as of June 30, 1973</i>
Citizens service	836,924
Amateur and disaster	279,505
Marine	238,596
Industrial	193,353
Aviation	167,121
Public safety	75,030
Broadcast	29,131
Common carrier	22,980
Land transportation	20,519
Research and developmental	1,213
Community antenna relay	242
Total	1,864,614

^a "Authorizations" include construction permits and therefore slightly exceed the number actually on the air.

Source: FCC, 39th Annual Report. Government Printing Office, Washington, D.C., 1974: 191-192.

For this reason, one of the most important aspects of communication technology today is the use of *multiplexing* to achieve spectrum economies. Two or more independent signals transmitted simultaneously in the same channel are said to be multiplexed. Multiplexing techniques both increase the efficiency of wire and radio channels and help to conserve the frequency spectrum. For example, telephonic conversation uses a speech channel only about 40 percent of the time; the rest of the time is wasted on pauses and spaces between sounds. A multiplexing method called Time Assignment Speech Interpolation puts transatlantic telephone cable circuits to work during the 60 percent of the time that the channel is otherwise idle. Multiplexing is used routinely in broadcasting to obtain stereophonic and quadraphonic sound, to convey black-and-white as well as the three primary color signals in the television channel, to transmit meter readings on the broadcast carrier from unattended transmitters, and to integrate cue signals on tape recordings.

To get some idea of the pressure on the frequency spectrum, let us look at the kinds of nongovernment services and numbers of transmitters licensed by the United States (exhibit 2.8). The almost two million nongovernment radio stations licensed in the United States comprise 11 major classes of services and over 60 subclasses, ranging from space communication to citizen-band walkie-talkies. Each of these services must be allocated one or more blocks of frequencies. Broadcasting is just one of these services, representing less than 2 percent of all transmitters authorized. The figure of over 29,000 authorizations in exhibit 2.9 for broadcasting includes, in addition to over 8,000 regular broad-

Exhibit 2.9
Nongovernment broadcast station authorizations^a

Type of service	Stations authorized as of June 30, 1973
Standard (am)	4,434
Commercial fm	2,560
Educational fm	680
Total primary sound stations	7,674
Commercial television	
vhf	521
uhf	244
Educational television	
vhf	94
uhf	143
Total primary television stations	1,002
Television translators (uhf-vhf)	3,020
Signal boosters (uhf)	9
Experimental television	6
Auxiliary television ^b	2,760
International (radio) ^c	3
Developmental	4
Remote pickup	13,476
Studio transmitter-link ^d and intercity relay (aural)	742
Low-power (cueing)	187
Instructional fixed television ^e	186
Fm translators	62
Total secondary stations	20,455
Grand total	29,131

^a "Authorizations" include construction permits and therefore slightly exceed the number actually on the air.

^b Small, very short-range transmitters, such as those linking portable field cameras with a remote vehicle.

^c Private hf (short wave) stations, as distinguished from Voice of America government stations (see exhibit 1.3).

^d Transmitters connecting the studio to remote vehicles, stadiums, and other outside pickup points.

^e Special class of relay transmitters to feed educational materials (see §4.6).

Source: FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 1974: 192.

cast transmitters, auxiliary services such as remote pickup units, television translators and boosters, studio-transmitter links, and wireless cueing systems.

Ideally, broadcasting should have the technical capacity to provide a large enough variety of full-time, nationwide, competitive services to satisfy all substantial consumer interests. This ideal may become increasingly difficult to realize as the pressure on the frequency spectrum from other types of service grows. Some of the alternatives to present methods of program distribution are discussed in §4.7.

Broadcast Channels

What if we could wipe the slate clean and could reassign broadcast stations to cities and towns throughout the United States regardless of squatters' rights and the accidents of historical development? We would still be prevented from adopting a completely logical, technically efficient station distribution plan. In the United States, the initiative in setting up and operating stations is left to private enterprise. Private enterprise is in turn governed by economic incentives that tend to concentrate stations in big population centers and to neglect thinly populated rural areas. Thus from the outset political and economic factors interact with technical factors in determining the most basic facts about broadcasting — where stations can be located and how many can be authorized to operate.

3.1 Interference

Frequency spectrum management considerations, as described in §2.7, put internationally recognized limits on how many channels can be made available to any given service. Problems of interference further limit the number of stations that can be assigned to the available channels. The frequency band within which the channels fall determines the maximum coverage area potentials of individual stations, as indicated in exhibit 2.7. Not every station can be allowed to maximize its coverage area, however, because of the factor of mutual interference. Signals for transmitters assigned to channels *adjacent* to each other in the frequency band will, if the transmitters are too close together geographically, interfere with each other in the area near the transmitters. With distance, signals become sufficiently attenuated for receivers to keep them apart; the factor of adjacent channel interference therefore only limits the number of channels that may be occupied by stations in a single location.

Co-channel interference creates a more complex problem, affecting the number of stations that can be assigned to each channel. The problem is complicated by the instability of coverage areas. As propagation conditions vary, so does coverage, which changes with time of day, season of year,

man-made electrical interference, and weather conditions. Even the condition of the sun affects propagation because the sun's radiations influence the ionosphere. The simplest solution to co-channel interference would be to assign only one station to each channel, but since each broadcasting service has only about a hundred channels at its disposal, this solution would impose too drastic a limitation on the number of stations.

Instead, the regulatory authorities (in the United States, the Federal Communications Commission) use several interacting variables, seeking to respond as fully as possible to demands for stations. These variables include limiting the amount of transmitter power that may be used, limiting antenna height above the surrounding terrain, requiring the use of directional antennas that radiate the signal more strongly in one direction than another, requiring the use of lower power at night than in the daytime, stipulating different directional antenna patterns at night from those required during the daytime, and authorizing daytime-only operation. Not all these variables apply to all broadcasting services. The propagation characteristics of each band have to be taken into account. We will look first at the medium-frequency band and the way in which these variables are manipulated in the case of amplitude-modulated broadcasting.

3.2 Standard broadcasting

The first broadcasting service used amplitude modulation. In the United States it is referred to officially as *standard* broadcasting and unofficially as *am* broadcasting. Europeans usually call it *medium wave*.

By international agreement the am channels occupy a small segment of the mf band (see exhibit 2.4). In the United States this segment runs from 535 kHz to 1605 kHz. Each am channel has been allocated a 10-kHz band width; hence the available frequencies in the band, 1070 kHz, allow for 107 am channels. These critical values — the 10-kHz channel width and the 107 available channels — impose ultimate limits both on the fidelity of the system and on the number of stations that can be licensed.

First, as to fidelity it will be recalled that a single frequency can convey only a single bit of information at any given instant; therefore a complex signal such as sound necessarily requires more than a single frequency (§2.4). The carrier frequency defines the midpoint of a channel, with sideband frequencies extending above and below that point. Since the two sidebands merely duplicate each other, only one is usefully employed, which means that the actual capacity of a channel amounts to only half its total width. Thus the 10-kHz am radio channel provides only a 5-kHz information capacity. This limitation in turn restricts am radio to reproduction of sounds up to frequencies of 5,000 cycles per second.

In planning any communication system the designer must decide how much

information capacity is really necessary for the purposes of the system. The maximum amount of information desired must be balanced against the cost of communicating it — not only the expense of providing the necessary physical apparatus but also the expense in frequencies. No service should use more than the number of frequencies required to perform its essential functions. Rarely does a communication system attempt to reproduce information with absolute fidelity to the original, for rarely is such high fidelity necessary. The narrow channel of the telegraph, for instance, strips language of the wealth of information that the spoken rather than the written message conveys. The telephone restores a great deal of this information but still sacrifices much. We cannot use the telephone to communicate the aesthetic nuances of fine music or speech.

Radio broadcasting, unlike utilitarian communication services such as the telegraph and telephone, is concerned with the aesthetic aspects of information. An adequate broadcast service should be capable of communicating the beauty of instrumental music, song, and speech; it should be capable of realistically re-creating the sounds of actual events.

In the case of am broadcasting the choice of the specific 10-kHz channel width was, then, dictated neither by physical necessity nor by mere chance. It resulted from the decision as to how high we can make fidelity without unduly reducing the number of available channels. How many channels can we make available without reducing fidelity below the point of toleration? The result in am broadcasting has been a service that, although far short of ideal sound reproduction, satisfies most people for most purposes.

It will be recalled that mf propagation entails both ground and sky waves (exhibit 2.7). In practice, am broadcast ground waves cover a radius of 10 to 75 miles from the transmitter depending on transmitter power, frequency of the channel (whether high or low in the band), electrical conductivity of the soil, amount of interference present, and other factors. Frequency and soil conductivity account for surprisingly large differences in am coverage. Power becomes progressively less effective as channel frequency increases; thus a 5,000-watt station near the lower end of the am band at 550 kHz can have as much coverage as a station with ten times as much power located in the same city but on a channel near the upper end of the band at 1200 kHz (*Broadcasting*, 1947). And a minimum-power station (250-watt) can have as much coverage as a maximum-power (50,000-watt) station because of differences in soil conductivity in their respective environs.

The ground wave defines a standard broadcasting station's *primary* coverage area, the area in which the signal is reliable at most of the receiver locations most of the time. Sky waves of am stations reach beyond the primary coverage area to receivers located roughly 100 to 1,500 miles from the transmitter. This zone constitutes the *secondary* coverage area. Since it depends on the ionosphere, secondary coverage can be counted on only at night. Even then, sky waves are so subject to fading and interference that they provide only a

Exhibit 3.1**Am broadcast channel and station classification system**

Channel class	No. channels in class	Station classes
Clear	24 ^a	I-A & II
	36 ^b	I-B & II
Regional	41	III
Local	6	IV

^a U.S. clear channels on which only one dominant (I-A) station is assigned.

^b Foreign clear channels and U.S. clear channels on which one or more dominant (I-B) stations may be assigned. A few exceptions to the classification system have been approved by the FCC.

Source: Adapted with permission from data in *Broadcasting Yearbook 1974*: B266–B287.

second-best form of coverage, though they are still of great importance in places where no other coverage can be made available.

To bring the several coverage-influencing factors into play so as to accommodate as many local demands for stations as possible, the FCC has adopted systems of channel and station classification. Their purpose is to create flexibility, enabling a variety of am services. They range from localized stations in small towns to large stations capable of reaching half the country or more with relatively interference-free sky waves at night.

The am channel classification system divides the 107 channels into three categories — local, regional, and clear. Exhibit 3.1 shows the number in each class, and exhibit 3.2 shows the individual classification of each of the 107 am channels. The clear channels reflect in principle the drastic measure previously suggested as the ideal way to avoid co-channel interference: one station to a channel (§3.1). In practice, some secondary stations are allowed to operate on clear channels but only if they keep from interfering with the dominant stations by using lower power at night (many have to go off the air altogether) and directional antennas.

The station classification system divides all stations into four categories, Classes I, II, III and IV. As shown in exhibit 3.1, these match the channel classifications, except that both Class I and Class II stations operate on clear channels. This doubling up reflects the sharing of the clear channels by dominant (Class I) stations and secondary (Class II) stations.

In addition to designating channels of operation, the station classifications also specify power limits. Class IV stations (on local channels) use from 250 to 1,000 watts; Class III (on regional channels), 500 to 5,000 watts; Class II (secondary on clear channels), 250 to 50,000 watts, with directional antennas and power differences between day and night to prevent interference with dominant stations; Class I (dominant on clear channels), 10,000 to 50,000 watts. Transmitters can be built to generate many times 50,000 watts of power, but

Exhibit 3.2
Am channels by frequency, class, and number of stations

Channel (kHz)	Channel class ^a	No. of stations	Channel (kHz)	Channel class	No. of stations	Channel (kHz)	Channel class	No. of stations
540 ^b	C(c)	14	900	C(d)	42	1260	R	67
550	R	24	910	R	50	1270	R	62
560	R	24	920	R	47	1280	R	59
570	R	20	930	R	47	1290	R	61
580	R	25	940	C(c, d)	32			
590	R	28	950	R	47	1300	R	64
			960	R	41	1310	R	64
600	R	25	970	R	50	1320	R	58
610	R	23	980	R	50	1330	R	57
620	R	22	990	C(c)	44	1340	L	168
630	R	27				1350	R	60
640	C(a)	4	1000	C(b, d)	28	1360	R	67
650	C(a)	3	1010	C(c, f)	36	1370	R	64
660	C(a)	5	1020	C(a)	5	1380	R	69
670	C(a)	2	1030	C(b)	3	1390	R	57
680	C(b)	20	1040	C(a)	3			
690	C(c)	24	1050	C(d)	54	1400	L	167
			1060	C(b, d)	28	1410	R	63
700	C(a)	2	1070	C(b, c)	19	1420	R	61
710	C(b)	18	1080	C(b)	29	1430	R	63
720	C(a)	4	1090	C(b, d)	28	1440	R	59
730	C(d)	31				1450	L	175
740	C(c)	27	1100	C(a)	8	1460	R	62
750	C(a)	8	1110	C(b)	31	1470	R	64
760	C(a)	5	1120	C(a)	5	1480	R	73
770	C(a)	6	1130	C(b, c)	22	1490	L	168
780	C(a)	8	1140	C(b, d)	21			
790	R	39	1150	R	59	1500	C(b)	38
			1160	C(a)	2	1510	C(b)	47
800	C(d)	32	1170	C(b)	21	1520	C(b)	45
810	C(b)	21	1180	C(a)	3	1530	C(b)	39
820	C(a)	5	1190	C(b, d)	22	1540	C(e)	49
830	C(a)	4				1550	C(d)	67
840	C(a)	4	1200	C(a)	1	1560	C(f)	50
850	C(b)	24	1210	C(a)	8	1570	C(d)	68
860	C(c)	33	1220	C(d)	51	1580	C(c)	67
870	C(a)	9	1230	L	167	1590	R	75
880	C(a)	4	1240	L	154			
890	C(a)	3	1250	R	56	1600	R	77

^a Channel classification key: C = clear, L = local, R = regional. Clear-channel subclasses: (a) = U.S., unduplicated (one dominant Class I station plus Class II's); (b) = U.S., duplicated; (c) = Canadian; (d) = Mexican; (e) = Bahamian; (f) = Cuban.

^b The am band starts at 535 kHz, but the 10-kHz channels are identified by their midpoints; the 540-kHz channel, for example, actually runs from 535 to 545 kHz.

Source: Adapted with permission from data in *Broadcasting Yearbook 1974*: B266-B287.

U.S. regulations set this as the maximum allowable power for domestic am broadcast stations.

Exhibit 3.2 shows that many more stations are assigned to each local channel than to other classes because Class IV stations have such limited coverage areas. At the other extreme, each of the true clear channels (marked “C(a)” in the table) has only one dominant (Class I) station assigned to it along with a very small number of Class II stations.

Exhibit 3.2 also illustrates the essentiality of international cooperation in channel usage. By treaty agreements, the United States and its neighbors share the dominant role on the clear channels; each country has its own clear channels that the other countries may use for secondary stations if they do not interfere.

3.3 Frequency modulation broadcasting

Frequency modulation broadcasting, usually referred to as *fm* in the United States and as *vhf* radio in Europe, occupies a block of frequencies in the very high frequency band, as shown in exhibit 2.4. In the United States 100 channels have been so designated, running from 88 to 108 MHz. With channel width set at 200 kHz, this band can accommodate 100 channels. The FCC numbered them 201 to 300, the first 20 being reserved exclusively for noncommercial educational (public broadcasting) use.

In the *vhf* region of the spectrum, as indicated in exhibit 2.7, the propagation path is direct so that *fm* has no allocation problems arising from the different behaviors of ground waves and sky waves. An *fm* broadcast transmitter has a stable coverage pattern, its shape and size depending on power, height of transmitting antenna above the surroundings, and terrain formation. Maximum signal reach is approximately to the horizon. Another advantage of *fm* to the allocation planner is that the *fm* signal blanks out interference from other stations much more effectively than does the *am* signal. An *fm* signal must be only twice as strong as a competing signal to override it, whereas an *am* signal must be twenty times as strong.

From the listener’s standpoint, however, a more important advantage of *fm* over *am* is its freedom from static. It can provide undistorted reception in areas where and at times when satisfactory *am* reception is impossible. A related advantage is *fm*’s greater fidelity. *Fm*’s high channel capacity enables the reproduction of sounds up to 15,000 cycles per second, a pitch so high that not everyone has sufficiently sharp ears to hear it. Nevertheless, such high frequencies play an important role in high-fidelity sound reproduction. The characteristic quality of a sound comes not from its fundamental pitch — the pitch by which we identify it — but rather from overtones. Being multiples of a fundamental pitch, overtones reach higher into the sound frequency spectrum. Over-

Exhibit 3.3
Short-wave (high frequency) broadcast bands^a

Band limits in kilohertz	Megahertz band	Meter band
3500– 4000	3.9	75
5950– 6200	6	49
7100– 7300	7	41
9500– 9775	9	31
11700–11975	11	25
15100–15450	15	19
17700–17900	17	16
21450–21750	21	13
25600–26100	25	11

^a Frequencies above, below, and between the hf broadcast allocations are used by ships, aircraft, amateurs, and other nonbroadcast services (see exhibit 2.8) and by government services.

tones supply the acoustic nuances implied by such sound terms as *timbre*, *color*, and *quality*.

Fm scores over am in still another way, with its greater dynamic range. This refers to the range in degrees of loudness between the faintest reproducible sound and the loudest. The human ear has an amazing capacity to adjust to extremes of loudness and softness without being overloaded, but sound reproducing systems have much less flexibility. Very faint sounds tend to become lost in the noise of the system itself, whereas very loud sounds tend to overload the system and cause distortion. Am broadcasting even sacrifices some of the dynamic range it could have by artificially compressing the signal in order to obtain maximum average power output.

Fm's 200-kHz channel has twenty times the capacity of an am channel. In addition to enabling a threefold increase in sound fidelity — from 5,000 to 15,000 cycles per second — these additional frequencies enable fm stations to multiplex a variety of auxiliary signals in the channel. Stereophonic sound, facsimile, subscription background music, reading for the blind, medical conferences, school bus programs, and potentially many other secondary services may be multiplexed on fm channels simultaneously with the normal, monophonic sound service (see Robertson & Yokom, 1973).

3.4 Short-wave broadcasting

Sound services designed to cover areas beyond the range of standard broadcasting transmitters fall back on short-wave broadcasting, using amplitude modulation in parts of the hf spectrum (exhibit 3.3). In this range, as indicated in exhibit 2.7, long-range sky waves can be used both day and night.

Some developing nations cannot afford to install numerous local stations to completely cover their territories, so they use short waves for domestic services. Primarily, however, governments use short waves for international propaganda services, such as those listed in exhibit 1.3.

In other broadcasting services each transmitter feeds a single, permanent antenna system; in short-wave, each transmitter can be switched to any one of a number of different directional antennas. This flexibility enables taking advantage of the best transient sky-wave conditions. Most international short-wave stations make seasonal, daily, and even hourly alterations in transmitter frequencies. Also, they generally broadcast on several transmitters simultaneously on several frequencies, each transmitter feeding an antenna oriented toward a specific target area.

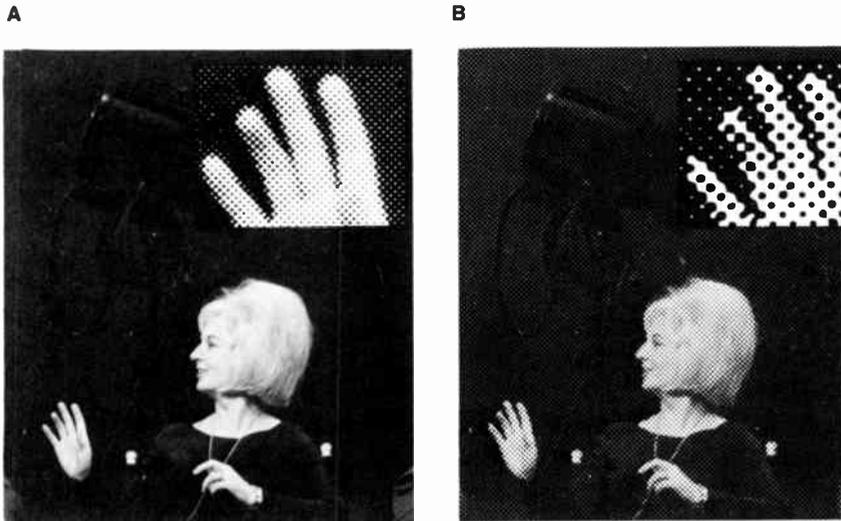
Exhibit 2.9 indicates that the United States has very few privately operated international short-wave stations. The Voice of America, however, uses some 60 different frequencies and has over 114 transmitters at 5 major U.S. installations and at 12 major relay/broadcast installations overseas (USIA, 1974). VOA transmitters range in power up to a megawatt (a million watts), 20 times the maximum power permitted American domestic am broadcast stations.

3.5 Picture channels

Picture-making devices too have their channel capacity limitations. Most such devices break down the pictured scene into separate bits, or picture elements. The minuteness and distribution of these picture elements per unit of area govern *definition*, the degree of resolution obtainable. "Graininess" in film implies lack of fine detail because the picture elements are too large to resolve them, resolution being defined as the ability to distinguish two adjacent objects as separate objects. Exhibit 3.4 reveals the bit-by-bit structure of conventional photographic reproductions in newspapers and books. The number of elements per unit of area, in this case expressed as lines per inch, defines channel capacity.

Thus the available picture area in each individual frame in a strip of moving picture film determines the inherent channel capacity limits of the system. Three primary cinema picture area standards have emerged, defined in terms of the overall width of the film stock: 35mm, 16 mm, and 8 mm. The highest professional standard is 35 mm, along with certain wider formats (exhibit 3.5). Sixteen-mm film is an intermediate standard, originally intended for home use, but with the advent of television and its great appetite for film, it ultimately developed into a professional medium. Thirty-five-mm film is the standard for theatrical projection and for shooting stock when highest quality is desired. It is much preferable to reduce 35 mm to 16 mm for television use than to enlarge 16 mm to 35 mm for theatrical exhibition. Eight mm, along with an improved format, Super 8, is the amateur, home movie standard. Super 8 is used to a

Exhibit 3.4
Picture structure



Degrees of definition in picture reproduction.

A. Fine engraving, 133 lines per inch. Detail in rectangle enlarged four times.

B. Same subject as reproduced in a newspaper, 55 lines per inch. Detail in rectangle enlarged four times.

Source: Wide World Photos, Inc.

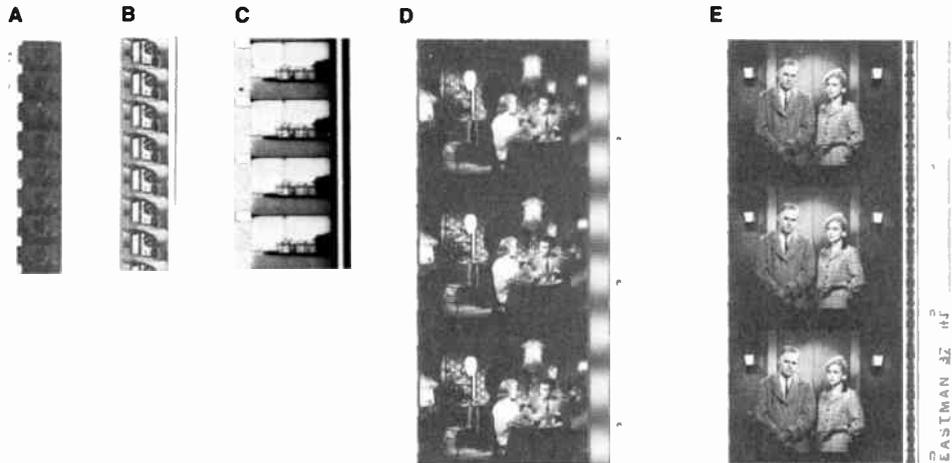
limited extent for television news, but most technicians regard it as sub-standard for broadcasting. In all the film formats, some picture area must be sacrificed to leave room for sprocket holes, for between-frames space, and for the sound track. This sharing of channel capacity between picture information and auxiliary information has its analogue in television, as we shall see in the next section.

Imparting motion to pictures adds another requirement to channel capacity. The motion aspect of cinema itself constitutes information that has to be carried in the channel. Multiplying the capacity of each individual picture frame by the number of frames exposed (or projected) per second gives a measure of the necessary total channel "width" required.

In cinema, what appears to be motion consists, of course, of still pictures (frames) recorded and then projected in rapid succession. Each frame freezes the action at a slightly later moment than the preceding frame. *Persistence of vision*, a useful tendency of the eye to retain the image of an object for a brief moment after the object is removed, blends the successive frames together. Movement on the projection screen is an optical illusion.

The frequency with which frames are presented to the eye is vital to this

Exhibit 3.5
Motion picture film formats and soundtrack types (actual size)



A. 8 mm with magnetic sound track.

B. Super 8 with magnetic track; note larger frame, resulting from repositioning and smaller size of sprocket holes.

C. 16 mm with optical variable-area sound track.

D. 35 mm with optical variable-area track; note sprocket holes on both edges of film.

E. 35 mm with optical variable-density sound track.

Source: Reproduced with permission of Eastman Kodak Company.

illusion. At about 16 frames per second, persistence of vision begins to give the illusion of smooth motion. This frame frequency was adopted as the standard for silent film. But film passing over the sound pickup head in a projector at that rate does not provide adequate quality reproduction. The higher frequency of 24 frames per second, therefore, was adopted for sound motion pictures.

Although at this frame frequency the eye seems to see continuous action, it still detects intermittency of the light falling on the screen. After each frame flashes on the screen, a moment of blackout must follow while the projector is pulling the next frame into position. The eye reacts more sensitively to these gross changes from complete illumination to complete blackout of the screen than it does to the smaller changes in the position of objects within the frames. We perceive these gross alternations of light and dark as *flicker*, that annoying sensation of unsteadiness we experience in watching old silent films. In fact, early movies were called “flicks” for this reason.

The flicker sensation can be eliminated by increasing frame frequency, but economy requires the use of as few frames as possible. Since the 24-frames-

per-second rate provides all the visual and sound information required, it would be wasteful to use a higher frame rate just to avoid flicker. The problem was solved by the simple expedient of projecting each frame *twice*. In other words, when a given frame is pulled into place it is flashed on the screen once, remains in place while the screen is blacked out momentarily, and then is flashed on the screen a second time. During the next momentary blackout the next frame is pulled into place and the process repeated. Although only 24 different frames are projected per second, the screen is *illuminated* by a picture (field) 48 times per second. This is frequent enough to deceive the eye into accepting the illusion of continuous illumination. Thus motion pictures require two projection frequency standards: one to achieve the continuity of action (frame frequency) and one to achieve the continuity of illumination (field frequency).¹ A similar technique is used in television.

3.6 Electronic picture processing

Applying the foregoing principles of picture reproduction to the electronic processing of pictures, we perceive that means must be found to convert picture elements into electronic equivalents, to generate enough frames per second to obtain continuity of movement, and to generate enough illuminations per second of the receiver screen to suppress the sensation of flicker. And we must provide a channel of sufficient capacity to carry all this information, along with auxiliary signals and accompanying sound.

When light from a scene falls on the negative in a motion picture camera, all the thousands of light-sensitive particles in the film frame respond simultaneously. A radio channel, however, can do only one thing at a time (§2.4). It cannot respond simultaneously to all the information in a picture frame and transport it as a complete picture. Instead, it must dissect the picture into separate component bits of information and carry each bit separately. Such a process obviously must happen with tremendous speed or it would take minutes — even hours — to transmit just one frame. It also has to take place with extreme precision because each bit, after being dissected out from the original image and transmitted to the reception point, must be positioned in exactly the right place in the reconstituted picture. Just how rapid and how precise this processing must be can be judged by the fact that the television channel handles over 6 million bits of picture information per second.

The key to achieving this high-speed information processing feat is the electronic pickup tube, the heart of the television camera. A conventional photographic lens system focuses the scene to be televised through the glass

¹ Film projectors interrupt the projection lamp beam with a rotating shutter. Cut-out segments in the shutter let the light flash through. This enables a higher field frequency than two per frame, but for the purposes of comparison with television, the example of two fields per frame is used here.

face of the tube. The light pattern falls on a plate inside the tube that is covered with specks of a photoconductive material. This material transforms the light pattern into a corresponding pattern of electrical potentials.

At this point we have the analogue of an exposed film negative but with two significant differences: (1) the picture exists as a collection of electrical potentials rather than as a latent visible image awaiting development; (2) the picture information is stored only temporarily because that same tube must be used in a moment for the next frame rather than being moved on to make way for a new frame. For this reason the television camera requires no shutter to provide intermittent exposure as does the motion picture camera.

Next, the thousands of electrical potentials must be discharged, individually and systematically, so that they can be reassembled in the correct order at the receiver. This operation is accomplished electronically. An electron gun fixed in the rear end of the pickup tube points toward the back side of the pickup plate. Electrons are submicroscopic, negatively charged particles of electrical energy. The electron gun “shoots” these particles out in a stream, like so many bullets from a machine gun. The electrons thus directed toward the back of the pickup plate trigger the stored electrical charges and release them to be fed out of the tube. These pulses of electrical energy constitute the video (picture) signal.

The electron gun reads off the information element by element and line by line. This process, called *scanning*, emulates the pattern of the eye in reading: it starts at the upper left of the pickup plate, reads a line from left to right, drops down and reads another line, and so on until the whole plate has been scanned. Then the electron beam returns to the starting point and repeats the process.

The television pickup tube has no moving parts. It performs all operations electronically. The electron gun does not actually move its muzzle back and forth like a machine gun; it is fixed rigidly in the tube. After the electrons leave the fixed muzzle of the gun, they pass through magnetic fields formed by deflection coils mounted externally around the neck of the tube. Electrons can be attracted or repelled magnetically. Appropriate scanning signals cause variations in the magnetic fields, precisely controlling the back-and-forth and up-and-down movements of the electron stream.

The scanning rate used in U.S. television is 30 frames per second. Although this differs from the 24-fps rate of motion picture film, the 30-fps rate was chosen so that this all-important function of precise timing could be tied in with a universally available standard — 60 Hz, the frequency of ordinary alternating electric current available in houses throughout the United States. The 60-Hz rate governs the field frequency — that higher frequency of stimulus required to overcome the sensation of flicker.

Television cannot take advantage of the solution to flicker used in films. Repeating each television frame more than once is impossible because television is a forgetting rather than a remembering medium. A frame once gone is

gone forever. Instead the television pickup tube scans each frame in two fields of alternate lines. The first field consists of the first, third, fifth, and the rest of the odd-numbered lines. Then the electron beam flies back to line two and during the next one-sixtieth of a second scans the even-numbered lines. This *offset*, or *interlace*, scanning ensures 60-times-per-second screen illumination despite a frame frequency of only 30 per second.

3.7 Television signal requirements

The television picture, then, is constructed of elements arranged in lines, lines arranged in fields, and fields combined into frames. The number of each determines the resolution capacity of the system. All four factors affect resolution, but the number of lines is taken as a convenient basic measure of a system's resolution capacity. Lines determine vertical resolution. The U.S. line standard is 525 lines per frame, and it is easy to see the line structure of the picture with the unaided eye.²

As in the case of motion picture film, space in the channel must be set aside for auxiliary information. What, for example, happens to the electron beam when it reaches the end of a field and flies back to the top of the picture to start the next field? If the beam continued to read off the picture information along the flyback path, the orderly pickup of picture elements would be destroyed. The problem is solved by a *blanking signal* transmitted during flyback periods. This signal is not apparent on the screen because it cuts off the electron beam.

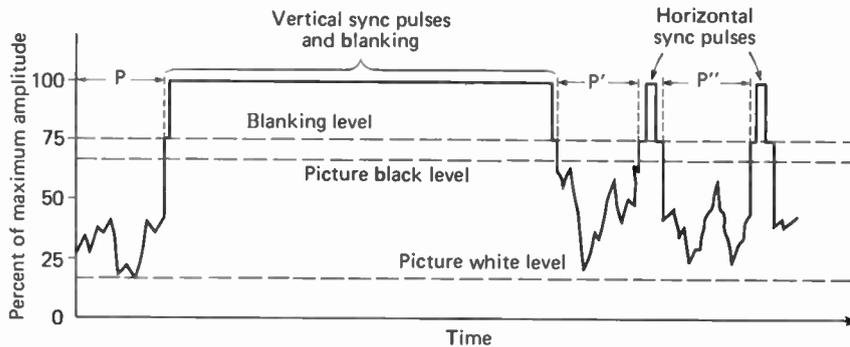
The video signal is negatively modulated; that is, a large amplitude of energy in a picture element (indicating whiteness at the corresponding point in the original scene) results in a low amplitude of energy in the transmitted signal. Conversely, a low amplitude in a picture element (indicating blackness at the corresponding point in the original scene) results in high amplitude in the transmitted signal. Therefore, the amplitude of the transmitted signal can be artificially increased beyond the amplitude that produces visible black in the receiver. All accessory signals in the composite video signal are sent in this "blacker-than-black" region so that they do not interfere with picture information (exhibit 3.6).

In order to guarantee exact synchronization of scanning in the receiver with scanning in the camera, special synchronizing signals are also included in the composite video signal. These signals, sent in the blacker-than-black region along with the blanking signals between frames, establish precise points of registration.

The audio component imposes a further burden on the channel. The two

² The 525-line standard is only nominal. The number of lines effective in terms of resolution is only about 340 because of the loss of information between lines and the need to devote some channel capacity to auxiliary information.

Exhibit 3.6
Composite television signal (simplified)



The waveform depicted is a simplified analysis of the picture, synchronizing, and blanking components of the composite video signal. This is the studio output that modulates the transmitter's carrier.

During the interval P, the last line of a field is being scanned. The uneven line at P represents the varying amplitudes generated by the scanning beam as it moves across one line of the picture. The higher amplitudes represent dark elements in the image and the lower amplitudes light elements. This reversal is due to negative modulation.

At the end of the line, the signal is synthetically increased to an amplitude "blacker than black," which cuts off the electron beam at the receiver.

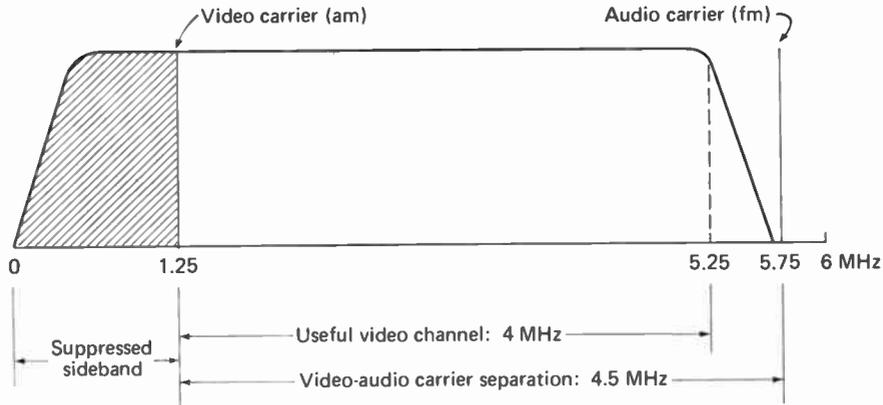
During the ensuing interval the electron beam is redirected to the top of the frame to start another field; at the same time, a complex series of pulses (not shown in detail) supplies blanking and synchronizing information to the receiver.

At the end of the vertical retrace interval, the first line of the next field is scanned at P'. Then a very short time intervenes while horizontal retrace takes place, during which a horizontal sync pulse is transmitted. At P'' the second line of the field is scanned, and another retrace interval follows. (Not drawn to scale.)

Source: Adapted from FCC signal specifications in its Rules and Regulations, 47 CFR §73.699.

signals, video and audio, are multiplexed in the same channel (exhibit 3.7). Each has its own carrier frequency within the channel, each frequency being modulated by a separate transmitter. In order to save spectrum space, the designers of the system adopted a single-sideband mode. Since the sidebands are mirror images of each other, each carries the same information. Either can be eliminated but only at the cost of increased equipment expense. The cost of sideband suppression is considered unjustifiable in am and fm broadcasting since their channel capacity requirements are not great. Relative to radio's channel requirements, however, those of television seem enormous. A single U.S. television channel is 600 times the width of a standard am broadcast channel. Indeed, all the am and fm channels together occupy less spectrum space than 4 of the 82 television channels.

Exhibit 3.7
How the television channel is used



Source: FCC specifications in its Rules and Regulations, 47 CFR §73.699.

3.8 Television channel specifications

It was decided that the U.S. television system would require a 6-MHz channel if it was to provide nominal 525-line picture resolution and at the same time accommodate sound and all the necessary auxiliary signals. Exhibit 3.7 indicates the way in which the 6 million Hz of the channel are used. It should be noted that a net of only 4 MHz are actually available for picture information. The rest of the channel is occupied by synchronizing and other auxiliary control information, guard bands, the sound carrier, and vestiges of the suppressed sideband.

It was impossible to find enough unoccupied space at any one point in the frequency spectrum for enough television channels; therefore, they have been allocated in four different blocks of frequencies (exhibit 3.8). The largest block, amounting to 70 of the 82 channels, is in the uhf band; the remaining 12 are in the vhf band.

This scattering of the television channels in widely separated points of the spectrum has had unfortunate consequences because of the different behaviors of the vhf and uhf frequencies. Both vhf and uhf waves follow a direct, line-of-sight propagation path. Exhibit 2.7 classifies vhf as short range and uhf as quasi-optical, in keeping with the principle that the higher the frequency, the more nearly radio waves behave like light waves (§2.7). Uhf signals are therefore more easily cut off by buildings and terrain features in their path than are vhf signals. Uhf receiving antennas are highly directive, requiring more sensi-

Exhibit 3.8
Summary of U.S. domestic broadcast channel specifications

Band	Frequencies	Broadcast service	Channel width	Number of channels	Channel Identification numbers
mf	535–1,605 kHz	am	10 kHz	107	540–1,600 ^a
vhf	54–72 MHz	tv	6 MHz	12	2–4 ^b
vhf	76–88 MHz	tv	6 MHz	12	5–6
vhf	88–108 MHz	fm	200 kHz	100	201–300
vhf	174–216 MHz	tv	6 MHz	12	7–13
uhf	470–890 MHz	tv	6 MHz	70	14–83 ^c

^a Am channels are identified by midfrequencies. The 535–545 kHz channel is identified as 540, the 545–555 kHz channel as 550, etc. The zero is frequently omitted on receiver dials.

^b An original Channel 1 was reallocated, first to fm broadcasting, later to land mobile services.

^c Channel 37 is reserved for radio astronomy. In certain major cities channels 14–20 and 70–83 are allocated to land mobile use.

tive adjustment than vhf. Directivity has some advantage, though, in that the uhf receiving antenna tends to reject the reflected signals that cause ghost images in the received picture.

Uhf signals are more rapidly attenuated by atmospheric absorption, so they require higher power than vhf. The regulations provide for such higher power; the general rule is that the higher the frequency, the more power is permitted. Power and antenna height above surrounding terrain are interrelated factors; under the rules, as one goes up, the other must go down.

The standard of picture fidelity possible within the information capacity of the 6-MHz channel is not high in terms of photographic reproduction. In practice, the average home receiver produces about 150,000 picture elements, or dots, per frame. The best quality 16-mm film produces some 250,000. A good 8 × 10-inch photoengraving has about 2 million dots; 35-mm film, when projected, has the equivalent of about 1 million (Senate CIFIC, 1950: 7). Magnifying the received picture by use of large screens or projection adds no detail; a larger picture area simply makes it possible to sit farther away from the screen.

Television standards are the result of compromises and arbitrary choices, so it is not surprising that different compromises and choices have been made elsewhere in the world. Exhibit 3.9 summarizes the chief characteristics of world broadcast-television systems. Great Britain started with a 405-line system but is replacing it with a 625-line system. Since Britain's frame frequency is only 25 per second, its 625-line system will convey about the same net amount of information as the U.S. 525-line, 30-frames-per-second system. The French at first erred in the opposite direction — an unnecessarily high definition system of 819 lines. The smaller countries tend to follow the lead of larger countries with which they have cultural and economic ties. Still other standards obtain for specialized nonbroadcast applications of television.

Exhibit 3.9
Major world television standards

System designation	Lines per frame	Channel width (MHz)	Sound modulation	Frames per second	Examples of users
A	405	5	am	25	Great Britain (BBC-1, vhf), Ireland
B (CCIR) ^a	625	7	fm	25	Australia, Germany, Italy
D ^b	625	8	fm	25	China, Eastern Europe, USSR
E	819	14	am	25	France
M	525	6	fm	30	Canada, Japan, Latin America, United States

^a The CCIR (International Radio Consultative Committee of the International Telecommunication Union) standard is the one most widely used outside the U.S. sphere of influence.

^b Omitted letters of the alphabet from A to N designate minor variations, bringing to 14 the total black-and-white systems.

Source of system designation: International Telecommunication Union, International Radio Consultative Committee, Report 308, Tenth Plenary Assembly, ITU, Geneva, 1963. For current information on individual countries, see Frost, *World Radio-TV Handbook* (annual).

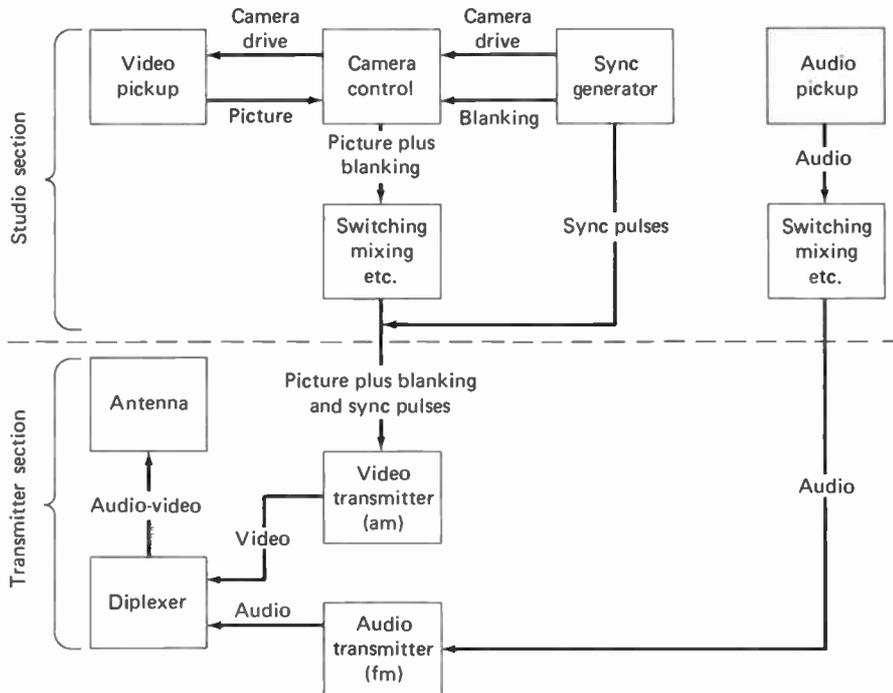
3.9 Television transmission and reception

As indicated in exhibit 3.10, a synchronizing generator in the camera originates the drive pulses for the scanning action as well as for blanking and synchronizing information. Video sources may be studio cameras, remote cameras, film, slides, video tape, or network feeds. An operator at a control console combines signals from the various sources to produce the pictorial flow of program material. Meanwhile, the sound components are handled by a separate set of equipment that likewise terminates at a control console where the audio operator selects the appropriate audio material to match the video material.

The resulting electrical information fed to the transmitter consists therefore of two categories: picture (including blanking and synchronizing signals) and audio. At the video and audio transmitters, these signals modulate their respective carrier waves (am for video, fm for audio), which are then fed to a common antenna. Of the two transmitters, video and audio, the former has the higher power. This is because of the greater load of information the video transmitter has to process and also because the am video signal is more susceptible to interference than is the fm audio signal.

Antenna radiating elements may take several forms. In any event they are small, in keeping with the shortness of the waves. Channel 2 carrier waves are about 18 feet long, channel 83 waves about 1 foot long. Exhibit 3.11 illustrates a type consisting simply of slots in a pipe, each a quarter of a wavelength long. The radiating elements must be precisely adjusted to direct the signal at exactly the right angle to intersect the horizon. Any energy directed at a higher angle dissipates in space and makes no contribution to the station's coverage. The increase in signal strength resulting from concentrating the output in this way

Exhibit 3.10
Block diagram of television system components and signals



This simplified diagram shows the basic components and their functions in originating and manipulating the signals. Each block represents a functional component (in practice this may consist of many different related components). The connecting lines indicate the signals delivered from one component to another.

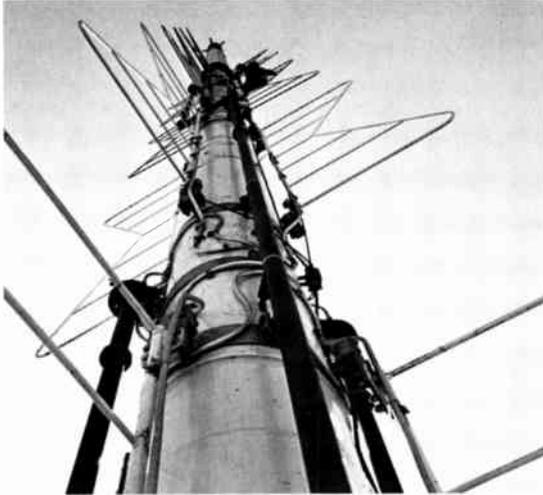
Source: Drawing in Harold E. Ennes, *Principles and Practices of Telecasting Operations*, Howard W. Sams, Indianapolis, 1953.

is called **gain**. Television antennas usually have a gain factor of at least 10, that is, an effective radiated power (ERP) of 10 times the nominal output power of the transmitter.

The receiver too has separate sound and picture circuits. The video information goes to the picture tube, called a *kinescope*, which is coated on the inside with phosphorescent material that glows when struck by electrons. An electron gun, comparable to the one in the pickup tube, guided by magnetic fields that deflect the electron stream as in the pickup tube, displays the transmitted information line by line, field by field, and frame by frame. Synchronizing signals, as previously described, ensure that the receiving electron gun will keep in exact step with the sending electron gun.

Exhibit 3.11
Television antennas

A



B



The radiating elements are small compared to the size of the supporting pylon.

A. "Batwing" type of radiating elements.

B. "Slot" type of radiating elements. The antenna, mounted horizontally on a turntable, is undergoing tests at RCA's testing center in Gibbsboro, N.J.

Source: RCA Corporation.

In color television, the camera typically uses three pickup tubes, one for each of the specified primary colors of red, blue, and green. The color kinescope tube in the receiver, however, uses only one electron gun, which activates phosphor dots arranged in triads of the three primary colors. With the aid of a low-power magnifying glass, these can be easily seen as separate colored dots.

Japan and Canada have followed the American lead in adopting NTSC (National Television System Committee) color. For political as much as for engineering reasons, two slightly different color systems have been adopted in other major countries — the French SECAM (*séquential couleur à mémoire*) and the German PAL (phase alternate line). As color has extended to other countries, the division has continued along ideological lines. Little difference in overall quality can be detected among the three systems, although each has minor technical advantages.

3.10 Nonbroadcast video systems

Broadcast television standards are compromises between the conflicting demands for conserving the frequency spectrum on the one hand and for delivering a high-quality picture on the other. That the American standards struck the correct balance seems indicated by the fact that both higher and lower standards adopted in Europe are being phased out in favor of a compromise approximating the American one.

The principle of television has been applied to many other communication situations where entirely different standards may be appropriate. A few systems have higher standards of definition. For example, an 828-line standard is used in military applications, and 1,029-line frames have been used experimentally in medical and scientific television (NAEB, 1964: 1). Most nonbroadcast applications call for lower rather than higher standards, however. Just as in motion pictures first 16-mm then 8-mm formats developed as subprofessional standards, so complete systems of television equipment have been developed for subbroadcast-quality applications. For limited purposes the end result, as in the case of film, may well be as satisfactory as broadcast quality; tolerable sacrifices in versatility, definition, and stability can realize substantial savings in both equipment and operational costs. Many closed-circuit television applications can use extremely simple, fixed-position television cameras, without going to the expense of electronic view finders, lens-changing capability, mobile tripods, pan heads, and electronic synchronizing equipment.

Facsimile, a system for transmitting still pictures such as newsphotos, maps, printed pages, and engineering drawings, uses the television principle. A typical facsimile system takes about eight minutes to scan a single page. The receiver read-out is in permanent, or hard-copy, form rather than by kinescopic display. Fm broadcast stations can be authorized to broadcast facsimile materials. Experiments have been conducted also with transmitting slow-scan still

pictures in conjunction with fm sound radio, a combination that could prove useful in teaching by radio. Unlike facsimile, this method displays pictures electronically. It requires a kinescope tube with special storage capabilities because it takes almost a minute for the picture to build up. This technique has been called "the most promising unexplored telecommunications medium" (Bretz, 1970: 70). In 1974 the FCC authorized an fm station to offer a visual subscription service. Stock market, airline schedule, weather, and news information received by fm radios was fed through converters to subscribers' television sets.

The Mariner satellite that sent back pictures of Mars in 1965 is an extreme example of slow-scan television. The spacecraft carried a tiny vidicon camera having only 200-line definition. The camera took 48 seconds to build up one complete picture, which was converted into a binary code and stored on tape on board the satellite. It then took nearly nine hours to transmit to earth the string of digits representing the 40,000 elements in a single picture.

Storage, Delivery, and Distribution Systems

A broadcasting station may be regarded as a localized delivery mechanism, a means of rapidly delivering communications to the people in its immediate service area. From the outset, broadcasters sensed that full development of the new medium's potentialities required something more than this limited delivery role. Without ways of storing program materials and of distributing them efficiently among stations, each station would be limited not only in its physical reach but also in its program resources. Confined to low-budget locally produced materials, a station would be unable to stay on the air a full broadcast day or to attract and hold large audiences.

4.1 Syndication and technology

The storing of programs by means of recordings (including films) and the distribution of programs by means of broadcast networks comprise the technological aspects of syndication. An essential element in all mass-media enterprises, syndication is a technoeconomic device that enables spreading the burden of producing and distributing very costly communications materials among many users. Syndication alone makes it possible for us to buy recordings by the highest-paid artists, to attend movies that cost millions of dollars to produce, to receive today's news from every corner of the globe, to watch *Sesame Street*, to listen to a rock and roll station, to enjoy prime-time television series, to witness a moon landing.

Broadcasting networks, as systems of distribution, introduced a new form of syndication.¹ They allow an unlimited number of individual, local delivery systems (stations) to be bound together into a single, national delivery sys-

¹ In this book, *syndication* is used in an inclusive sense to mean networking, as well as the non-network modes of distribution known as syndication in the trade. This usage is meant to

tem. Originally, networks stood at the opposite pole from recordings; they dealt exclusively in live programming distributed in real time. This distinction was lost with the improvement in recording technology, a direct result of the influence of broadcasting. Now, except for occasional news and sports events of special importance, virtually all broadcast materials are prerecorded. Moreover, to compensate for differences in time zones, national networks in some cases feed *delayed* broadcasts from the East so that stations in other time zones can release the same network programs at the same local time. Again to suit local schedules, affiliates sometimes record network feeds for later broadcast. Hence much program material goes through two or more recording steps before reaching its ultimate destination, the individual receiving set.

Nevertheless, the distinctive character of broadcasting networks remains their ability to provide for simultaneous broadcast of identical programs in real time throughout the nation — even, in the case of great public events, throughout the world. Only broadcasting, by means of networks, could furnish to an audience of over half a billion people on six continents the sight of Neil Armstrong placing the first human foot on the moon.

In addition to their role in network broadcasting, recorded materials play an independent role as a syndicating medium. In the parlance of the broadcasting industry, “syndicated programming” refers to recorded program series (and, occasionally, individual programs) that are distributed by mail or parcel post or courier to individual station users rather than by network interconnection.

The success of broadcasting has led to a great many spin-off applications of these same recording and distribution technologies. For example, all the equipment used in television broadcasting — excluding only the transmission component — has innumerable *closed circuit*, that is, nonbroadcast, applications. Much of the material handled by closed-circuit systems either comes from recordings or is itself recorded. Closed-circuit systems too may be interconnected to form closed-circuit networks.

We can discern in this example the combining of elements we may think of as interchangeable building blocks: origination facilities, recording facilities, delivery facilities (open or closed circuit), and distribution facilities (wire or radio). Each building block comes in a variety of shapes and sizes, enabling users to fit blocks together in a variety of configurations. Origination facilities, for example, may vary from a single, low-quality, fixed-position television camera for bank surveillance to a studio full of high-quality color equipment at a network production headquarters. After a look at the basic building blocks, we will review some of the more specialized versions of the blocks and ways of putting them together, leading finally to that all-inclusive configuration known as community antenna, or cable, television (CATV).

emphasize that the syndication function is fundamental to broadcasting. For further elaboration of this point, see §9.4.

4.2 Sound recording

The communication channel of a phonograph recording consists of a continuous groove in a revolving cylinder or disc. The recording stylus responds to vibrations of sound and modulates the groove by cutting corresponding frequency and amplitude variations as the record turns. A pickup stylus, riding in the same groove, reverses the process. Early sound recording systems depended on mechanical linkages throughout. The physical inertia of the moving parts impaired their ability to respond sensitively, severely limiting frequency response. The most important asset of the early recording artists was sheer power. Caruso's popularity as a singing star on cylinders has been ascribed to his ability to achieve loudness without yelling.²

When radio began, the phonograph had been in use for some 40 years. Discs were made of shellac, a thick, heavy, brittle material. They ran at 78 revolutions per minute and had coarse grooves that limited playing time to a single selection per side. Special oversized discs for broadcast use (electrical transcriptions, or ETs) were introduced in 1927; they ran at 33½ rpm and could carry 15 minutes of program material on one 16-inch side. Electronic amplification, first used in radio, eventually revolutionized recording technology.

In 1948 the recording industry began producing microgroove recordings — 33½ rpm long play and 45 rpm extended play. Light, flexible, durable vinyl plastic replaced the shellac as the record base. Two to three times as many grooves per inch, along with slower speed, greatly lengthened the playing time of each side. Rim-driven rather than axle-driven turntables made it easier to use speeds under 78 rpm without resorting to the expensive and cumbersome equipment used in studios to play transcriptions. Electronic amplification enabled exceedingly light stylus pressure, consequently reducing noise and wear (Conly, 1953).

Magnetic tape recording completed the audio revolution. Prior to the general introduction of tape in the late 1940s, original recordings had to be cut on discs with studio machinery that was heavy, expensive, and temperamental. Tape liberated the recording process from manifold restrictions while opening up a whole new world of technical resources.

In magnetic recording, the channel consists of magnetized particles of an iron compound that coats a plastic tape. The smallness of the particles and the number available per second — determined by the speed at which the tape passes the record head — defines the maximum channel capacity. Tape speed is thus the chief variable that affects capacity. For master recordings a speed of 15 inches per second (ips) is used. The standard for broadcasting and other professional uses is 7½ ips, whereas speeds as low as 1⅞ ips are used for home

² After electronic amplification was introduced, however, the opposite was true: "Vaughn de Leath, the first female radio singer, sang softly into the microphone in order not to strain the station's delicate equipment and invented 'crooning,' radio's distinctive vocal style" (Nye, 1970: 392).

recording and office dictation. For most professional uses, an audio tape width of $\frac{1}{4}$ inch is standard, although a width of 0.15 inch is used in cassettes.

The information to be recorded is fed to the channel in the form of a modulated electric current that varies the magnetic field set up by an electromagnet serving as the record head. The pattern of these variations is transferred to the tape in the form of a corresponding magnetic pattern that is induced in the molecules of the ferrous particles. On playback, the tape passes over a similar electromagnet, generating in it a modulated electric current that goes to the loudspeaker after suitable amplification. Running the tape over a third electromagnet, the erase head, exposes it to a strong unmodulated magnetic field. This rearranges all the molecules, neutralizing the stored magnetic pattern so that the same tape can be used repeatedly.

A reel-to-reel tape configuration is used when editing may be required, but for many professional and amateur uses, cassettes and cartridges are more convenient. Cassettes incorporate feed and takeup reels in a single housing and must be either rewound after play or flipped over to play a second side. A cartridge, often called a "cart," contains an endless tape loop that repeats itself until interrupted. Carts are used in radio broadcasting in automated equipment, each one containing a single program item; inaudible start and stop cues produce the automation signals.

The first experiments with motion picture sound included attempts to use early magnetic recorders, but the first "talkies" in America used 33 $\frac{1}{3}$ -rpm discs of the radio transcription type. However, motion picture sound presents the special problem of synchronization: sound must be kept precisely in step with picture. This requirement led to development of optical sound, photographed directly on the same film as the picture and thus locked into permanent synchronism.

Film moves intermittently through the projection aperture, but it must move at constant speed over the sound pickup head. A projector maintains free loops of film just before and after the film enters the projection gate where the intermittent movement takes place. These loops enable a rapid jerking of the film into place without tearing and without disturbing the steady winding of the film from feed reel over the sound head to takeup reel. Therefore, the part of the sound track associated with any given picture frame has to be at a different position on the film than that frame. The sound offset is 20 frames ahead in 35-mm film and 28 frames ahead in 16-mm film. In single-system sound film production, picture and optical sound are recorded simultaneously³ on the same film strip.

The sound offset makes it impossible for such film to be edited freely. Any

³ Single-system magnetic sound can, of course, be recorded at any time because the magnetic sound stripe does not have to be developed photographically as does optical sound. Note also an added disadvantage of single-system optical sound: developing both sound and picture in a single process is more difficult than developing them separately, each according to its own special needs.

cut will be wrong either for picture or for sound. All but the simplest types of sound motion picture production therefore use double-system sound, in which the sound element and the picture element are handled entirely separately. They are not physically united on a single film strip until the release-print stage. Prior to this stage, picture and sound can be separately edited and processed.

Optical sound appears on release prints on a narrow band alongside the picture component (exhibit 3.5). In optical-sound recording, sound energy, converted into electrical current, modulates a tiny pencil of light as it shines on the track area of the film. Modulation can consist either of varying the width of the beam (variable area) or of varying its intensity (variable density), as shown in exhibit 3.5. For playback, the projector shines a similar narrow beam of light through the sound track onto a photoelectric cell. As the film moves, the varying area or density of the sound track modulates the light falling on the cell, inducing a modulated electric current.

Film producers now generally use magnetic tape to make the original sound recording (kept in synchronism by electronic means) and for editing operations. Magnetic sound is converted to optical sound in release prints, or can be used in release prints by adding a magnetic stripe to the finished print.

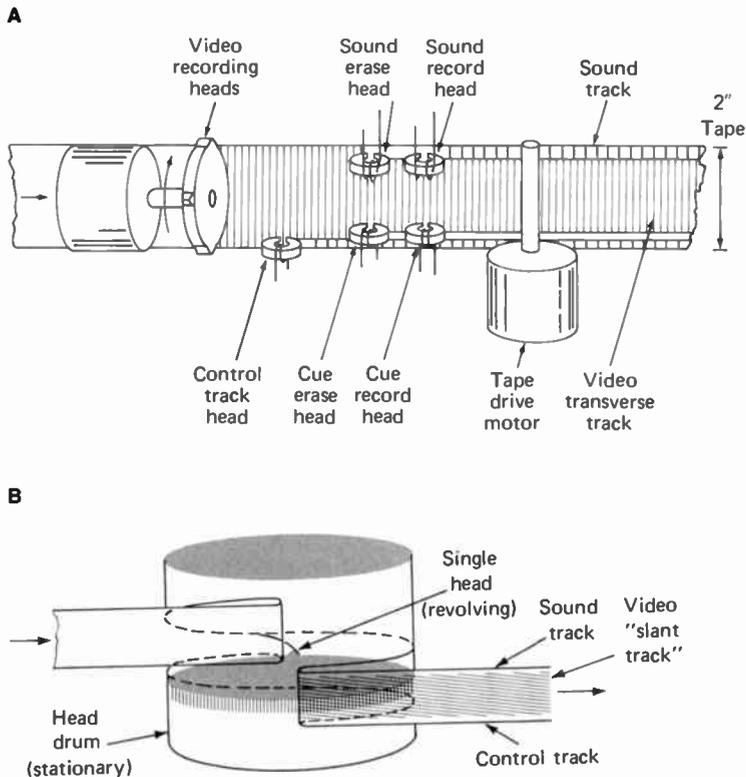
4.3 Picture recording

A form of film unique to television, a true case of picture recording or storage, is the *kinescope*. The film camera takes pictures of an image as it appears on a special television picture tube whose phosphor is especially suited to photography. The 30-frames-per-second television recording camera must be especially designed to compensate for 24-frames-per-second motion picture film. A kinescope recording causes a double loss of information because of the double transfer from live to television to film. Each transfer to a new generation of film causes loss. The resulting picture quality leaves much to be desired.

Magnetic tape picture recording (video tape recording, or VTR) has replaced kinescoping for most broadcast uses. In principle, picture recording on tape is just like sound recording, merely increasing the quantity of information stored. However, the increase over sound requirements of 200 to 1 poses a difficult design problem.

Ampex introduced the first solution in 1956, when it began marketing production models of video tape recorders. It will be recalled that the chief variable affecting the information capacity of a magnetic tape recording system is the speed at which the tape passes over the recording and playback heads (§4.2). A sufficient increase of longitudinal tape speed was impracticable, so Ampex mounted four magnetic heads on a disc that rotates at high speed transversely across 2-inch tape at the same time as the tape moves longitudinally at 15 ips (exhibit 4.1). The combined longitudinal and transverse scan-

Exhibit 4.1
Magnetic video recorder scanning systems



A. Transverse quadruplex type Four video-recording heads mounted on the rapidly spinning wheel at the left lay down a track transversely (across) the 2-inch tape. Sound is recorded longitudinally on one edge of the tape, auxiliary control signals on the other.

B. Helical type The tape (of varying widths) spirals around a large, stationary drum. Within the drum, the video-recording head spins on a revolving disc, making contact with the tape as it slips over the drum surface. As the tape moves laterally and also slightly downward (because of the spiral wrap around the drum), the combined movements of tape and recording head produce a slanting track, as shown. Some helical recorders use two heads mounted opposite each other on the disc; some use different wraparound configurations. The helical and quadruplex systems are not compatible.

Source: Ampex Corporation.

ning movements produce an effective head-to-tape speed of 1,500 ips. The sound component of the composite television signal is recorded along the edge of the tape. Subsequent development of techniques for electronic editing, copying, slow motion, stop motion, and reverse motion make magnetic recording not merely a storage medium but also a creative production resource.

The original "quadruplex" Ampex VTRs cost about \$75,000 each. Since then, production has proliferated among some forty manufacturers, bringing costs down; home video recorders are now being marketed at under \$1,000. The less expensive models use 1-inch, ½-inch, and even ¼-inch tape and simpler head-to-tape systems.

Magnetic tape has not entirely replaced either discs or film in broadcasting. Ease of operation, immediate playback without processing, editability, reusability, near-perfect quality — all these make magnetic tape the ideal storage medium for many purposes. Discs, though, still have the advantage of accessibility — any part of a disc recording can be retrieved without delay, whereas tape requires winding backward or forward to locate the start of a wanted item. For example, Ampex's slow-motion sports recorder/reproducer, used for instant replay effects, employs two double-sided metal discs rotating at 60 revolutions per second. They store 30 seconds of program continuously, erasing material 30 seconds old as new pictures are recorded. The stored material can be played back at variable speeds, forward or backward, or shown a frame at a time. To enable quick selection of critical replay scenes, the recorder searches backward to a previously noted cue point at 4.5 times normal speed.

Film remains the preferred mode in which to release television programs. There are far more film projectors in the world than there are video tape reproducers, so release prints on film have a wider market. Moreover, video tape costs more than film, damages more easily, and encounters more problems of incompatibility between recording and playback machines.

Disc, tape, and film formats have all been proposed for a variety of systems for home video recording and playback of picture material, using the television receiver as reproducer. These are the television equivalents of sound tape cassettes and cartridges. Development of a mass market for such materials has been impeded by manufacturers' rivalries in promoting incompatible systems and also by the high cost of equipment and recordings. This field offers an illustration of technological overkill: so many new devices and techniques for video recording have been invented that their very abundance hinders development.

Video cassettes of professional quality have, however, become standard in television broadcasting, where they are used in automated programming machines. Cassettes in current use each hold either 3 or 6 minutes of program material and so lend themselves best to commercials and other similarly short segments.

4.4 Terrestrial relays

The second class of technological resources that facilitates syndication comprises the interconnection facilities that make networks possible. A true broadcasting network consists of two or more connected stations transmitting the same program at the same time (47 USC §3p).

The “net” of network broadcasting refers to a matrix of connecting links — point-to-point relay circuits that carry network programs from station to station without themselves being open to public reception. To emphasize the difference between this private relay function and the public broadcasting function in the present exposition, we use the terms *distribution* for relays and *delivery* for broadcasts. A network headquarters distributes programs to its affiliates by means of relays; an affiliated station of the network delivers the programs to its audience by means of broadcasting. Some so-called networks have no simultaneous interconnecting facilities; instead, they ship recorded program materials to member stations. These must be regarded as pseudonetworks.

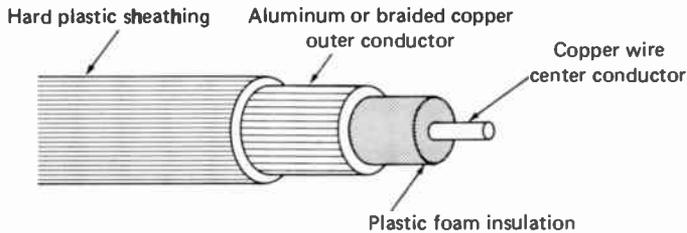
When radio broadcasting began, the nationwide telephone wire network already existed, enabling rapid development of radio networks. Such wires need equalizing and booster amplifiers every few miles to maintain signals transmitted over long distances. Even then, though, ordinary telephone wire circuits lack the channel width required for television signals. The need for wide-band relays led to development of coaxial cable, a specialized type of wire, “co-axial” because it consists of two conductors, one inside the other, having a common axis (exhibit 4.2). A single cable of that type has sufficient band width potentiality to provide 25 or more 6 MHz television channels. The band width is referred to as a potentiality because in practice a coaxial cable’s capacity depends on a number of factors in addition to the cable itself, notably the type, quality, and spacing of the repeater amplifiers.

Originally, network television broadcasting depended on coaxial cable interconnection furnished by the American Telephone and Telegraph Company, which also provided the long-distance relays for radio broadcasting. Except for local, short-run connections, however, television network interconnection now depends on microwave relay circuits, and most of these too are operated by AT&T.

Microwaves are extremely short waves in the shf and ehf bands. It will be recalled that radio energy at these frequencies attenuates rapidly (§2.5). Normally, the energy would not travel far enough to be useful for communication, but by concentrating the radiations into a narrow beam, a directional antenna can achieve a gain 100,000 times the effective radiated power of an omnidirectional antenna. Because the waves are so short, a relatively small reflector suffices to radiate and receive the waves efficiently (exhibit 4.3).

The line-of-sight characteristic of shf and ehf waves is such that microwave

Exhibit 4.2 Coaxial cable



Components of the type of cable typically used for community antenna television systems. Cables used by AT&T for long-distance telephony and formerly for television network interconnection consist of a number of coaxial tubes bundled into a single, heavily sheathed cable that can be buried underground.

Source: Adapted from illustration in Walter S. Baer, *Cable Television: A Handbook for Decision Making*, The Rand Corporation, Santa Monica, Calif., 1973: 4.

repeater stations must be spaced within sight of each other and not more than about 30 miles apart. Mounted on a tower or high building, each station receives, amplifies, and retransmits the signal to the next link in the chain. Exhibit 4.3 shows a typical relay repeater station in mountainous country. It takes over 100 microwave repeaters to span the United States.

4.5 Space relays

Microwave relays can be routed only over land, of course, and are too expensive for serving very thinly populated or remote areas, such as Alaska. Long distance radio alone can meet such service requirements. Sky-wave propagation of hf waves is used in some situations (see §4.6) but is too unreliable for satisfactory domestic broadcast service. Sky waves provide uneven coverage not only because of fading and interference but also because of “zones of silence” that occur between bounces. Tropospheric scatter propagation (diagrammed in exhibit 2.6) offers a partial answer for distances of a few hundred miles, but this technique has not been generally used for relaying broadcasts.

The ultimate solution of the long-distance relay problem is space satellites, which have been likened to microwave repeater towers thousands of miles high.⁴ The analogy is incomplete, however. Satellites can “see” so far they

⁴ Less spectacular heights have been achieved by relay transmitters suspended from balloons or situated in aircraft flying in a holding pattern over the reception area. During the 1960s aircraft were regularly used to relay instructional programs in the Midwest. Flying at about 25,000 feet these aerial relay stations covered an area with a radius of 225 miles (see Felsenthal, 1971). This system was also used by U.S. propaganda services during the war in Vietnam.

Exhibit 4.3
Microwave relay station



This 300-foot tower at Garden City, Virginia, carries antennas at four levels. Originally, it served the New York-Washington-Atlanta microwave route but now serves Washington, D.C. It provides six directions of transmission to AT&T offices in that area.

Source: AT&T Long Lines.

enable transoceanic relaying in a single hop. But equally important, a satellite can link a sending ground station simultaneously with as many different points as there are ground stations, whereas a microwave repeater station links only one single point in the network with another single point. And with satellite relay, an unlimited number of ground stations can be added to the system without adding transmission capability to the satellite.

Satellites take advantage of the fact that radio waves travel through airless space with virtually no attenuation. Terrestrial systems, such as microwave

networks and short-wave broadcast stations, are limited in that their waves must be propagated at low levels through the earth's atmosphere, an inhospitable environment that absorbs radio energy like a sponge. A low-power transmitter located thousands of miles above the earth, however, propagates the waves most of that distance through a near vacuum; its signals then go almost vertically through the earth's thin layer of atmosphere. A satellite can look almost straight down on a third of the earth's surface; just three such high-flying transmitters properly spaced above the equator can serve nearly the entire globe, omitting only the polar regions.

Communication satellites used in relaying broadcasts are "parked" 22,300 miles above the equator. In geosynchronous orbit at that height, they revolve around the earth at the same speed at which the earth rotates, so they stay motionless relative to the earth. Such a satellite consists of a small spacecraft equipped with several transponders (receiver-transmitter combinations that are activated by the received signal) to communicate with earth stations (exhibit 4.4). Intelsat⁵ earth stations are very large, complex installations, with antennas 97 feet in diameter (exhibit 4.4). By putting the biggest share of the burden on ground stations, satellite designers kept the spacecraft themselves relatively light in weight and low in power.

Nevertheless, a sophisticated craft such as the Intelsat IV satellite weighs over 1,600 pounds by the time it reaches orbital position and carries a great deal of gear, as indicated in exhibit 4.4. In addition to transmitters and receivers, the payload includes antennas, batteries, solar panels to collect energy for battery recharging, and propellant for maneuvering the satellite. Intelsat IV carries 12 transponders, 4 receiving antennas, and 4 transmitting antennas. It can relay 12 television programs simultaneously, though most of the time it handles other types of traffic, and it has a designed life expectancy of 7 years.

Broadcast satellite channel space has been internationally allocated in the uhf and shf bands. Satellites too must compete for spectrum space with other services and must practice spectrum-use economies. The Intelsat IV series of satellites, for example, uses steerable directional antennas. By means of the spot beam technique of directing transmissions to selected areas on the earth's surface the system operators can simultaneously activate several of the satellite's transmitters on the same channel (Comsat, 1973: 21–23). Another cost-saving device is the Digital Television Communication system, which cuts the channel width in half by encoding the television signals into digital form (Comsat, 1973: 79).

Communication satellites of value to broadcasting as relay stations fall into three categories: point-to-point, distribution, and direct broadcast (Ploman, 1972: 10). Intelsat is a global *point-to-point* system, linking widely separated

⁵ International Telecommunications Satellite Consortium, or Intelsat, a multinational corporation whose global satellite system is managed by the Communications Satellite Corporation, or Comsat. The legal basis for Comsat is discussed in §17.12.

ground stations, some of them whole oceans apart. The system relies on conventional terrestrial relay networks to link users' terminals to the ground stations. Most participating countries have only one ground station; some depend on ground stations in neighboring countries. Such a system relies heavily, therefore, on conventional relay systems for interconnection. Intelsat parks its satellites over the Atlantic, Indian, and Pacific Oceans. Together they blanket the entire earth except for the extreme northern and southern latitudes. The bulk of Intelsat's traffic consists of voice, data, teletype, and facsimile. Television, confined to the occasional relay of internationally important news and sports events, occupied only 1.5 percent of Intelsat's service load in 1972. Nevertheless, the frequency of television use has been increasing rapidly, growing from 80 half-channel hours in 1965 to 6,792 in 1972 (Comsat, 1973: 7).⁶

The *distribution* satellite system serves domestic needs either of a single country or of several contiguous countries. Such satellites perform distribution functions otherwise performed by terrestrial relays and hence require more earth stations than point-to-point satellites. The Soviet Union initiated such a domestic system, called Orbita, in 1965. It had 35 earth stations in 1972 and covered most of the vast area of the USSR (Ploman, 1972: 14).⁷ In 1974 an American company initiated the first U.S. coast-to-coast satellite relays via leased circuits on Canada's Anik II domestic satellite.

The launching of U.S. domsats, as they are called, was delayed because an adequate terrestrial network, the AT&T microwave system, already existed. The USSR, on the other hand, went directly to satellite relays, without having first built a national microwave network. A number of major U.S. companies applied for permits to launch and operate domsats when the FCC invited applications, and five of them received approval in 1973 (*Broadcasting*, 17 Sept. 1973). However, a general substitution of satellite for microwave broadcast network interconnection was not an immediate prospect. None of the domsat proposals envisioned more than 8 ground stations, whereas national television networks require distribution to more than 200 locales. It has been estimated that to substitute satellite relays for all long-distance terrestrial relaying of television network programming would require 160 ground stations (*Broadcasting*, 24 Sept. 1973).

Direct broadcast satellites, the third type, by-pass terrestrial relay networks altogether and deliver programs directly to the point of consumption. Theoretically

⁶ Use is measured in *channel half-hours* because up-legs and down-legs are counted separately. Each relay may involve more than one up-leg (implying several different pickup points) and more than one down-leg (implying several reception points).

⁷ The Soviet satellites use an elliptical rather than geosynchronous orbit because a station above the equator does not effectively cover the far north. A satellite in nongeosynchronous orbit changes position in relation to the earth as the satellite orbits and therefore has to be tracked as its position changes. The Orbita satellites are within sight of the tracking stations only 12 hours a day, whereas the Intelsat satellites can be used 24 hours a day.

Exhibit 4.4
An earth station and its satellite

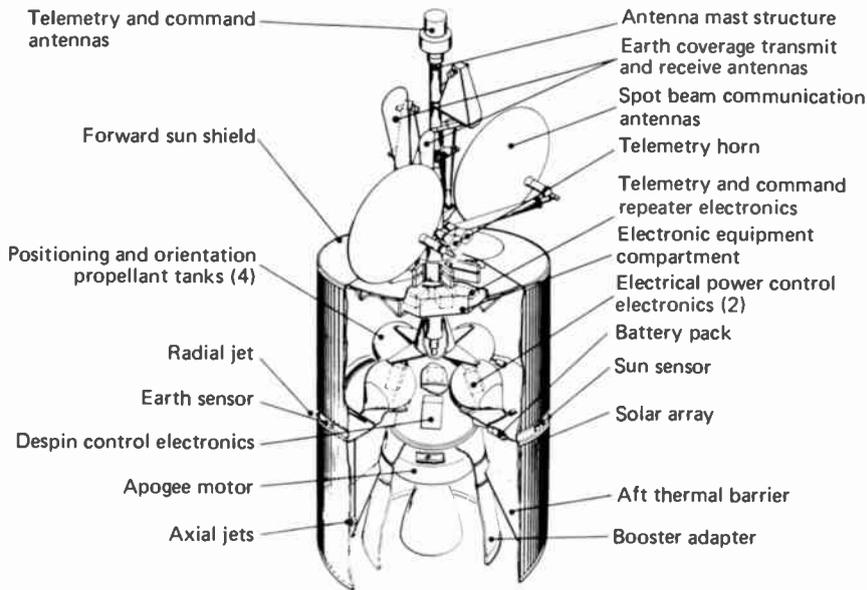


Comsat earth station with giant sending-receiving antenna 97 feet in diameter, located at Etam, West Virginia. Sites of other such U.S. stations are found in California, Guam, Hawaii, Kwajalein, Maine, Puerto Rico, and the state of Washington.

Source: Communications Satellite Corporation.

cally, every home receiver could become its own ground station. But in practice, the *augmentation* of the receiving antenna by means of a receiver adapter would be too expensive for literally every owner to afford. Instead, most direct reception facilities will probably be located at community centers, schools, and similar group-viewing locations. Local redelivery to individual homes or other centers by low-power broadcast repeater or by cable connection will also occur.

The first direct broadcast satellite was the sixth in the Applications Technol-



Drawing showing main components of an Intelsat IV satellite.

Source: Communications Satellite Corporation.

ogy Satellite series, hence called ATS-F, which was launched by the National Aeronautical and Space Administration (NASA) in 1974. ATS-F was designed to carry out 9 major educational and other specialized communication experiments. Its first educational project involved relaying programs to remote areas of the United States — Appalachia, the Rocky Mountain region, Alaska. ATS-F was later to be moved from its initial position above the equator in the Pacific to a location above the Indian Ocean to carry out an ambitious educational project in India. The satellite was to relay educational material directly to community receivers in 2,000 Indian villages and indirectly to 3,000 more via low-power local broadcast transmitters (BM/E, 1974; Nichols, 1974).

4.6 Hybrid configurations

We have discussed the basic building blocks of broadcasting: individual stations, the local means of delivering programs to audiences; syndicated recordings, an essential extender of program resources and flexibility; and distribution systems for interconnecting stations into networks, enabling a form of

syndication unique to broadcasting. These blocks assume various shapes in response to differing needs, and the blocks themselves can be rearranged into new configurations. In this section we will review some of the variants that have implications for broadcasting and for cable television.

Rebroadcasting combines both the delivery (broadcasting) and the distribution (relay) functions. It has been defined as "reception by radio of the programs of a [non-common carrier] radio station, and the simultaneous or subsequent retransmission of such programs by a broadcast station" (47 CFR §73.1207). Broadcast stations are not ideally spaced to serve as relay points in a rebroadcast network; moreover, the signal suffers more interference and distortion when sent via a broadcasting station than when sent via a relay system as such. For these reasons, rebroadcasting is used little in domestic broadcasting, except in developing countries where relay facilities may be too costly to use or even nonexistent.

Government international broadcasters, however, depend heavily on short-wave rebroadcasting. The Voice of America, for instance, broadcasts on short waves from a transmitter complex in Greenville, North Carolina. Some transmissions are beamed by directional antennas toward West Africa, where anyone with a short-wave receiver can pick up the broadcasts. In Monrovia, Liberia, VOA's so-called "relay" station picks up the Greenville broadcasts and then rebroadcasts them on various frequencies in various directions. Thus the first transmission, Greenville to Monrovia, functions as both broadcasting and relaying. The Monrovia relay station does not relay at all in the strict sense but rebroadcasts the signals broadcast by Greenville.

Translators represent a more restricted case of rebroadcasting. They are used to fill in the gaps in a television station's normal service area, often caused by terrain features, such as mountains that hide upland valleys. They consist of very small, low-power (up to 10 watts) television transmitters that operate unattended. A translator repeats the primary station's signal, but on a different frequency in order to prevent co-channel interference — hence its name. In 1973 the United States had nearly 2,800 translators in operation, most of them in western states such as Colorado, Montana, Nebraska, and New Mexico (*Television Factbook*, 1973: 250a). Some translators extend a station's service area beyond its normal limits by means of a microwave relay link to span the gap to an outlying community. In situations requiring higher power and locations more remote from the primary station, booster stations on the primary station's frequency are used, but these are rare.

Instructional Television Fixed Services (ITFS) represents a special-purpose type of short-range relay facility, authorized specifically for the purpose of transmitting educational material between buildings. Twenty-eight channels have been set aside in the shf band at 2.5 GHz for ITFS, for which 186 authorizations had been issued by 1973 (exhibit 2.9). Stanford University, for

example, operates a highly successful released-time training program for company employees who receive instruction relayed by ITFS directly to the company premises. This saves money by eliminating the man-hours that would otherwise be lost in traveling back and forth (Noll et al., 1973: 332).

Multipoint Distribution Service (MDS) is a commercial companion to this educational special-purpose relay system. MDS, using shf frequencies adjacent to the ITFS channels, radiates private television programs, data, and facsimile to roof-top antennas at "customer-selected" locations within a small radius in a city. The receiving antennas are usually on hotels and office buildings (Taylor, 8 July 1974).

Carrier current systems perform somewhat the same kind of limited distribution function, except that the signals go directly to radio receivers. Classified as *restricted radiation devices* (47 CFR §15.4c), carrier current transmitters do not require licensing but must not interfere with licensed transmitters. A carrier current transmitter feeds a weak radio signal to an existing metallic network, such as steam pipes, air ducts, or power wires in a building. These metallic objects act as a combination distribution network and antenna, radiating signals a few feet into the surroundings wherever they go. The most familiar use of carrier current radio is on college campuses. Industrial applications also exist. A novel experimental application was initiated at the Los Angeles airport, using as the radiator 2.9 miles of wire buried in the median strip of the airport roadways and approaches. Motorists approaching the airport are advised by signs to tune their car radios to the 530 kHz channel to pick up information on parking, traffic tie-ups, and the like (Halstead & Mazzola, 1970; Wright, 1972).

Subscription television (STV) requires individual subscribers to pay a fee to receive a particular program or program service. Most STV systems use closed-circuit interconnection, but an over-the-air version also uses broadcast stations to deliver the signal. Nonsubscribers are prevented from tuning in by either (1) a coding device that scrambles the picture and sound at the transmitter so that a normal set receives only unintelligible sounds and pictures or (2) a special channel whose frequency cannot be tuned in without an adapter. In each case, the subscriber needs a special terminal device (see Adler & Baer, 1974: 30).

Theater television, a version of subscription television, uses as the reception point a public gathering place, such as an auditorium, rather than a private home or hotel room. The signal is relayed by conventional means over a temporary network to public places where customers pay an entrance fee. A television image is projected onto a screen big enough to accommodate large viewing audiences. This is an occasional service, used mostly for important sports events not already committed to broadcast release. Live coverage of championship boxing, for example, has become the virtually exclusive domain of theater television.

4.7 Community antenna (cable) television

We have saved for last the hybrid system known originally as community antenna television, now usually simply as cable television, or CATV. It combines, in its various manifestations, virtually all the features of the previously mentioned systems, along with a few of its own.

CATV was originally simply a redelivery system. This general type of redelivery has been used in radio almost since the beginning. In the radio version, a community radio receiver picks up broadcast programs and sends them by wire to speakers in individual subscribing homes. Known abroad as *rediffusion* and *relay exchange*, this technique is highly developed in a number of countries, notably China, the USSR, and Switzerland (Reekie, 1972). In many cases the wire rediffusion center has its own production studios and originates local closed-circuit programs as part of its service to subscribers.

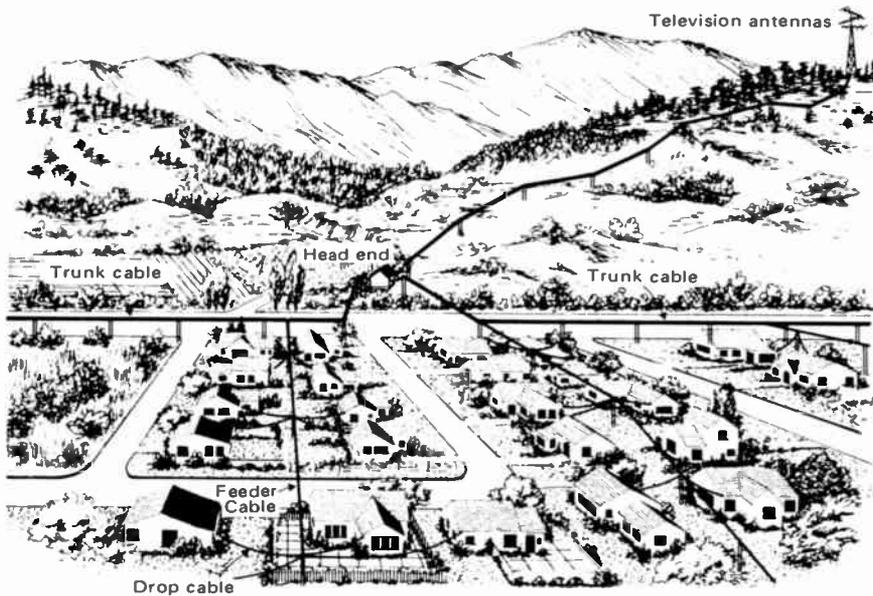
Applying the redelivery principle to U.S. television arose as a way of solving the uneven distribution of television broadcasting facilities. Because of the short range of television signals (see §3.7) and limitations on the number of stations, communities in many parts of the country receive either no direct broadcast television service or less than the full range of services. At the least, a full range would include a total of five different broadcast services: the programming of all three television networks, one public broadcasting station, and one nonaffiliated commercial station.

The “antenna” of CATV consists, in fact, of separate antennas for all the stations to be picked up, each especially cut for its station’s wavelength and each feeding a separate receiver. In addition, stations too far away to be received off the air may be picked up at remote locations and fed to the cable system headend by microwave relays. Some CATV systems in the Rocky Mountain region, for example, offer their subscribers programs relayed from California television stations.

Programs of stations received by the CATV system headend are fed to subscriber homes by means of coaxial cables (exhibit 4.5). The connecting cables are single (sometimes double) coaxial lines of the type shown in exhibit 4.2. Many separate television programs and other signals can be multiplexed and fed simultaneously over the cable. Most CATV systems offer services on 6 to 12 channels, but 15 percent have more than 12 (*Television Factbook*, 1974: 84a). The upper limit on channel numbers is fixed only by the number of different services a CATV operator wants to supply and how much he can invest in equipment and installation costs. Wherever possible, CATV cables are mounted on existing utility poles, but in large cities they have to be run through underground conduits and tunnels. Like all wire systems, the cables require repeater amplifiers, usually three or four to the mile.

A drop-off cable leads from a nearby pole or utility conduit to one or more regular television receivers in each subscriber’s home (exhibit 4.5). The cable

Exhibit 4.5
Community antenna television cabling system



Basic components of a community antenna television cabling system. Cables are shown on poles but could also be run underground.

Source: Walter S. Baer, *Cable Television: A Handbook for Decision Making*, The Rand Corporation, Santa Monica, Calif., 1973: 5.

attaches either directly to the set or through one of a variety of adapters, depending on the type and number of program channels provided by the CATV company.

The original cable television concept consisted of nothing more than the redelivery function: taking television signals off the air and sending them on to subscriber homes by wire. However, almost endless ramifications of this basic service are possible. Among them are the following: local closed-circuit programs originated by the CATV and other organizations (schools, governments, advertisers, candidates for public office, just plain citizens); radio broadcast as well as television broadcast feeds; program material from syndication sources, such as news agencies; subscription television; programs relayed from other cable systems in a cable television network. Such varied CATV materials can offer a remarkable enrichment of the output of a facility that is already in place and fully maintained — the home television receiver.

The most novel aspect of cable technology, however, reverses the traditional roles: the reception point becomes also a transmission point — or, in “cable-ese,” an interactive terminal. At its simplest, such a terminal allows the

subscriber to send back coded signals, such as replies to questionnaires or expressions of preferences among a limited number of options. Over 60 elementary response systems were in operation by 1973 (*Television Factbook*, 1974: 84a).

Of the two-way cable systems in use in 1974, a Columbus, Ohio, pay television operation has been called "the most elegant technically, and the most advanced in concept" (Taylor, 8 July 1974: 22). A cue from the headend activates a tiny data transmitter incorporated into the subscriber's channel selector unit. In a fraction of a second the transmitter sends back a message along the same cable, telling a computer at the headend that the set is on and to which channel it is tuned. The computer recognizes each subscriber by the frequency on which his transmitter operates. Thousands of subscriber sets can be interrogated in a second. The computer automatically processes billing information, even giving the subscriber a few minutes to make up his mind before charging him for a program. In addition to billing information, of course, the computer provides invaluable details on receiver use and tuning in the entire system. It can be readily adapted to subscriber-activated responses.

At a more complex level, interactive terminals behave like a telephone, which is a switching terminal linked to other switching terminals, and permit unlimited interconnection options in both directions. All this interaction places great emphasis on making available a large number of channels in any cable system. Instead of the half dozen or so now provided by most systems, future cable systems may offer half a hundred or more. This emphasis on channel capacity has led to another cable-ese term, *broad-band television*, as a candidate to replace the term *cable television*.

4.8 Cable use of emergent technology

One of the reasons cable television has excited such widespread interest is that it seems to offer a hospitable environment for the practical application of all sorts of new technological developments. By the middle of this century, communications technology began to outstrip utilization. New devices and techniques poured forth from research and development laboratories at such a rate that there was not enough time to assimilate them into functionally useful communications systems. Cable television promises to be such a technologically assimilative medium.

Another technology-related reason that cable television captures attention is its potentiality for helping to solve the problem of spectrum overload. Broadcast television ties up a very large segment of the radio frequency spectrum. Cable offers an alternative delivery system that requires no spectrum allocations except for radio relay channels. Theoretically, cable could entirely take over the local program delivery functions of present television broadcast stations, thereby eliminating the need for broadcast channel allocations. The

national program distribution functions of the present broadcast networks could be served by satellite feeds, either directly to home receivers or via cable systems.

Cable television could put to good use other spectrum-conserving devices. For example, the *waveguide* enables the use of ehf frequencies too high for conventional relay methods. It consists of a straight metal pipe filled with nitrogen. A 2-inch pipe can pass a range of frequencies capable of carrying scores of television programs at the same time.

The *laser* (an acronym for “light amplification by stimulated emission of radiation”) has even greater potentialities as a wide-band relay channel. A laser produces a concentrated beam of light at nearly a single frequency, so powerful it can punch holes in diamonds.⁸ A single laser beam could transmit all the telephone calls of the whole world simultaneously (ITU, 1965: 330).

Lasers are subject to interference in the atmosphere but can be used in the controlled environment of waveguides. A more promising laser technology, however, uses fiber optics. Bundles of extremely thin glass fibers can conduct laser light much as a wire conducts electricity. Since the fibers are flexible they can tolerate irregularities in their protective conduit and can easily go around bends in a distribution network. Here again we have the promise of a channel capacity for thousands of television signals.

Many other fields of technological development could contribute to the future of cable television. Computers could play an important role in many of its aspects. Facsimile, microphotographic techniques, satellites, sophisticated switching systems, and improved receivers are some other examples.

Of course, the extraordinary interest evoked by cable television arises not only from its capacity to assimilate new technology and to conserve spectrum space. It stems also from cable’s economic and social potentialities. Together these four factors make up a powerful team. We shall return to this theme in chapter 11, when we consider economic and social factors. First, however, it will be useful to gain perspective by tracing the evolution of broadcasting itself. It should not be overlooked that had it not been for the appeal of broadcasting as such, mass purchasing of receiving sets would not have taken place. And the most fundamental economic premise of cable television is that almost the entire population will have been motivated by conventional broadcasting to purchase receiving sets before subscribing to cable services.

⁸ A laser’s beam is only a few wavelengths in diameter (and light wavelengths are expressed in billionths of a meter). This concentration of the energy produces almost unbelievable power “gain” (§3.8). It has been calculated that if the light from an ordinary 75-watt electric bulb could be so concentrated that all its energy output had to pass through an aperture equal to the diameter of one wavelength of ultraviolet light, the power flow at that point would be equivalent to 300 billion watts, or more than the combined output of all the power stations in the United States (Kock, 1969: 34).

PART TWO

**Origin and Growth
of Broadcasting**

Preconditions: The Stage Is Set

5.1 Meaning of “mass”

In this context, we may take the term *mass communication* to imply at least five things: (1) relatively large audiences, (2) fairly undifferentiated audience composition, (3) some form of message reproduction, (4) rapid distribution and delivery, and (5) low unit cost to the consumer. As a working definition, we might say that mass communication is approximately simultaneous delivery of identical messages by high-speed reproduction and distribution to relatively large and undifferentiated numbers of people.

In former ages, some publications — for example, the Bible or the works of Aristotle — certainly reached very large numbers of people in the course of time, but the elements of approximate simultaneity, low unit cost, and mass audience were lacking. A mass audience is not merely a large audience. It is a heterogeneous audience whose members need have little in common beyond receiving identical messages at about the same time. Broadcasting carried this characteristic to its extreme. Members of the audience do not have to assemble in one place or otherwise qualify in some special way (such as being literate) to participate as members, which makes for the ultimate in heterogeneity and gives broadcasting a unique dimension among the media.

Before the development of cheap paper, high-speed printing, rapid distribution methods, and mass marketing, a book had great intrinsic value. Books cost too much either to be wasted on inconsequential matters or to come within the economic reach of most people. The same could once be said of newspapers: they dealt with serious matters for serious people. Of course, a potential market has always existed for popular, ephemeral writings — cheap, single-sheet broadsides appeared almost as soon as printing. But before the era of mass communication, economic and social constraints always kept production of such material at an insignificantly low level (Lowenthal, 1964).

Because mass media output must be great and unit cost low, public communications no longer need be concerned primarily with serious matters. The

mass media produce vast quantities of trivial material. Indeed, the mass media in a sense demand a self-destructing product, like disposable tissue. If people studied and pondered each message, the system would very soon become hopelessly clogged. The motion picture exhibitor tries to get his customer to leave the theater after seeing the show just once so that he can usher another paying customer into the still-warm seat; the newspaper publisher hopes that yesterday's paper will line today's garbage pail so that the reader will be ready to buy tomorrow's paper. Nothing could be more fatal to the success of the mass media than for audiences to pause and savor every message as if it were a work of art.

Conditions that made mass communication possible included not only a highly developed technology for the inexpensive reproduction and distribution of messages but also an urbanized, relatively literate population with buying power, leisure, and something of a "consumership" orientation.

The Industrial Revolution brought about these changes that are so essential to the flourishing of mass communication. The groundwork was laid in the nineteenth century, but the mass media are essentially twentieth-century phenomena. The telegraph and telephone, forerunners of radio, developed in the last half of the nineteenth century; so did the mass-circulation daily newspaper, the first of the mass media; the motion picture industry is based on inventions first put to commercial use in the 1890s. Broadcasting did not arrive on the social scene until the third decade of the twentieth century. Its success was almost instantaneous, and each successive innovation won adoption more rapidly than the last.

5.2 Mass appeal newspapers

The metropolitan daily newspaper furnished the pattern of the archetypical mass medium: a high degree of syndicated content material; mechanized production and distribution; efficient delivery; high production costs offset by increased market penetration through consolidated competing enterprises; a regional or national outlook rather than a localized, parochial outlook.

Newspaper publishing in the United States goes back to the early eighteenth century, and until the Industrial Revolution, papers remained small, low-investment enterprises. Though numerous, each depended on a small subscription list (street and newsstand sales were unknown), and each addressed a small, homogeneous readership representing a political faction or other special interest. The shift from an agrarian to an industrial economy created a new, urbanized readership potentiality. In response, a novel concept began to emerge in the 1830s — the "penny press," aimed at the low-income, urbanized masses.

In the course of the next fifty years, this concept evolved into a whole new approach to newspaper publishing. Instead of confining themselves to serious

news of interest to the mercantile and political elite, papers sought to interest — and to serve — ordinary people, the “masses.” Papers increased local news coverage, developed the human interest story, exploited sensationalism. Journalistic style changed from stodgy, would-be literary longwindedness to a more colloquial and readable standard. Content became more informative and entertaining, less argumentative and didactic. It included material of interest to the whole family.

Along with these changing concepts of content and form came the means of faster, more economical quantity production — cheap paper, typesetting machines, photographic engraving processes, high-speed presses. The third strand in this process, the development of new telecommunications media, eventually made possible instantaneous coverage of news on a worldwide scale.

5.3 Wire communication

Telegraphy, the first communication device to utilize electrical energy, is a point-to-point system, adapted to the needs of private communication. The theoretical and experimental background of this use of electrical energy can be traced to the ancient Greeks, but the practical applications began in the 1830s. The persistence of Samuel F. B. Morse led to the first successful telegraph line in the United States; it was installed at government expense in 1844 and connected Washington and Baltimore.

Morse’s idea was so simple it may seem surprising that it took him more than a dozen years to develop and install that first short link. We must bear in mind, however, that every aspect of the installation required innovation. Since electrical theory itself was in a primitive state at the time, most decisions had to be made on the basis of trial and error; many wrong guesses were made before each workable expedient evolved.

The awe with which his contemporaries regarded his achievement is reflected in the first official message Morse sent: “What hath God wrought!” President John F. Kennedy echoed this phrase in 1962, when he made the first transatlantic telephone call relayed by satellite, to a Nigerian official in Lagos, on the west coast of Africa.

The first regular messages sent over Morse’s Washington-Baltimore telegraph link were news reports of political events. It is more than a coincidence that about eighty years later the first broadcast by the first regularly licensed U.S. commercial radio broadcasting station was also news reports of a political event.

The telegraph is based on the elementary fact that wires conduct electrical energy. How to generate electricity in small amounts was already known, so Morse’s basic problem was to make the energy convey information — to modulate and demodulate it. The method of modulation he used con-

sisted of merely turning the current on and off. In other words, the telegraph is fundamentally capable of sending two signals: “current on” and “current off.” Variations in timing (how long the current remains either on or off) give the simple on-off form of modulation unlimited potentialities for encoding information. The problem of telegraphic modulation resolves itself into inventing a binary code based on signals of varying length in the “current on” and “current off” modes, together with devising a means of receiving these signals.

An early reception method, used by nineteenth-century British railways, relied on observing the deflections of a sensitive pointer or needle that responded to electric impulses. Morse substituted a pen for the pointer. The pen inscribed its deflections on a moving roll of paper, thus making a permanent record of the telegraphic signals, a vital improvement over the British system. To this day, telegraphy is known as record communication.

Morse devised a sending code, ever since known as Morse code, using combinations of long and short pulses of electrical energy — “dots” and “dashes.” Using the typesetter’s box to discover which letters occur most frequently in English, he found the letter e needed the biggest compartment; he thus assigned to it the simplest code symbol — a single dot. Less frequently used letters have more complex groups of dots and dashes. For example, *q* is dash-dash-dot-dash.

Once methods of land interconnection by wire had been developed, the next challenge was to develop the technology for the much more rigorous conditions of submarine interconnection. After overcoming tremendous difficulties and disappointments, Cyrus W. Field succeeded in laying a cable on the bottom of the Atlantic, thereby connecting the United States and Europe. Regular transatlantic cable communication began in 1868.¹ Soon all the major centers of the world could exchange intelligence in minutes instead of weeks and months. The first breach had been made in the walls of international isolation, with profound effects on politics, diplomacy, and trade. The global telegraph network enabled centralization of decision making in the world’s capitals. Previously, the process had to be diffused because events often overtook the slow exchange of messages by ship. People on the spot had to act on their own initiative. The submarine cable has been aptly called “the grand Victorian technology” (Finn, 1973).

After telegraphy had solved the practical problems of building wire networks for communication, the following step was to eliminate the encoding and decoding of written messages by transmitting speech itself. Sound, however, requires a much more complex modulation of electrical energy than the simple

¹ A cable laid ten years earlier had failed after a few months. An important factor in Field’s success was the *Great Eastern*, an extraordinary iron vessel that had been a white elephant until the need arose for laying cable at sea (Dugan, 1953).

on-off switch of the telegraph. It also requires a channel with a broader frequency band — telephone wires must have about 40 times the minimum information capacity of telegraph wires. Working independently, Elisha Gray and Alexander Graham Bell — both in the United States — simultaneously solved the problem. Bell applied for preliminary patents on the telephone in 1876, only a few hours before Gray, and opened a public telephone service in Boston in 1877. Again prophetically, the first public telephone call was a news story relayed to the *Boston Globe*.

5.4 News syndication

Even before the days of the telegraph, newspapers had begun to adopt the practice of syndication. In the 1840s, for example, a group of New York newspapers formed the Harbor News Association to share the cost of operating fast boats to meet incoming ships off shore. They picked up the latest news from abroad and rushed it to the papers in the association. This precedent made it logical for newspapers to cooperate in sharing the cost of telegraph services when they became available. In the early days of telegraphy, news interests even organized and operated their own telegraph companies. The word “telegraph” in the names of newspapers still survives as testimony of the vital role the new telecommunications medium played.

Out of these early cooperative newspaper efforts grew the idea of independent specialized news gathering and distributing organizations designed to capitalize on the unique capabilities of the telegraph. By the third quarter of the nineteenth century, an international cartel of such news agencies, or syndicates, had been formed. Agence Havas (France), Reuters News Agency (Great Britain), and Wolff’s Telegraphic Bureau (Germany) divided the world into exclusive territories. This arrangement lasted until 1934. Only then were American press agencies able to expand into worldwide services. Of these there are now two — the Associated Press, an agency cooperatively owned by the media, and United Press International. In addition to the international agencies, many domestic organizations provide a variety of specialized syndicated news services.

News agencies, though still referred to as wire services, have long used radio interconnection more than wire in their communication networks. With bureaus in all major capitals and news centers of the world and with local reporters, called “stringers,” filling in at secondary locations, the modern international news agency has global reach and almost instantaneous coverage. News materials, both verbal and pictorial, are especially processed and packaged for broadcasting. Many kinds of specialized services are available, including moving news tape for automated cable television originations, news photos, television slides and newsfilm, and voiced material for radio.

5.5 Patents

Another precondition for the emergence of modern mass communication was the development of manufacturing and service industries to capitalize on the promise of the new communications devices. When Morse introduced telegraphy in the United States, its commercial possibilities were only dimly perceived. His own idea was that it would be useful mainly for government communications, but the legislators themselves regarded it more as a scientific curiosity than as a revolutionary means of speeding up the world's business. However, by the time the telephone was invented, the commercial importance of the telegraph had been established. Wire communication had become an important industry, with international ramifications. In this arena, patents and their exploitation played a critical role.

Article I, Section 8, of the U.S. Constitution provides that "Congress shall have the power . . . to promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries." This provision lays the Constitutional foundation for laws of copyrights and patents. Copyrights are the source of a major economic burden to the broadcasting industry, and patents have been the pivotal factors in the strategy of industrial control.

A patent gives an inventor an exclusive property right in his invention for a period of seventeen years. During that time he has a legal monopoly. He can manufacture and sell the product himself, or can sell or lease the patent rights to others. The early purpose of the patent was to give economic incentives to native genius at a time when the country depended wholly on Europe for scientific knowledge. It should be noted, however, that the Constitution emphasizes not the private gain of inventors so much as the public interest in encouraging invention. In creating private patent rights the founding fathers could hardly have foreseen that after the Industrial Revolution, patents would become the cornerstones of great industrial monopolies that benefited neither the inventor nor the public.

The qualities that make for both inventive genius and business genius are rarely found in one person. An invention is almost never a marketable product at its birth. Time, money, and business ingenuity must be liberally expended to develop the product, set up manufacturing facilities, create a market, arrange for distribution, and defend the patent in the courts. The conversion of the raw invention into a marketable product has been called the work of the innovator, as distinguished from the work of the inventor:

The making of the invention and the carrying out of the corresponding innovation are, economically and sociologically, two entirely different things. They may, and often have been, performed by the same person; but this is merely a chance coincidence which does not affect the validity of the distinction. Personal aptitudes — primarily intellectual in the case of the inventor, primarily volitional in the case

of the businessman who turns the invention into an innovation — and the methods by which the one and the other work, belong to different spheres. (Schumpeter, 1939: I, 85)

Business history is strewn with the wrecks of companies launched by optimistic inventors. In most cases, they have ended either by losing control of their own companies and their own patents or by selling their rights for a flat fee. Lee de Forest, probably the most important American inventor in the radio field, is the classic example (see §6.4).

Inventions in the radio field tend to be difficult to establish as unique, for any invention that depends on another patented device for operation is automatically blocked by the prior patent. As a result, the whole history of radio has been marked by constant patent litigation, one of the most complicated of legal proceedings. It costs over \$100,000 to take a patent suit all the way up to the Supreme Court. Edison is said to have spent more on litigation than he made in royalties. In the highly developed technological fields it often takes millions of dollars and years of research to bring a product to the point of marketability. The diesel engine took over thirty years to develop; nylon took thirteen years and a \$27-million investment by one company. Before television was ready for commercial exploitation, \$30 million had been spent in developmental work (Kottke, 1944: 158). Television, however, was not “invented.” Scores of individuals made important contributions, but television as a mass medium resulted from teamwork in the assimilation of inventions.

5.6 American Telephone and Telegraph Company

Patenting became inextricably involved with big-business strategy in the latter half of the nineteenth century. Alexander Graham Bell’s two basic patents on the telephone, taken out in 1876 and 1877, became the seeds of the world’s greatest business enterprise, the American Telephone and Telegraph Company.²

Bell organized his original firm, the American Bell Telephone Company, in Massachusetts in 1877, the year in which he secured the second of his two basic patents. The inventor and his friends could not raise enough capital to develop the company, and control over the patents soon passed to others. Bell’s name has been associated with the company ever since, but it ceased to be his company almost as soon as it was founded.

The company went through a number of changes in organization and name as it expanded and brought in new investors, but it has had a continuous corporate history down to the present day. It now consists of a parent holding company and over a score of subsidiary companies that constitute the “Bell

² The first Bell patent, No. 174,465, issued March 7, 1876, may well be the most profitable single patent ever recorded. Litigation concerning it led to *The Telephone Cases*, 126 US 1 (1888).

System” and provide most of the local and all of the long-distance telephone service in the United States. The parent company is often referred to simply as the Telephone Company or as the American Company. Its subsidiaries include Western Electric (a manufacturing company) and regional Bell System companies stretching from coast to coast.

During its first seventeen years, while its patent monopoly lasted, the Telephone Company’s strategy centered on keeping its patent position impregnable and on vigorously suppressing infringements. During this period, the Bell Company brought six hundred suits against competing firms for patent infringements. Rather than spread to ungainly proportions by seeking to supply service throughout the country, it adopted a policy of franchising independent regional operators to supply telephone service. The franchised companies received the exclusive and permanent right to use the Bell patents and in turn gave the Bell company substantial stock holdings. By the time the patent monopoly period came to an end, the company had seen to it that it held controlling interests in these franchised companies. Expiration of the patents in 1893–1894 brought an upsurge of competition, but in the long run the Bell company held a trump card: the long lines for connecting one area with another. Supremacy in this field was assured in 1914 by acquisition of patent rights to the *audion* (see §6.4), which made coast-to-coast long-distance service possible.

Even after the original Bell patents expired, the company continued a policy of not selling telephone equipment outright. In 1881 it had purchased Western Electric as its manufacturing subsidiary, thus making it possible to keep the whole process of manufacture, installation, and service within the Bell family.³

Patents continued to play a major role in the strategy of the AT&T business empire in the radio era. They enabled the Telephone Company to dominate the infant broadcasting industry, and although the Company ultimately withdrew from operating broadcast stations, it still participates in the broadcast industry through its monopoly of the long-distance facilities for network interconnection (see §§7.7–7.9).

Not until the 1960s was AT&T’s position in the long-distance relay field threatened. Computer traffic and cable television relays created new markets for microwave links that the FCC chose to open up to competition. Satellites, though not at first allowed to operate domestically in competition with existing terrestrial relay facilities, will eventually be used routinely for domestic interconnection. Of course, AT&T protected its interests by investing heavily in satellite projects, but it seemed clear that the Telephone Company would be facing more and more competition as the new technologies of communication evolved (Taylor, 1973).

³ This remains the case, though in 1974 the government filed an antitrust suit that proposed, among other things, to force AT&T to divest itself of Western Electric. See also §7.9.

5.7 General Electric and Westinghouse

Two other large companies that had built industrial empires on nineteenth-century patents also play key roles in the development of radio: General Electric and Westinghouse. The foundation of the General Electric Company goes back to Edison's patent on the incandescent electric light. The present company was born of a merger between the Edison Electric Light Company and another manufacturing concern in 1892.

The Westinghouse Manufacturing Company was founded by George Westinghouse, best known for the Westinghouse Air Brake and other improvements in railroad equipment. GE and Westinghouse became embroiled in patent litigation and in rivalry over the exploitation of competing electric power systems. Westinghouse installed the first alternating-current (AC) power system in 1886 and for ten years fought to establish it as the standard, instead of the earlier direct-current (DC) system advocated by GE. The contest ended in 1896, when the two companies pooled their patents for their mutual benefit and agreed to standardize on the alternating-current system we know today.

By the turn of the century, with electric power increasing in importance and with the demand for equipment high, both GE and Westinghouse had grown into very powerful concerns. With AT&T (including Western Electric), they formed an invincible triumvirate in the field of communications and electrical manufacturing when radio came upon the scene. The existence of these powerful companies when the new medium arrived contrasts significantly with the situation at the inception of the telegraph. At that time there had been no powerful antecedent vested interests.

These, then, can be considered some of the "preconditions" for the emergence of broadcasting as mass communication — the social, economic, industrial, and technological environment that made this new social phenomenon possible. The telegraph, first of the electrical telecommunications devices, came into a world unprepared to understand its implications and its potentialities. A half century later, wireless came into a very different world, one ready to put it to work immediately.

The most eminent men of the time were conscious of the problem, were interested in it, had sought for years the exactly right arrangement, always approaching more nearly but never quite reaching the stage of practical success. The invention was, so to speak, hovering in the general climate of science, momentarily awaiting birth. But just the right releasing touch had not been found. Marconi added it. (Justice Wiley Rutledge, 320 US 65, 1942)

6.1 The “right releasing touch”

Marconi’s 1896 application for a British patent opened the wireless era.¹ Although other inventors may have antedated Marconi, their isolated experiments and demonstrations gained only passing attention as curiosities.² Marconi’s invention was the basis for immediate application of wireless to solve practical communications problems, moving directly from the stage of invention to the stage of innovation:

There can be no doubt that . . . Marconi invented a system of highly successful wireless telegraphy, and that he personally inspired and supervised its application until it spanned the world. This must be considered as ample justification for his award, in the year 1909, of the Nobel Prize for Physics. (ITU, 1965: 125)

If Marconi fathered wireless in the practical and industrial sense, James Clerk-Maxwell fathered it in the theoretical and scientific sense. In 1873 Clerk-Maxwell, the greatest theoretical physicist of the nineteenth century, published *A Treatise on Electricity and Magnetism*, in which he put forward the theory of electromagnetic energy, supported by mathematical proofs and

¹ The terms *wireless* and *radio* are used interchangeably. As a term, *radio* is said to have come into use in the United States Navy about 1912, since the concept “wireless” then embraced certain nonradio methods of transmission. Sound broadcasting is an application of radio (or wireless) telephony. For a discussion of the origin of the term *radio*, see Archer, 1938: 88.

² For example, Dr. Mahlon Loomis of Virginia has been put forward as having succeeded as a wireless inventor as early as 1866. Other claimants are mentioned in Barnouw, 1966: 180.

based on observation of light. Experimental proofs that radio waves existed and had the same properties as light waves came in the 1880s, as a result of research by Heinrich Hertz. He published a paper in 1888, “Electro-magnetic Waves and their Reflection,” in which he reported laboratory demonstrations that fully confirmed Clerk-Maxwell’s concepts.

Clerk-Maxwell used theory to generate predictions about the way hypothetical radio waves should behave, basing his predictions on the known behavior of light. Hertz devised experiments that bore out Clerk-Maxwell’s predictions. To do this, he had, in effect, to invent radio. He had to generate radio energy, transmit it, detect it, and measure it. In recognition of the importance of his contribution, other scientists at first called radio waves “Hertzian waves”; “hertz” (abbreviated as Hz) has since been internationally adopted as a short way of expressing the frequency unit *cycles per second*.

Hertz sought to verify a scientific theory, not invent a method of communication. He never followed up the practical implications of his research. Indeed, when asked if his Hertzian waves might not be used for communication, he produced theoretical reasons to show they could not (Maclaurin, 1949: 15).

6.2 Marconi

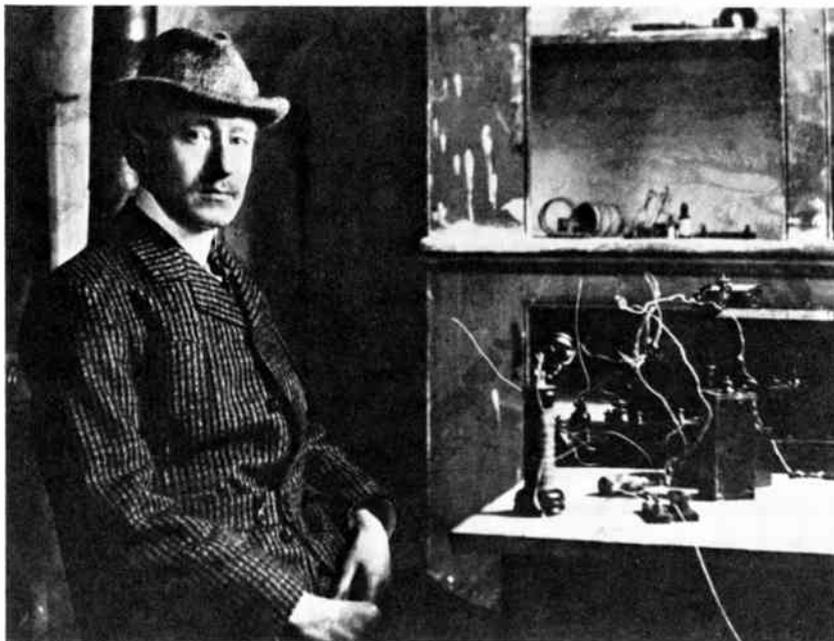
It remained for Guglielmo Marconi — more an inventor than a scientist — to defy theory. Stimulated by Hertz’s paper, Marconi as a young man of twenty-one experimented with similar apparatus, first indoors and then on the grounds of his father’s estate in Italy. Fortunately, Marconi had the leisure for experimentation and the money for equipment. Equally important, he had access to high official and business circles.

As soon as Marconi had convinced himself that wireless was more than a laboratory toy, he turned to the Italian government, but on being rebuffed he took his equipment to England. His mother was British and was able to arrange for him to meet the people who could help him. British postal and military authorities took an immediate interest. Marconi applied for a patent in England in 1896 and the following year formed a company to exploit his invention, Marconi Wireless Telegraph and Signal Company. His objective was nothing less than to create a world monopoly in wireless communication.

Once Marconi had made the giant step from the laboratory to practical application, he progressed rapidly. By 1899 he had sent messages across the English channel; in 1901, he succeeded in sending a signal across the Atlantic; the next year, actual transatlantic intelligence was exchanged (exhibit 6.1).

Meanwhile, his example stimulated many others already working in the field to develop rival systems, and the rush to the patent offices began. The key to ultimate success was the ability to secure a set of patents covering a complete wireless communication system, so that a company could be set up without having to pay license fees to a rival. With each passing year, as the technology

Exhibit 6.1
Guglielmo Marconi (1874–1937)



Marconi sits in the Newfoundland station where he received the first transatlantic radio signal in 1901.

Source: RCA Corporation.

of wireless improved and grew more complicated, this objective became more difficult to attain. Before long, literally thousands of patents were involved, making the patent structure so complex that no one was safe from infringement suits.

The growing complications of the patent situation made it inevitable that control of the new industry would gravitate toward the great corporations, which had the resources to build up patent strength, withstand the costly, long-drawn-out court battles, and undertake the developmental work that patents always need. Eventually, as we shall see, a stalemate resulted: the largest companies bought up patent rights as fast as they could, but none could carve out a self-contained system that would not at some points conflict with rival systems.

Of all the pioneer inventors engaged in the struggle for self-sufficiency, Marconi alone succeeded. The others succumbed to patent suits, business setbacks, and bankruptcies. The promise of eventual returns was great, but

immediate returns were small. American Marconi, the United States branch founded by British Marconi in 1899, lost money the first six years, and it was a decade before the company realized any substantial profits. The turning point came in 1913 with the acquisition of the assets of the rival de Forest company, United Wireless, which had gone bankrupt after the Marconi company won a patent infringement suit against Lee de Forest. This gave American Marconi 400 ship stations, 17 land stations, and a virtual monopoly on commercial wireless in America.

The Marconi company aggressively pursued its objective of a world monopoly, using every stratagem to freeze out competition. An international convention on wireless held in Berlin in 1903 failed because of the uncooperative attitude of the Marconi company (IRE/RTMA, 1952: 6). The United States Navy adopted German wireless equipment because the British company insisted on such restrictive terms. The navy continued its opposition to the Marconi company through World War I and finally helped to close the U.S. market to Marconi altogether.

6.3 Early wireless telegraphy services

During the first two decades of wireless, its commercial value consisted primarily in supplying communication services. Some money could be made selling equipment to navies and to amateurs, but these were limited markets. Nothing existed like the tremendous mass market for millions of receivers later created by broadcasting. The initial promise of riches lay mainly in the potentialities of worldwide communication networks in competition with the telegraph and the telephone.

The first radio service to develop was the maritime mobile service, which involved shipborne stations and coastal land stations. Here, wireless telegraphy was unique. The relative efficiency of over-water propagation made this service feasible even with the crude equipment available in the early days of the art.

Long-distance transoceanic communication, however, had greater commercial promise. Its great enemy was static; for two decades the major goal of inventors was to devise a high-power generator capable of overriding the heavy static interference characteristic of the low frequencies then used for long-distance propagation. In 1908 the Marconi company began offering a transatlantic service from Nova Scotia to Ireland, but the outbreak of World War I in 1914 interrupted further commercial development of long-distance radiotelegraphy.

A third service, overland wireless, competed with the telegraph and the telephone but was not extensively developed before 1920. The U.S. Navy considered it of no consequence in planning post-World War I development of radio communication (House CMMF, 1919).

A fourth service, the amateur service, developed during the first two decades of wireless. Amateurs (“hams”) had special importance during these pioneer days. They developed techniques for exploiting the high frequencies to which they were relegated so that they would not interfere with maritime traffic. Their ranks included leading engineers and inventors who could be called amateur only because they did not operate their stations for profit.

The Radio Act of 1912 made no explicit provision for the amateurs as a recognized service even though there were at that time 1,224 amateur stations, and only 405 ship stations and 123 land stations. All subsequent legislation took cognizance of their rights, however, and the amateur class has continued to this day as one of the largest classes of stations (see exhibit 2.8).

Of all the early radio services, the maritime service had the most dramatic impact because of its unique value in times of emergency. As early as 1898 wireless had been used in a maritime disaster. In 1909, the S.S. *Republic* foundered off New York, and all passengers were saved by wireless-alerted rescue ships. A number of other maritime emergencies in these early years pointed up the capabilities of wireless communication.³

The culminating event came in 1912, when the “unsinkable” luxury liner *Titanic* struck an iceberg on her maiden voyage to the United States. The ship sank, and the loss of some fifteen hundred lives — among them some of the most famous names in the worlds of art, science, finance, and diplomacy — made the *Titanic* disaster the most dramatic tragedy of its kind in history. And the fact that for days radiotelegraphy maintained the world’s only thread of contact with the survivors brought the new medium to public attention as nothing else had done. Subsequently, when inquiries revealed that a more rational use of wireless resources could have prevented the accident or at least materially decreased the loss of life, the *Titanic* disaster had an important influence on the adoption of laws governing the use of wireless in maritime commerce.⁴

Naturally, the naval powers of the world took an early interest in military applications of wireless. Theretofore, pigeons had provided the only means of communication with ships beyond the range of sight. Both the British and American navies began experimenting with ship installations as early as 1899, and Germany followed the next year. The first naval use of radio in actual war occurred in the Russo-Japanese War in 1904–1905. The U.S. Navy became an important customer for the wireless equipment of American inventors.

It will be recalled that the optimum length of a transmitting antenna is related to the length of the waves the antenna is designed to radiate (§2.6).

³ A list appears in House CMMF, 1917: 417–430. Until 1909 instances were sporadic. For that year, however, 21 cases are listed, and for each succeeding year the list grows longer.

⁴ At the time, the Marconi company rather than the shipping lines employed the shipboard radio operators. The *Titanic* chief operator died at his post, but we know his story because the assistant operator survived (Marcus, 1969).

During the pre-World War I period, only a small range of waves in the lf and mf bands could be used. Transatlantic communication used lf waves, which are best for long-distance propagation but so long that they require giant antenna arrays.

For ships' stations, however, shorter waves had to be used because the ships themselves imposed a limit on antenna length. For this reason the international distress frequency was set at 500 kHz. Quarter-waves of that frequency have a length of about 246 feet. Thus, the earliest allocations of spectrum space came about more by chance than by design. Subsequently, when broadcasting began, the only frequencies available were those above the range already used by the maritime service. Ideally, broadcasting could have used the 300–550 kHz band, which would have made for greater coverage areas, but the 500 kHz distress frequency had to be protected from interference (IRE/RTMA, 1952: 10).

It may be necessary at this point to remind ourselves that the four services we have been discussing in this chapter — maritime mobile, transoceanic, overland, and amateur — were radiotelegraphic services. Nowadays, we think of “radio” as intelligible sound, but we must remember that like the telegraph, radio began as language encoded as dots and dashes of raw energy. Wireless telephony, as a commercially usable medium, had to await the development of the audion.

6.4 Invention of the audion

The audion and its numerous analogues eventually broke all the major barriers to fuller exploitation of Marconi's invention. The audion unlocked the realm of electronics. With it, man can command “electricity itself, not just its manifestations” (de Forest, 1950: 2). Hence its importance extends far beyond its role in radio communication. It made possible all the thousands of devices that depend on electron manipulation — from guided missiles to automatic garage doors, from computers to machines that reject faulty units coming off a production line.

As for radio, the vacuum tube performed each of the basic operations: generating, modulating, amplifying, and detecting radio energy. The television camera and receiving tubes are examples of specialized applications. By opening the field of electronics, vacuum tubes made possible a new industrial revolution. They freed technology from dependence on mechanical moving parts, allowing operations of a complexity, delicacy, and precision undreamed of before.

The transistor, announced by Bell Laboratories in 1948, represented another decisive step forward in the electronic age. Whereas the audion deals with electrons in a vacuum, the transistor deals with electrons in a solid. It does the things vacuum tubes do but is much smaller, takes much less power, creates less heat, has a longer life, and is more rugged. With the transistor came the

miniaturization of electronic equipment so essential in computer and space technology. It had a profound effect on radio broadcasting because it made the receiver truly portable. The very word transistor has gained international currency as the synonym for "portable radio receiver."

By 1958 still another development, integrated circuits, allow designers to fully capitalize on the transistor's unique advantages. An integrated circuit packs dozens, even scores, of subminiature electronic components into a crystalline chip no larger than the head of a pin. More recently, scientists have begun to talk of sub-subminiaturization by using molecules themselves as transistors.

An associate of de Forest made up the word *audion*, but that term eventually dropped out of use and we now speak of de Forest's great invention as the electronic (or vacuum, or thermionic) tube or, in British usage, valve. The paternity of the audion, like that of radio itself, is complex, but history recognizes the claim of Lee de Forest, much as it recognizes the radio patent claim of Guglielmo Marconi.

In 1883, while studying the problem of the tendency of his early electric lamps to blacken with use, Edison discovered that current could be transferred through the space between the glowing hot filament and a metal plate sealed inside the lamp. He patented a device for measuring this current, and that for the moment ended the matter.⁵

Two decades later, Ambrose Fleming, a member of Marconi's research staff, studied the "Edison effect" and in 1904 patented a radio detector based on it. The Fleming detector took advantage of the discovery that a two-element tube (diode) can convert energy at radio frequencies into electrical currents. But the device was not a practical success, and when the more reliable crystal detector became available in 1906, the Fleming valve went out of use.

De Forest approached the work on thermionic tubes by another route. He had received a Ph.D. from Yale in 1899 and worked first as an engineer with Western Electric. However, he found routine engineering research dull and soon began devoting full time to his own inventive bent. In 1903 he began experimenting with a radio detector, using an open gas flame. Since a flame has inherent practical disadvantages, he turned to the analogous idea of gas heated within an enclosed space by a glowing filament. He had such a device fabricated by a commercial electric lamp maker in 1905.

The next and crucially important step was the addition of a third element in the tube, making it a triode, the first tube to be called an *audion*. The new element was a grid interposed between the filament and the plate. The heated filament throws off clouds of electrons that, being negatively charged, are attracted to the positively charged plate. But in order to get to the plate, the

⁵ Curiously, this minor patent of Edison's is considered the only original scientific discovery of that prolific inventor (see Lessing, 1956: 64).

electrons have to pass through the grid. A small current applied to the grid can control with great precision the flow of electrons from filament to plate. Very weak currents can thus be used to modulate very powerful currents. De Forest first used the triode in 1906 and filed a patent in January 1907.

6.5 Dawn of the electronic age

De Forest started with the notion that the heated gas within the tube was the important feature of the device. Had he realized, as subsequently became clear, that the gas trapped in the tube is a hindrance rather than a help, the ensuing confusion about patents might have been less involved. The electron tube did not become really efficient until it could be made a near-perfect vacuum. This involved more than merely exhausting the air trapped in the tube, for the glass envelope and the metal parts within the tube give off minute quantities of gas under the influence of heat even after the tube has been evacuated and sealed. Irving Langmuir, a General Electric scientist, recognized the theoretical basis of the electron tube's operation and secured the high degree of vacuum needed. General Electric, as the major manufacturer of electric lamps, had a natural interest in this new development.

Harold D. Arnold of AT&T made other improvements. The Telephone Company needed an efficient amplifier for long-distance telephone circuits. Until the development of the audion, coast-to-coast telephone service was impossible because of the attenuation that occurs in long-distance wire circuits. In 1913 AT&T bought the telephone rights to seven basic audion patents from de Forest for \$50,000.⁶ By 1915 AT&T had opened the first coast-to-coast telephone circuits, using vacuum-tube reamplifiers, or repeaters. In 1914 the company also began to take a belated interest in the possibilities of radiotelephony and paid de Forest \$90,000 for the radio rights to his audion patents, the inventor retaining only manufacturing rights to sell equipment to amateurs and experimenters.⁷

The patent problems surrounding the development of the audion involved not only the tube itself but also the electrical circuits using the tube. One of the latter — the regenerative, or feedback, circuit — was the subject of “the most controversial litigation in radio history” (Maclaurin, 1949: 78). This circuit feeds part of the received signal back on itself to build up the signal strength,

⁶ De Forest made this sale at a low point in the violent fluctuations of his financial career. Obviously, rights of such vital importance to the Telephone Company were worth more than a mere \$50,000. De Forest claims that AT&T was willing to pay as much as \$500,000 but that the company's agent hoodwinked him into thinking he was selling the rights to a much less significant customer (de Forest, 1950: 309–310).

⁷ These radio rights were effectively paralyzed by a 1916 court decision (*Marconi Wireless Telegraph Co. of America v. de Forest Radio Telephone & Telegraph Co.*, 236 F. 942) that left both litigants stalemated. The situation was not resolved until after World War I, when the assets of American Marconi passed to Radio Corporation of America.

thus tremendously increasing the sensitivity of radio receivers. In fact, it has been called “as historic as the first Bell telephone patent and as clearly decisive in the development of the modern world” (Lessing, 1956: 78).

Four companies claimed to hold the controlling patent on this improvement: AT&T, with the de Forest patent; General Electric, with the Langmuir patent; American Marconi with a patent granted to Edwin Armstrong; and the Telefunken Company, with the German Meissner patent. This four-way battle moved in and out of the courts for twenty years. In 1934, after millions of dollars had been spent in legal fees, the Supreme Court finally decided in favor of de Forest.⁸ Even the final court decision did not completely clear the atmosphere. Armstrong seems to have understood the principle underlying the feedback circuit better than de Forest, who arrived at the invention by largely empirical methods (Maclaurin, 1949: 78).

6.6 Radiotelephony

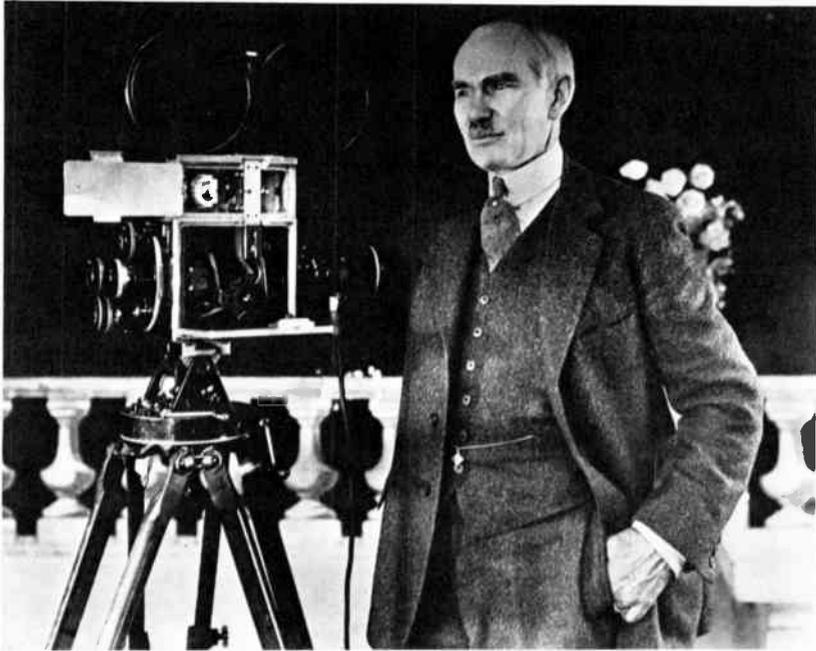
By the time of the 1934 decision, however, de Forest had long since sold his radio patents and moved on to other fields. His feedback circuit and other radio patents had gone to the Telephone Company in 1917 for \$250,000. By this time, the great manufacturing and communications companies were actively engaging in radio research, after years of what de Forest considered “amazing indifference” and also after his own pioneering interest had flagged (de Forest, 1950: 359).

De Forest now entered a newer field, sound motion pictures (exhibit 6.2). He greatly enjoyed music and his attention turned naturally to the possibilities of using radio for transmitting sound. The early commercial radiotelegraphic transmitters generated radio energy at first with a spark gap and later with an arc. The arc transmitter had two drawbacks for radiotelephony: the frequency of the current used to activate the arc was so low that it fell in the audible range so that the tone of the arc itself tended to mask the intended signal; and it was difficult to modulate the powerful current fed to the arc with the very weak current produced by a microphone. Early experimental microphones, closely coupled to arcs, had to be water-cooled. Speakers had to be careful not to singe their lips on the microphone (Archer, 1938: 87).

Despite these difficulties, de Forest and others persisted. In 1908 de Forest broadcast phonograph music from the Eiffel Tower. And two years later he staged the first opera broadcast — from the Metropolitan with Caruso in the cast — but the voices were reported to be hardly recognizable. In 1916 he began work on the problem of adapting the audion as an oscillator, a substitute for the

⁸ *Radio Corporation of America, et al. v. Radio Engineering Laboratories, Inc.*, 293 US 1 (1934). The decision is worth reading for its review of the issues and some of the complex history of the litigation.

Exhibit 6.2
Lee de Forest (1873–1961)



De Forest stands beside a motion picture camera he converted for optical sound.

Source: Brown Brothers.

arc. He set up an experimental radiotelephone station and in 1916 began to broadcast phonograph records and announcements.

De Forest describes his personal announcements, in which he credited the Columbia Gramophone Company for the recordings and mentioned the products of his own firm, as the first radio commercials (de Forest, 1950: 267, 337). He even broadcast election returns that year, four years before the similar broadcast over KDKA that is usually credited as the historical beginning of broadcasting (see §7.5). After World War I he resumed his informal experimental broadcasts, but a government radio inspector told him that there was “no room in the ether for entertainment” and forced him off the air (de Forest, 1950: 351).

De Forest deserves credit for the imaginative and creative use of his inventions as well as for the inventions themselves. He was part inventor, part showman, and part businessman. As an inventor he was prolific; he filed over thirty patents in the pioneer days of 1902–1906 and over the years was granted more than two hundred. He had connections with a score of firms created to

exploit his inventions. Much of the time he carried on research and experimentation under the most adverse financial conditions, often victimized by the unscrupulousness and bad judgment of business associates. When his United Wireless Company went bankrupt in 1912, it gave American Marconi a monopoly on wireless communication in the United States. American Marconi was later bought out by Radio Corporation of America (§7.2). Another bankruptcy in 1926 eventually resulted in other de Forest assets finding their way to RCA. This corporation thus owes a great deal to the genius of Lee de Forest.

6.7 Fessenden and Alexanderson

Reginald Fessenden, another entrepreneur-inventor who pioneered in radiotelephony, became a professor of electrical engineering at the University of Pittsburgh in 1893. He has been called “the first important American inventor to experiment with wireless,” having developed an invention second in importance only to the audion — the heterodyne circuit (Maclaurin, 1949: 59, 61). An improvement on this circuit, the superheterodyne, was invented in 1920 by Edwin Armstrong, the father of frequency modulation. The superheterodyne so increased the sensitivity of sets that outdoor receiving antennas, originally essential for home radio reception, could be eliminated.

In his search for a practical means of radiotelephonic communication, Fessenden turned his attention to the design of transmitters. His aim was to develop a high-frequency generator, or alternator, as it was called. In 1906 Fessenden made his first long-distance radiotelephone transmission by means of a 50,000-Hz alternator built for him by Ernst Alexanderson of General Electric (Archer, 1938: 86). From a technical viewpoint this event could be regarded as the birth of broadcasting. But it was, of course, merely experimental, with an audience composed mainly of ships’ operators. Fessenden, like de Forest, suffered disastrous financial setbacks in his attempts to exploit his own inventions.

Unlike de Forest and Fessenden, Alexanderson was not an inventor-entrepreneur. He represented a later development, the approaching era of the great industrial research laboratory. In the General Electric laboratories he went on, independently of Fessenden, to develop alternators of higher and higher capacities. During World War I, General Electric supplied the U.S. government with 200-kw Alexanderson alternators, by far the most powerful ever built up to that time. Alexanderson also developed the means of electronically coupling the microphone to these powerful transmitters using electron tubes. These and other patents gave General Electric a very strong position in the field of radiotelephony by the end of World War I. The Alexanderson alternator was a huge, costly device, described as “perhaps the most elegant machine ever known in the realm of Radio” (Clark, 1945: 42). That a U.S. firm owned it contributed, as we shall see, to breaking the monopoly of American Marconi.

6.8 Developments during World War I

The 1914–1918 war caused great acceleration in the development of wireless communication technology. This was the first major war in which wireless had been used in naval operations, and by its close the new means of communication had become a vital military service.

Long-distance transoceanic wireless, too, was much improved during the war. Alarmed by the possibility that the Germans might cut off communications between the United States and its allies by simply slashing the transatlantic cables, the United States government placed a high priority on the development of reliable alternative channels. The Alexanderson alternator came into use, and the wireless circuits to Europe played an important role in military operations and in diplomatic communications during the Paris peace conference.

The war contributed to radio development in other ways. The U.S. Navy took over the operation of all private stations that it found useful and had all other transmitters shut down and disassembled. In order to fully capitalize on all U.S. patents, the navy effected a moratorium on patent suits. Such a pooling of the country's total technical resources had previously been impossible because of commercial rivalries. A few years later, industry followed the navy example, creating patent pooling agreements that had an important impact on broadcasting (see §7.3).

In sum, wireless advanced tremendously during the war and came back to civilian life with materially altered status. The prewar era had been dominated by the inventor-entrepreneur. Now began the era of big business. AT&T had acquired the de Forest patents and built up an important interest in wireless telephony. General Electric, with the Alexanderson alternator and the family of related patents that went with it, held a commanding manufacturing position. American Marconi, though weakened by navy inroads on its maritime business, still dominated the wireless communication service. Westinghouse, at the moment not deeply involved, was about to inject a new and dynamic element into the situation — a novel use of wireless telephony ultimately to be called *broadcasting*.

At the close of World War I, however, the commercial utility of wireless telephony was by no means clear. In 1917, de Forest had suggested that it might be used instead of wireless telegraphy on small ships to save the cost of skilled operators (House CMMF, 1917: 295). In 1919 David Sarnoff sweepingly predicted that radio could replace the telephone. The navy, on the other hand, still regarded radio as essentially a maritime instrument that had no business competing with the telephone and telegraph wires (House CMMF, 1919: 204). The time was ripe for a business innovation — a practical, money-making use of radiotelephony that would not duplicate any existing service.

Emergence of Broadcasting

“Broadcasting” means the dissemination of radio communications intended to be received by the public, directly or by means of intermediary relay stations. (Communications Act of 1934, §3(o).)

It seems very obvious, now that we have it, but before broadcasting made its tentative debut in 1920, and even for half a dozen years thereafter, no one was quite sure what it was or what to do with it.

7.1 Government monopoly: The road not taken

Governments monopolize the great majority of the world’s broadcasting systems (exhibit 1.2). For a time it was touch-and-go as to whether American broadcasting too might turn out to be U.S. government broadcasting.

In April 1917 the U.S. Navy had been given control of all private wireless facilities as a World War I security measure. The war ended in November 1918, yet the government did not relinquish control of these properties until February 1920. And the critical decisions made during this delay of over a year affected the whole future of radio in the United States, including the yet-unborn service of broadcasting. The war had demonstrated the vital importance of wireless communication facilities as a national asset. Before the United States entered the war, for example, the German high-power station in Sayville, New York, violated United States neutrality by sending intelligence to German ships at sea. Later, a single message interception netted the United States alien property custodian \$10-million worth of enemy goods (House CMMF, 1919: 10).

Was radio too vital to entrust to private hands? The United States Navy thought so. In fact, the navy had always asserted jurisdiction over radio as a natural right on the mistaken assumption that radio was destined to remain a

primarily marine service. A bill introduced in Congress late in 1918 proposed in effect to reduce radio to a government monopoly.¹ The bill was badly drawn and ineptly defended by navy witnesses at the hearings; yet eventually such a law might well have been passed. After all, at that moment the navy, by virtue of its wartime powers, already had complete control of radio. And although the U.S. radio law then on the books (the Radio Act of 1912) required little more than a registration procedure of private stations, other countries had made radio a government monopoly. But this and other similar attempts to remove radio from the realm of private enterprise failed, in large measure because of the enforced dissolution of American Marconi and the formation of the Radio Corporation of America in 1919.

It will be recalled that General Electric had developed the 200-kw Alexanderson alternator, which made reliable long-distance radio communication possible (\$6.7). This device had been successfully put into service by the navy in 1918. The potentialities of Alexanderson's experiments had been recognized by Guglielmo Marconi himself, who three years earlier had opened negotiations with GE for exclusive rights to the alternator. The talks had been interrupted by the war, but now, in March of 1919, the negotiations were reopened. In this immediate postwar period, with the cessation of government orders, there was no major American market for wireless equipment. American Marconi was the only company in the United States with enough capital and commercial potential to qualify as a customer for the alternators. GE had spent a great deal on their development and justifiably expected substantial returns.

7.2 Founding of RCA

The prospect of American Marconi consolidating its U.S. monopoly by capturing exclusive rights to the Alexanderson alternator deeply disturbed the navy. The extent of its concern can be measured by the fact that as early as 1918 the navy had spent \$1 million to block American Marconi by securing patent rights to the Poulsen arc, the next-best radio energy generator to the Alexanderson alternator (Senate CIC, 1930: 1013).

President Woodrow Wilson himself is said to have taken an interest in the situation, even in the midst of the Peace Conference. He considered that international communication, together with oil and shipping, represented the key to the balance of power in international affairs (Archer, 1938: 164). In 1919 Great Britain led the world in maritime strength, and the United States led in petroleum production. Britain already had a long lead in the field of worldwide cable facilities and was now on the verge of obtaining a world monopoly on international wireless communication, long the objective of British Marconi.

¹ H.R. 13159 and S. 5036, 65th Cong., 2d Sess.

Thus what ordinarily would have been purely a matter of business and financial strategy was projected into the realm of international politics.

British Marconi found itself subjected to an international squeeze play. The U.S. government made no actual overt move to expropriate British Marconi's American holdings; the international negotiations were carried out on a private level by Owen D. Young of General Electric. But British Marconi's position in the United States was plainly untenable. The president of American Marconi told his stockholders in 1919: "We have found that there exists on the part of the officials of the Government a very strong and irremovable objection to [American Marconi] because of the stock interest held therein by the British Company" (quoted in Archer, 1938: 178).

We may never know the full story of the behind-the-scenes maneuvers that led to the sale of American Marconi to American interests. The motivations of GE included elements of both patriotism and profit. Which incentive predominated became a matter of debate a few years later. General Electric had set up the Radio Corporation of America to take over, with the help of others, the assets and operations of American Marconi. RCA, it was alleged, later tried to justify its own monopoly by claiming that because it had come into being at President Wilson's request, it had quasi-official status.²

RCA took over the operation of American Marconi's assets on November 20, 1919. Significantly, this antedates the opening of the first broadcasting station by a full year. Owen D. Young testified later, "We had no broadcasting in our minds in 1919 and 1920" (Senate CIC, 1930: 1115). Westinghouse and AT&T, as well as General Electric, invested in the new corporation. In 1922 the stock distribution was approximately as follows: General Electric, 25 percent; Westinghouse, 20 percent; AT&T, 4 percent; former American Marconi stockholders and others, 51 percent.³

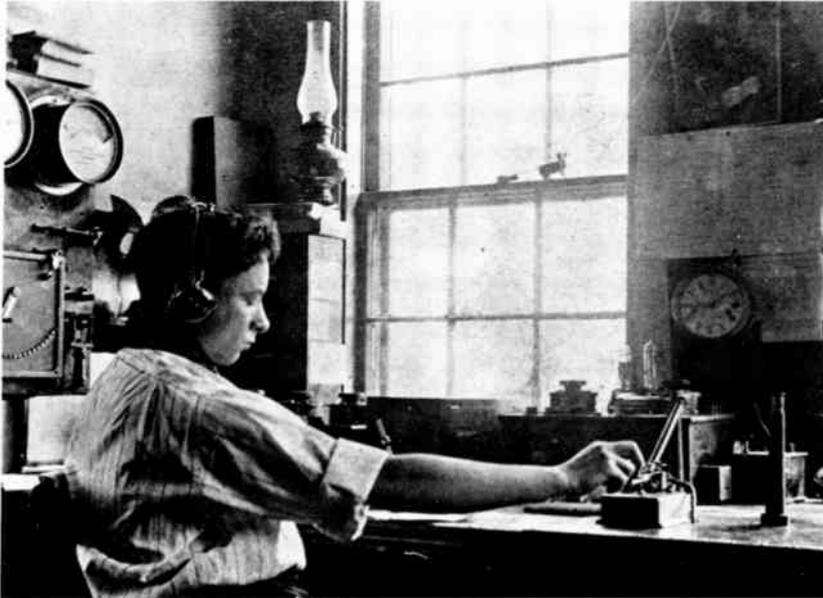
RCA was a unique corporate enterprise "put together from the top" by Owen D. Young, the GE vice president whose business statesmanship had successfully effected the complicated and delicate international negotiations. In the years that followed, it remained for David Sarnoff to convert the abstract legal documents and high-level corporate policies into operational effectiveness. It took less than a year for Young to create RCA, but it took Sarnoff twenty years to make it into a completely integrated operating concern (Maclaurin, 1949: 110, 248).

Sarnoff was the young radiotelegraph operator who for 72 hours had main-

² See Senate CIC, 1930, particularly the testimony of Owen D. Young, pp. 1081-1173, 1176-1220. The origin of RCA was the subject of a number of inquiries; one of the earliest is to be found in FTC, 1924. The known story is reconstructed in Archer, 1938: 157-180.

³ FTC, 1924: 20. Eighteen hundred small U.S. stockholders held American Marconi stock. AT&T sold its interest in 1923. RCA remained under the control of General Electric and Westinghouse until it achieved independence in 1930.

Exhibit 7.1
David Sarnoff (1891–1971) as a boy of 17



In 1908, Sarnoff was employed as a wireless telegraph operator on Nantucket Island, Massachusetts. Compare the later Sarnoff, launching the television age at the New York World's Fair in 1939 (exhibit 10.4).

Source: RCA Corporation.

tained contact ashore with the survivors of the *Titanic* disaster in 1912. He typifies the American success story, the rise of the poor immigrant boy to leadership in the top ranks of industry. Sarnoff taught himself Morse code while still in his teens (exhibit 7.1). He entered the industry as an office boy with American Marconi, but his unusual skill with the telegraph key soon won him the job of operator in the Marconi station located atop the old Wanamaker building near Washington Square in New York City, where he was working at the time of the *Titanic* disaster.

Sarnoff foresaw the need for industrial leadership that combined first-hand technical knowledge with business ability; he was, in short, the true innovator. He became president of RCA in 1930, became chairman of the board in 1947, and retired in 1969. His was “one of the last great autocracies in U.S. industry”; yet he owned only one-third of 1 percent of RCA stock, worth \$7.4 million, when he died in 1971 (*Time*, 1971). His active business career spanned the whole evolution of broadcasting.

7.3 Cross-licensing: Prebroadcasting phase

RCA's real mission was not merely to take over and operate the half-dozen American Marconi subsidiaries engaged in wireless communication. A serious problem faced the parent companies. Young testified, "It was utterly impossible for anybody to do anything in radio, any one person or group or company at that time [1919]. . . . Nobody had patents enough to make a system. And so there was a complete stalemate" (Senate CIC, 1930: 1116).

RCA broke the stalemate. Young proposed that the major patent rivals could find a meeting ground in their commonly owned subsidiary. Accordingly, in 1919, 1920, and 1921, a series of cross-licensing agreements was made among General Electric, AT&T, Westinghouse, and RCA (reproduced in FTC, 1924: 122). Cross-licensing is simply the pooling of patent rights among participants in the agreements. RCA participated as a cross-licensee because it had inherited important patent rights from American Marconi. In the period 1919–1923, RCA entered into more than a score of licensing, traffic, and sales agreements, with both its parent companies and others.

But the purpose of the cross-licensing agreements was not solely to resolve patent conflicts. They also defined and held free from intramural competition the special area of interest of each company in the group. Since RCA was not an independent entity, it was to play a subordinate role. General Electric and Westinghouse would use RCA's patents in the manufacture of equipment, and RCA would act as a sales agent for the other firms' products. AT&T was to maintain control over telephonic communication, by wire and wireless. Its exclusive right, under the cross-licensing agreements, to the manufacture and sale or lease of transmitters would ensure this control. General Electric and Westinghouse could use the pooled patents to make transmitters for themselves but not sell them to others. All these rights were exclusive among the parties to the agreements.

Although the cross-licensing agreements in principle anticipated even such future technical developments as television, they did not take into account the multibillion-dollar economic potential of broadcasting. The unexpected development of this new service almost immediately unbalanced the carefully calculated plan for dividing up the communications empire. The market for receivers and components was of no major economic importance before the advent of broadcasting. In the first eight years of broadcasting, receiver sales rose from \$5 million to \$650 million (Senate CIC, 1930: 1235).

Aside from the disturbing effect of this dazzling manufacturing bonanza, the advent of broadcasting also caused the cross-licensees difficulty in interpreting certain provisions of their agreements. What, for instance, was the status of the Telephone Company's rights over the telephone lines used by broadcast stations? From the outset, broadcasting had found wire facilities a necessary

adjunct for remote pickups. Soon wire facilities were also needed for network interconnection. Again, what were the Telephone Company's rights with respect to commercial broadcasts over transmitters using its patents?

7.4 The concept

What was so unique about broadcasting that top business executives could not grasp its significance? The key is the word *intended* in the definition at the head of this chapter. Previously, radio signals had always been intended for some specific recipients. Broadcasting reversed this orientation by transmitting indiscriminately to everyone and anyone.

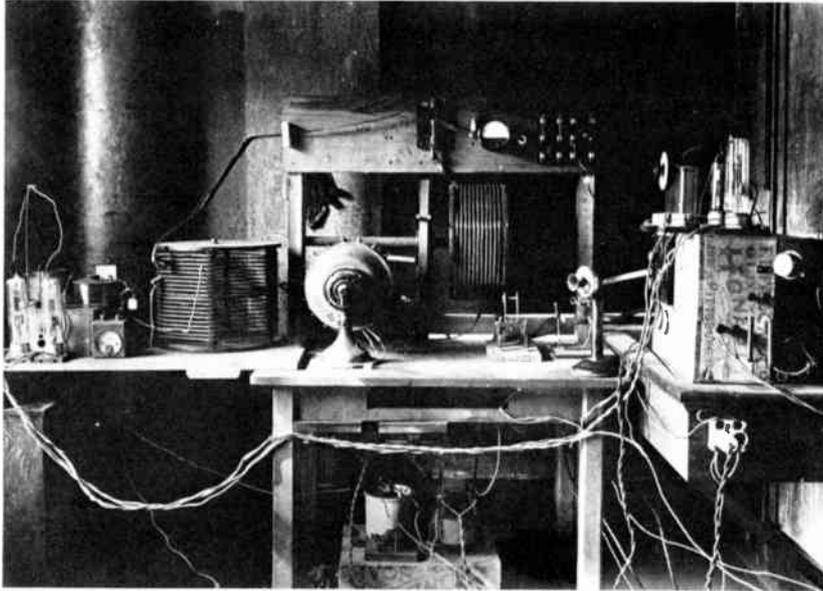
This apparently simple concept was a radical innovation in the communications business. The whole history and tradition of first wire and then wireless communication had based commercial profit on the exchange of *private* intelligence. The focal point was the sender of the message rather than the receiver. The sender paid a fee for the use of the service, just as today we pay to send a telegram or make a telephone call. How else could a profit be made? What possible motive could a sender have for paying money to reach an unknown audience?

This is not to say that no one had visualized the desirability of bringing remote events to the ears of audiences. As early as 1890 the Telephone Company had experimented with wire "broadcasts" of public events to audiences at remote locations (Banning, 1946: 4). Visionaries imagined wireless performing similar services. While radiotelephony was still in a primitive stage of development, de Forest set up a series of experimental and demonstrational transmissions to dramatize such possibilities. About the transmissions he made in the spring of 1907, de Forest wrote, "I cannot, of course, claim that I originated the term 'broadcast,' but I think that I was the first one to apply so descriptive a term to this new art which I was then beginning to create" (de Forest, 1950: 226).

One of the radio telephone visionaries not only saw his broadcasting predictions come true but took a prominent part in the whole subsequent development of commercial broadcasting. In 1915, when he was assistant traffic manager of American Marconi, he wrote a memorandum to his chief, saying in part:

I have in mind a plan of development which would make radio a "household utility" in the same sense as the piano or phonograph. The idea is to bring music into the house by wireless. . . . The receiver can be designed in the form of a simple "Radio Music Box" and arranged for several different wave lengths. . . . The main revenue to be derived will be from the sale of the "Radio Music Boxes" which if manufactured in lots of one hundred thousand or so could yield a handsome profit. . . . The Company would have to undertake the arrangements, I am sure, for music recitals, lectures, etc. . . . Aside from the profit to be derived from this proposition,

Exhibit 7.2
Conrad's amateur station and its successor



Conrad's informal hookup led to the establishment of KDKA and ultimately to the broadcast era.

Source: Brown Brothers.

the possibilities for advertising for the Company are tremendous; for its name would ultimately be brought into the household and wireless would receive national and universal attention. (Quoted in Archer, 1938: 112)

The writer was David Sarnoff.

In the light of subsequent events this may not seem to have been a remarkable flight of imagination, but we must bear in mind that at the time of this memorandum, Sarnoff worked for the largest U.S. firm dealing in radiotelegraphic communication. Radiotelephony was still in the experimental stage. The best evidence of the radical nature of his proposal is that nothing was done about it.

Four years later A. N. Goldsmith developed the first "uncontrolled" radio receiver — a set with a single knob for tuning, another knob for volume, and a built-in speaker. Previously, large sets had come with a formidable array of knobs that had to be twiddled with some finesse before the set was properly tuned. When Sarnoff saw the simple uncontrolled receiver he exclaimed, "This is the radio music box of which I've dreamed!" (Bitting, 1965: 1016). By that time, 1920, American Marconi had been taken over by the Radio Corpora-



Broadcasting the Harding-Cox election returns on KDKA, November 2, 1920. The announcer was L. H. Rosenberg.

Source: Group W (Westinghouse Broadcasting Co.).

tion of America, and Sarnoff had come with it. He was now in a position to renew his suggestion with some hope of being heard.

The question was not so much whether broadcasting was ultimately possible or desirable but how broadcasting could be financed. Not unnaturally, the companies that profited from precisely the opposite use of radio — private rather than public communication — failed to show much enthusiasm for the idea of broadcasting.

7.5 The “first” station

In 1920 Dr. Frank Conrad, an engineer with the Westinghouse Corporation in Pittsburgh, was operating an amateur radiotelephone station — 8XK — in connection with experimental work at the factory (exhibit 7.2). Conrad fell into the habit of transmitting recorded music, sports results, and the like on a more or less regular schedule in response to requests from other amateurs. His informal programs built up such an interest that they occasioned newspaper stories. His amateur following even began to make requests for particular records. These circumstances were not in themselves unique; similar amateur

broadcasts had been made in other parts of the country and the world. What distinguished the Conrad broadcasts was the chain of events they set in motion.

Horne's Department Store in Pittsburgh, becoming aware of the growing public interest in wireless, sensed a hitherto untried commercial possibility in the 8XK broadcasts. Would their customers perhaps be willing to pay for ready-built receiving sets? To test this hunch, Horne's installed a demonstration receiver in the store and ran a box in their regular newspaper advertisements of September 22, 1920, announcing: "Amateur Wireless Sets made by the maker of the Set which is in operation in our store, are on sale here \$10.00 up."⁴

Westinghouse had been casting about for a profitable entry into the communications field — in fact had already explored several possible new types of radio service. For this reason, no doubt, Westinghouse officials were particularly alert to the somewhat obscure hint contained in Horne's modest advertisement. They saw the possibility of a novel merchandising tie-up: Westinghouse could manufacture inexpensive radiotelephone receivers and create a new market for them by transmitting programs for the general public.

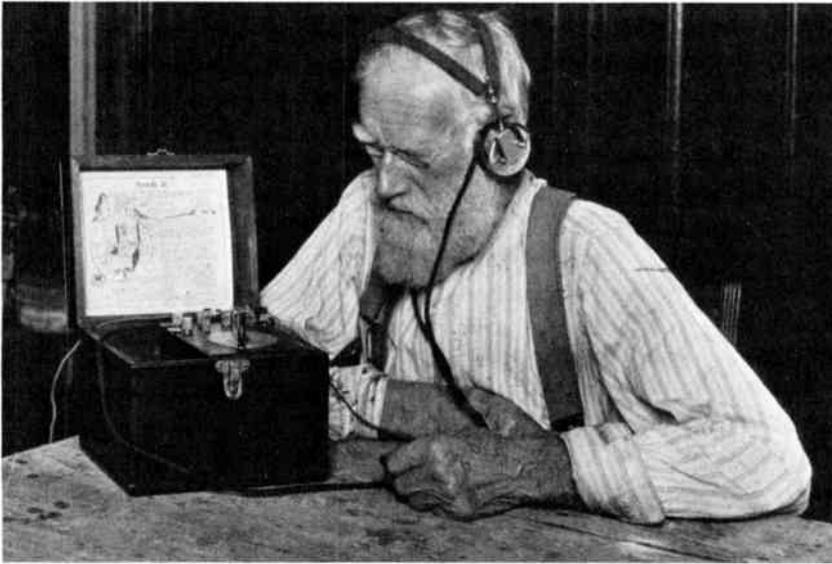
Conrad's superiors at Westinghouse realized that a new class of purchasers might be induced to buy radio sets in unprecedented numbers.⁵ A radiotelegraphy transmitter was converted for radiotelephony at the Westinghouse factory in East Pittsburgh and on November 2, 1920, went on the air as KDKA from a site on the roof of the factory. The opening was scheduled to coincide with the presidential election so that the maiden broadcast could take advantage of public interest in the voting results. This first program consisted of the Harding-Cox election returns — read on the air as they came in by telephone from a newspaper office — interspersed with phonograph records and banjo music (exhibit 7.2).

Broadcasting might have developed much more slowly than it did had it not been for a ready-made audience — the amateur set-builders. In order to understand the significance of KDKA's 1920 broadcasts in terms of these amateurs, we must reconstruct the circumstances of the time. Radio and television audiences of today can scarcely appreciate the quality of interest such transmissions could arouse in 1920. The crystal detector, an extremely simple and inexpensive rectifier of radio frequency energy, had brought radio within reach of almost everybody who wanted to build a receiver. The crystal set, the simplest form of radio receiver, consists basically of a tuning coil, a crystal detector, and a pair of earphones (exhibit 7.3). The earphones are the only essential item that cost more than a few cents. No battery or other electric power source is

⁴ The advertisement is reproduced in Shurick, 1946: 18.

⁵ The man who made the specific decision was Westinghouse Vice President H. P. Davis (see his "The Early History of Broadcasting in the United States," 1928).

Exhibit 7.3
Crystal receiving set



Source: Brown Brothers.

required: the crystal rectifier makes the signal audible by changing the radio waves into weak electric currents.⁶

In 1920 only signals aired regularly were in radiotelegraphic code. To hear music and the human voice instead of the monotonous drone of Morse code in the earphones was a startling experience for listeners. They also felt a unique satisfaction in the idea of a program directed to themselves; previously, they had had to eavesdrop on messages intended for other people.

KDKA was an immediate success. Because there was as yet no crowding of the broadcast channels and hence no station interference, KDKA's sky wave could be picked up at great distances. Newspapers all over the country and even in Canada printed the station's program logs. To assist DX (long-distance) listeners, local stations later observed a "silent night" each week. This was a time period when they went off the air so as not to interfere with incoming signals from distant stations (Barnouw, 1966: 93).

In its first year of operation, KDKA pioneered in broadcasting many types of programs that later became standard radio fare, such as orchestra music, church services, public service announcements, political addresses, sports events,

⁶ The crystal set went out of general use after 1922, when the regenerative vacuum-tube circuit, an immensely more sensitive detecting device, became available.

Exhibit 7.4
KDKA's studio in 1922



Robert Saudek, who visited this studio in 1922 as a boy, remembers it as “very much like the inside of a burlap-lined casket. Burnt orange, a favorite decorator color in 1922, was chosen for the draped silk meringues that billowed from the ceiling” (Saudek, 1965: 25).

Source: Westinghouse Broadcasting Co.

dramas, and market reports. But one type of material was conspicuously absent — commercials. Westinghouse bore the expense of operation and had no plan to dilute the favorable publicity the station brought the firm by sharing it with others.

Although KDKA's 1920 Harding-Cox election program is usually cited as the historical beginning of broadcasting in America, a number of other stations claim the honor. KQW-San Jose (California) first broadcast in 1909 and ran a regular schedule in 1912; Station 2ZK-New Rochelle (New York) broadcast music regularly in 1916; a Detroit amateur station, 8 MK (later WWJ), began regular broadcasting over two months before KDKA's maiden broadcast. Then, of course, there were the many experimental transmissions by de Forest and Fessenden previously mentioned. At least a dozen stations still in operation date their beginnings from 1920 or earlier. But the fact remains that KDKA was

Exhibit 7.5
Ownership of broadcast stations as of February 1, 1923

Type of owner	% of all stations licensed
Communications manufacturers and dealers	39
Educational institutions	12
Publishers	12
Department stores	5
Religious institutions	2
Other	30

Source: Data in William P. Banning, *Commercial Broadcasting Pioneer: The WEAJ Experiment, 1922–1926*. Harvard University Press, Cambridge, 1946: 4–5.

the first commercially licensed standard broadcast station listed in the United States Department of Commerce records.⁷

Westinghouse did not, in any event, have the field to itself very long. The other leading communication concerns — General Electric, AT&T, and RCA — were watching with interest. Broadcasting had a strong appeal for department stores, newspapers, educational institutions, churches, and electrical equipment supply dealers (exhibit 7.5). The number of stations increased slowly in 1920, with only 30 licenses issued by the end of the year. In the spring of 1922, however, the new industry began to gather momentum. In that year alone 100,000 sets were sold (EIA, 1970: 2). By May over 200 stations had been licensed, and the upward trend continued during the next twelve-month period, reaching a peak of 576 early in 1923.

Among these early stations, however, mortality was high. Would-be broadcasters hastened to get in on the ground floor of — they knew not quite what. Problems of financing and programming were left to improvised solutions. Inadequately backed stations soon fell by the wayside. Educational stations were particularly heavy losers in this process of elimination.

7.6 Intervention of AT&T

AT&T keenly observed the sudden surge of activity in this new application of radiotelephony. Telephony was its undisputed province, and its patent rights in radiotelephony were so extensive that, willy-nilly, broadcasting too seemed to be its province.

AT&T built WEAJ-New York to experiment with the new medium. As the showcase for the Telephone Company, WEAJ had every financial, technical, and managerial advantage. The station went on the air on August 16, 1922.

⁷ Detailed evidence is discussed in Archer, 1938: 207–208. See also Smith, 1960.

Technical innovations introduced by WEAF included the volume indicator and the multiple-input control panel, or mixer. Inexperienced performers could not be depended on to stay “on mike,” so a multiple microphone setup was devised (Banning, 1946: 79). Network broadcasting and commercial sponsorship were also developed at WEAF.

In order to understand the full historical significance of WEAF, we must explore the motivations of the Telephone Company in terms of the larger interests at stake. WEAF was, after all, but one manifestation of an epic struggle for the control of business empires, brought on by the emergence of a totally new field of enterprise.

It may be useful at this point to review the conditions under which broadcasting began. First, it should be noted that the major communications companies all became active in broadcasting within its first two years. Second, broadcasting was a genuine innovation. No precedents indicated how it should be financed and organized; the concepts of the sale of time to advertisers and the syndication of programs by networks did not at once emerge. Third, at that time the federal law of 1912 governed radio, a law intended only for maritime communications. It could not possibly have anticipated the problems such a radically different service as broadcasting might raise.

Each of these factors suddenly became critically important because broadcasting sprang into being almost overnight. Herbert Hoover, who as Secretary of Commerce was responsible for administering the Radio Act of 1912, said early in 1922:

We have witnessed in the last four or five months one of the most astounding things that has come under my observation of American life. [The Department of Commerce] estimates that today over 600,000 (one estimate being 1,000,000) persons possess wireless telephone receiving sets, whereas there were less than 50,000 such sets a year ago. (Dept. of Commerce, 1922: 2)

This unlooked-for growth of the new medium caught all concerned off guard and precipitated several years of turmoil in the new industry. In the critical years 1920–1927, the basic shape of American broadcasting was hammered out.

7.7 Divergent theories

As a result of the divisive forces within the ranks of the cross-licensees described in §7.2, a sharp cleavage developed. On one side stood the Telephone Group, consisting of AT&T and its subsidiary, Western Electric; on the other side stood the Radio Group, consisting of General Electric, Westinghouse, and their subsidiary, RCA. In the race for dominance in the new realm of broadcasting, AT&T's entry was station WEAF, and the Radio Group's was WJZ. Each built up rival networks. In this competition, WEAF had distinct advantages: immediate access to AT&T's telephone lines and to AT&T's telephonic know-how. Moreover, the Radio Group's stations, under AT&T's interpretation of the cross-licensing agreements, were barred from operating stations for profit.

The split between the two groups carried over into the rationale of their early broadcast operations. The Radio Group started with the idea of operating broadcast stations as a means of stimulating the market for their consumer goods. Therefore, their broadcast stations assumed responsibility for supplying both the physical facilities and the messages sent over these facilities, just as Sarnoff had suggested in his music-box memo eight years before (§7.4). The Radio Group emphasized the public's interest in receiving a program service — at the price of investment in receiving equipment. According to this approach, any firm that wanted to use broadcasting to create public good will for its products would operate its own separate station for that purpose.

AT&T began with a quite opposite conception of the role of the broadcaster. It saw broadcasting as an extension of the telephone service, the main difference being that broadcasting was one-way rather than two-way telephony. Under the AT&T system, (1) a small number of stations would serve all users and (2) the broadcast station would assume no responsibility for the programs sent over its facilities. In other words, radio was to be a common carrier.

Early in 1922, when the Telephone Company was preparing to open WEAJ, an official explained, “[The company] will furnish no programs whatsoever over that station. It will provide facilities over which the general public, one and all alike, may use those services” (Dept. of Commerce, 1922: 7). This plan was based on a direct analogy with the company's customary telephone services:

Just as the company leases its long distance wire facilities for the use of newspapers, banks, and other concerns, so it will lease its radio telephone facilities and will not provide the matter which is sent out from this station. (AT&T press release of 1922, quoted in Banning, 1946: 68)

AT&T organized its broadcasting activities under the long-lines department and referred to sponsored programs as “toll” broadcasts, treating them like long-distance telephone calls. AT&T took the view that its exclusive jurisdiction over transmitters permitted it to restrain others from using them “for toll or hire, or for the rendition of any advertising or personal message service” (House CMMF, 1924: 41).

As broadcasting finally evolved, it combined elements from concepts of both the Telephone Group and the Radio Group. The Telephone Company had correctly assumed that the financial support of a limited number of broadcast stations would have to be distributed among many users, who would lease the facilities temporarily, as was done with the telephone. It miscalculated in placing the emphasis on the sender rather than on the receiver of the messages. Here the Radio Group's concept of service to the public, emphasizing the public's program needs and wishes, prevailed.

Ironically, half a century later the Telephone Company's common-carrier concept was to be revived with cable television. Certain channels supplied by cable television systems were to be set aside for rental on a first-come, first-

served basis, with the cable company assuming no responsibility for controlling the program content on these so-called “access” channels (see §11.5).

7.8 “Toll” broadcasting

WEAF was far from being one of the first stations on the air. More than two hundred had already been licensed by the time WEAf started, fifteen of them operating in the New York area alone. But WEAf has particular significance because of its role as AT&T’s guinea pig in the new medium. The company spared no expense and invested a quarter of a million dollars during the first year of operation (House CMMF, 1924: 41).

Two major practices that were to distinguish the American system of broadcasting — network syndication and commercial sponsorship — first developed at WEAf. Prospective advertisers expressed an interest in hiring WEAf’s facilities even before the station went on the air. Theretofore, as we have said, it had been assumed that each would-be advertiser would have to operate his own station to publicize his wares, just as Westinghouse had done with KDKA. This concept led, of course, to a rapid proliferation of stations. The Telephone Company received no less than sixty requests for transmitters (whose commercial use it controlled by virtue of cross-licensing) from the New York area alone.

AT&T realized that an excessive number of stations could achieve nothing but interference and a general deterioration of the service. It built WEAf with the idea that a single station, operated as a common carrier by the Telephone Company, could serve many advertisers without leading to self-defeating congestion of the broadcast channels. So the company refused to sell transmitters to all comers, which led to charges that AT&T was attempting to monopolize broadcasting. Indeed, its intention seems to have been just that — and on perfectly logical grounds. Said the AT&T official in charge of radio,

We have been very careful, up to the present time [1923], not to state to the public in any way, through the press or in any of our talks, the idea that the Bell System desires to monopolize broadcasting; but the fact remains that it is a telephone job, that we are telephone people, that we can do it better than anybody else, and it seems to me that the clear, logical conclusion that must be reached is that, sooner or later, in one form or another, we have got to do the job. (Danielian, 1939: 123–124)

WEAF’s facilities were first leased for a toll broadcast on August 28, 1922. A Long Island real-estate corporation paid \$50 for the privilege of delivering a “commercial” consisting of a ten-minute talk extolling the advantages of living in Hawthorne Courts, an apartment complex in the Jackson Heights section of New York. The first commercial advertiser known to have provided entertainment along with the commercial on WEAf was Gimbel Brothers, which became a major advertiser on the station. WEAf handled toll broadcasting with circumspection, however, permitting no “hard” advertising, such as the mention

of prices. Officials even debated as to whether or not such an intimate subject as toothpaste should be mentioned on the air (Banning, 1946: 150).

Despite AT&T's restrictions on the sale of transmitters and its insistence that under the cross-licensing agreements it alone had the right to use transmitters for toll broadcasting, stations continued to multiply. By February 1923, 93 percent of the 576 stations in operation were infringing on AT&T patent rights (Banning, 1946: 134). Although many of these stations were too short-lived or inconsequential to warrant serious concern, the company nevertheless was unwilling to abandon its rights by default. But its restrictions on transmitter sales had already evoked accusations of monopoly, and the company was reluctant to adopt aggressive measures. It decided, therefore, to license for commercial use those transmitters that relied on its patent rights.

7.9 "Chain" broadcasting

In the meantime, another problem had arisen. As we have pointed out, stations had from the outset used wire connections for picking up programs remote from the broadcast transmitter locations — especially since the early transmitters were usually located in factories and other relatively inaccessible places.

AT&T interpreted the cross-licensing agreements as prohibiting the connection of broadcast equipment to telephone circuits.⁸ Naturally, AT&T made its lines available to its own station, WEAF. In fact, one of WEAF's primary purposes was to experiment with ways of integrating the company's telephone facilities with its broadcast facilities. As early as 1921 the Telephone Company advanced the idea of a chain of broadcast stations located at strategic points along its long-distance trunk lines that could occasionally broadcast identical programs, that is, network programs. AT&T conceived that these stations might be programmed by corporations set up in towns where the stations were located representing the business and cultural interests of the communities involved. The Telephone Company would simply lease out the broadcast facilities and have no hand in the programming — again, an attempt to apply the telephone concept to broadcasting.

An early test of the chain, or network, principle occurred on January 4, 1923, when WEAF fed a program by wire for simultaneous broadcast by WNAC-Boston, owned by Shepard Stores.⁹ This was a five-minute broadcast of a saxophone solo carried over lines especially adapted for the purpose. Nor-

⁸ The Telephone Company has a long-standing policy of forbidding customers to connect any "foreign" equipment to its lines — a justifiable safety precaution, but also a means of freezing out competition. In 1968, however, the FCC's *Carterphone* decision (13 FCC 2d 420, 1968) weakened the Telephone Company's control and opened the way to a flourishing competitive business of providing ancillary terminal equipment, such as automatic answering devices (Klein, 1973).

⁹ The term "chain" for network has gone out of common use, but it is the word used in the Communications Act (§3,p).

mally, telephone long lines were adjusted to carry a frequency band of 250–2,500 Hz, so they had to be specially equalized for 100–5,000 Hz in order to achieve broadcast quality. Later in 1923 the first permanent network circuit (as distinguished from a one-time arrangement) was established between WEAJ and WMAF-South Dartmouth (Mass.). WMAF was the property of Col. E. H. Green, who operated it for his own amusement and had no means of programming it. He persuaded WEAJ to feed him both toll broadcasts and nontoll broadcasts. He paid a fee for the latter and broadcast the commercial programs without cost to the sponsor.

AT&T continued experimenting with network broadcasts, gradually adding to the number of stations interconnected. In October 1924, a special 22-station, coast-to-coast hookup carried a speech by President Calvin Coolidge. The regular WEAJ network at that time consisted of 6 stations broadcasting 3 hours of network programs per day. The network still used regular telephone circuits temporarily equalized for broadcast purposes. In 1926, however, the Telephone Company began setting aside circuits for the exclusive use of radio networks.

What of the Radio Group in the meantime? RCA's WJZ became the chief rival of WEAJ. It operated, however, at a considerable disadvantage. According to the cross-licensing agreements of which RCA was itself a signatory, it could neither use AT&T telephone lines for broadcast purposes nor sell time. WJZ cost RCA \$100,000 a year to operate and brought in no income whatever, whereas by 1926 WEAJ was grossing \$750,000 annually.

WJZ tried using Western Union telegraph lines for network interconnection, but the channel requirements of telegraphic signals are so much lower than those of telephonic signals that ordinary Western Union lines could not deliver broadcast quality. The Radio Group at this time seriously considered the possibility of radio-relay circuits for network interconnection, but suitable equipment had not yet been developed for utilizing the microwaves that have since proved so useful for this purpose. Despite these difficulties, by the end of 1925, WJZ had succeeded in organizing a network of 14 stations.

7.10 Cross-licensing: Broadcasting phase

During these years of broadcast pioneering (1922–1926), continual behind-the-scenes negotiations had been in progress, with the purpose of resolving the conflict produced by the cross-licensing agreements.

By 1926 the Telephone Company had come to the conclusion that its original concept of broadcasting as just another branch of the telephone business was inadequate. Its excursion into broadcast operations, its restrictions on the use of telephone lines for relaying competitive broadcast programs, its insistence on exclusive control over commercial use of broadcast transmitters — all had resulted in taking the Telephone Company far afield from its primary business. It also created bad public relations because of AT&T's delicate position as a

regulated monopoly industry. In sum, “as an experiment, broadcasting had been necessary; as a business, it was almost certain to be a liability” (Banning, 1946: 272). Accordingly, the signatories of the cross-licensing agreements finally arrived at a revised set of three agreements in July 1926. The preamble to one of the new agreements frankly confessed that since “the art in certain of the fields dealt with in said [1920] agreement had not progressed to a point at which it was possible fully to comprehend the problems involved, disputes have arisen between the parties as to the meaning of various provisions of said agreement” (Danielian, 1939: 127).

Some of the significant provisions of the new agreements follow: (1) The *license agreement* redefined the patent rights of each company in the light of the new developments. AT&T was granted exclusive control over wire telephony and two-way wireless telephony, both domestic and foreign. Wire-telegraphy rights also went to AT&T, but RCA retained rights in wireless telegraphy. Telephony was defined in such a way as to leave AT&T in control of network relays, whether wire or wireless, for radio or television. Broadcasting itself went to RCA. Western Electric was barred from competing with the Radio Group in the manufacture of home receivers and other devices for home use. AT&T surrendered its exclusive claims on transmitter manufacture, and thereafter RCA and Western Electric became competitors in this market. Subsequently, they also competed in the field of sound motion picture equipment. (2) The *service agreement* required RCA to lease radio relay facilities from AT&T and to cease using Western Union wires for networking. (3) The *purchase agreement* provided for the sale of WEA and its broadcast assets to the Radio Group for \$1 million, with AT&T to be barred from reentering the field except under penalty (Danielian, 1939: 126).

As far as broadcasting was concerned, the agreements of 1926 amounted to this: the Telephone Company would continue to profit from broadcasting by supplying interconnection facilities for networks, and RCA would have a free hand in developing commercial network broadcasting. RCA thus emerged as by far the strongest force in the new business of broadcasting.

David Sarnoff had long since recognized what had not been apparent to the officials of AT&T: broadcasting was a genuine innovation in business that would require its own special organization, business methods, and personnel. He had no illusion that broadcasting could continue to be carried on as incidental to some other kind of business. Sarnoff had renewed the “music box” memo of 1915 immediately after the transfer of American Marconi to RCA. As early as 1922 he predicted the course broadcasting would take:

When the novelty of radio will have worn off and the public [is] no longer interested in the means by which it is able to receive but rather, in the substance and quality of the material received, I think that the task of reasonably meeting the public’s expectations and desires will be greater than any so far tackled by any newspaper, theater, opera, or other public information or entertainment agency. . . .

Let us organize a separate and distinct company, to be known as Public Service Broadcasting Company, or National Radio Broadcasting Company, or American Radio Broadcasting Company, or some similar name . . . (Quoted in Archer, 1938: 30)

Sarnoff had anticipated by four years what came to pass in 1926, when AT&T withdrew from broadcasting.

7.11 National networks

A few months after the 1926 settlement, the Radio Group formed a new subsidiary, the National Broadcasting Company, which was owned 50 percent by RCA, 20 percent by GE, and 20 percent by Westinghouse. It was the first company organized solely and specifically to operate a broadcasting network. A four-and-a-half-hour coast-to-coast inaugural broadcast took place on November 15, 1926. The program included Walter Damrosch conducting the New York Symphony Orchestra, with cut-ins from opera singer Mary Garden in Chicago and humorist Will Rogers in Independence, Kansas. The 25 stations in the network reached an estimated 5 million listeners on that occasion. Not until 1927, however, did coast-to-coast network operations begin on a regular basis.

Starting with the new year in 1927, RCA organized NBC as two semi-autonomous networks, the Blue and the Red — WJZ (later to become WABC) and the old Radio Group network forming the nucleus of the Blue, WEAJ (later to become WNBC) and the old Telephone Group Network forming the nucleus of the Red. The dual network arose because NBC now had duplicate outlets in New York and other cities, and there would have been no point in merely broadcasting the same programs on two stations in the same service area. As competitive networks developed, however, the dual-network operation took on a more significant character: by tying up not one but two of the best stations in each major city, and by playing one of its networks against the other, NBC gained a significant advantage over rival networks.

The second national network followed closely on the heels of NBC. In 1927, the year after NBC began, over 700 stations were licensed,¹⁰ only 7 percent of them affiliated with NBC. Stations had trouble finding program material to fill out their schedules, so in January 1927, United Independent Broadcasters was formed to syndicate program talent on a network basis. Having more ideas than money, the company sought financial backing and received an offer from the Columbia Phonograph Record Company. The record company, interested in

¹⁰ This figure would be misleading if one assumed that all licensees were operating on the scale of modern broadcast stations. A great many stations existed more on paper than in fact. For example, the Federal Radio Commission finally canceled the license of a New Jersey station whose studios consisted of the parlor of the owner's home, whose antenna was a wire on a pole nailed to a shed, and whose signal the Commission's monitors had been unable to pick up in an entire year (36 F 2d 111, 1929).

publicizing its name and exploring the new field of broadcasting, set up a subsidiary — the Columbia Phonograph Broadcasting System, Inc. — to work with UIB. The initial venture failed, and the record company withdrew, but UIB retained the subsidiary company, and the present CBS network's name derives from it. In 1928 William S. Paley became president, bringing with him new backing that finally put the firm on a sound financial footing. Also in 1928 CBS purchased WABC-New York (the call letters were changed to WCBS in 1946) as its key station there. The company showed a profit by 1929 and soon began giving NBC competition.

The launching of competing national networks on a commercial basis completed the basic evolution of the original American broadcasting concept. In the few years between 1920 and 1927, a business revolution had taken place. Three major developments had occurred: (1) AT&T, along with its common-carrier concept of broadcasting, had retired from the field, thereby clearing up the confusion about the type of service that broadcasting was to render; (2) the technical facilities and business organization had been developed for the successful national syndication of programs by competitive networks; and (3) selling time to advertisers had proved a feasible method of financing.

7.12 Triumph of commercialism

In his 1922 memorandum proposing that RCA set up a network company, Sarnoff did not contemplate that broadcasting would be a direct profit-making venture (§7.11). "I feel that with suitable publicity activities, such a company will ultimately be regarded as a public institution of great value in the same sense that a library, for example, is regarded today" (quoted in Archer, 1938: 33).

When the National Broadcasting Company became a reality, it seemed expedient to retain George F. McClelland, the key AT&T administrator at WEA, if he would leave AT&T. When he was offered the vice-presidency of NBC, according to General James G. Harbord, then president of RCA, McClelland asked

what was to be our aim — whether purely a moneymaking affair, or whether we aim to perform a big public service to which the income was somewhat incidental. I reassured him on this point, telling him we had the ambition to give a splendid public service, not unconscious of the fact, however, that if we did it, it would reflect itself to us in profits by that company and increased sales of radio apparatus by our own. He accepted the position without any understanding as to salary. (Quoted in Archer, 1938: 281)

It is not necessary to conclude that such statements as these — which typify the attitude of many business leaders of the time — were simply hypocritical eyewash put out by cynical big-business executives who in reality had every intention of exploiting radio broadcasting to the limit. The fact is that men in

positions like those of Sarnoff, Harbord, and McClelland could not themselves fully realize the extent of the social revolution already under way. To them advertising was indeed a questionable intruder into the sacred privacy of the home. Their ideas of the role of family life in society were still essentially in the nineteenth-century tradition. But this was the Roaring Twenties, and in the aftermath of World War I, Victorian standards of taste and public conduct were rapidly disintegrating. The iconoclastic temper of the times favored radio's gaudy commercial trend. A dignified broadcasting service reflecting the hush of a great public library would have been an anachronism.

The advertising men, more sensitive to the jazzed-up tempo of the age, capitalized on the potentiality for new freedom. Almost before broadcasting executives realized what was happening, the advertising agencies had taken over their programming — and they, rather than the broadcasters, set the commercial tone. Broadcasters have since been severely criticized for surrendering too much responsibility to advertisers. Still later, after reasserting their control over television programming, advertising agencies complained bitterly of their presumption; rather than being taxed with surrendering the program production function to others, the networks came under criticism for exercising too much control by freezing out other program sources (see House CIFIC, 1963).

An accident of history — commercial radio's simultaneous beginning along with the post-World War I breakup of prewar social attitudes — thus profoundly affected the development of American broadcasting. RCA's change of heart about advertising has been ascribed to the economic squeeze caused by a combination of the Depression and the out-and-out commercialism of CBS (Dreher, 1966). William Paley did, after all, come into broadcasting from the position of advertising manager of his family's cigar company, directly as a result of discovering that radio could sell cigars. The Depression and commercialism may have been the proximate causes, but underlying them was a more fundamental cause: commercial broadcasting happened to be uniquely in tune with the times.

This was not, of course, immediately obvious. At the First Radio Conference called by the Secretary of Commerce in Washington in 1922, the sentiment against advertising had been almost universal. By the time of the Fourth Radio Conference, in 1925, the principle of advertising had been generally accepted, but the standards to be followed remained in doubt.¹¹ As late as 1929, the National Association of Broadcasters adopted a code limiting nighttime advertising to dignified identification of sponsors, restricting explicit advertising to business hours. The NAB recommended, "Time before 6 P.M. is included in the business day and therefore may be devoted in part, at least, to broadcasting

¹¹ The Committee on Advertising and Publicity of the conference declared direct advertising objectionable and recommended good will advertising only (Fourth National Radio Conference, 1926: 18).

programs of a business nature; while time after 6 P.M. is for recreation and relaxation, and commercial programs should be of the good will type." Not until advertising agencies began to play a larger part in the control of programming in the 1930s did all-out direct advertising become the generally accepted practice, although in the 1928–1929 season, radio networks had 65 nationally sponsored programs (Spalding, 1964).

Restrictions on direct radio salesmanship relaxed slowly and unevenly. The earliest network advertisers evaded rules against repeated mention of the sponsor's name by attaching it to the performers. Browning King's *Wednesday Night Dance* featured the "Browning King Orchestra," which of course had to be identified by name before each selection was played. Audiences of the 1920s heard the "Cliquot Club Eskimos" (exhibit 7.6), the "A&P Gypsies," the "Ipana Troubadours," and so on. Here is an example of an opening billboard from this period:

Relax and smile, for Goldy and Dusty, the Gold Dust Twins, are here to send their songs there, and "brighten the corner where you are." The Gold Dust Corporation, manufacturer of Gold Dust Powder, engages the facilities of station WEA, New York, WJAR, Providence, WCAE, Pittsburgh, WGR, Buffalo, WEEL, Boston, WFI, Philadelphia, and WEAR, Cleveland, so that listeners-in may have the opportunity to chuckle and laugh with Goldy and Dusty. Let those Gold Dust Twins into your hearts and homes tonight, and you'll never regret it, for they do brighten the dull spots. (Quoted in Banning, 1946: 262)

As early as 1926 the La France Company (laundry aids) used commercial announcements that were not much different in length and content (although stilted in style) from those that later became common. Nevertheless, the networks retained the ban against mentioning price until 1932.

Some never did accept the commercial direction radio took in the 1920s. The pioneer inventor of American broadcasting, Lee de Forest, for example, remained a bitter opponent of commercialism to the end of his life. Looking back on radio development since 1907, he declared,

Throughout my long career I have lost no opportunity to cry out in earnest protest against the crass commercialism, the etheric vandalism of the vulgar hucksters, agencies, advertisers, station owners — all who, lacking awareness of their grand opportunities and moral responsibilities to make of radio an uplifting influence, continue to enslave and sell for quick cash the grandest medium which has yet been given to man to help upward his struggling spirit. (De Forest, 1950: 442)

Contemporary critics sometimes say much the same thing about commercial television. Although it inherited intact the commercial patterns and mores developed by radio, television entered the social scene in another postwar period — an era with its own quite different brand of disillusionment and iconoclasm. The type of broadcast commercialism that flourished in response to the social atmosphere between the two world wars no longer harmonized so

Exhibit 7.6
“The Cliquot Club Eskimos”



A musical group featured on one of radio's first sponsored programs. The announcer is Graham McNamee.

Source: Brown Brothers.

aptly with the times in the post-World War II era. That kind of commercialism may eventually seem as archaic in the Age of Television as Victorianism seemed in the Roaring Twenties.

7.13 A still, small voice

A potential alternative to commercialism existed from the outset. As exhibit 7.5 indicates, educational institutions operated a substantial proportion of the early am stations. Some of the earliest stations, in fact, grew out of experiments in university science and engineering departments. Yet, of over 200 am stations licensed to educational institutions, only 38 were still operating in 1937 (Frost, 1937: 3), and these eventually dwindled down to about 20.

All these stations were licensed on the same basis as commercial stations; there was no special category for noncommercial, or educational, station licenses. The success of commercial broadcasting and shortage of available channels conferred great value on some of the strategically located licenses held by nonprofit institutions. A few institutions capitalized on the situation and changed from noncommercial to commercial operation. Most, however,

had no desire (or legal right) to go into the business of selling advertising. Since they also lacked any strong convictions about the educational value of broadcasting, they put up only token resistance when commercial interests moved to capture their licenses. The few noncommercial am stations that did continue in operation (mostly at land-grant colleges and universities, where broadcasting could serve an established function in providing extension services to rural listeners) had low power and unfavorable time-sharing arrangements.

In effect, American broadcasting started as an almost completely commercial service. Nevertheless, the still, small voice of educational broadcasting persisted, however weakly, to offer an alternative service to the one dominated by advertising. Present-day public radio and television, though still relatively weak, represent a remarkable feat of survival against almost impossible odds.

Origins of Government Regulation

I think this is probably the only industry of the United States that is unanimously in favor of having itself regulated. (Secretary of Commerce Herbert Hoover, 1924)

8.1 Wire regulation

Experience with telegraphy established the precedents for legal regulation of wireless. In most countries domestic telegraphy became the province of national post offices, which often became ministries of posts and telegraphs.

At first, international telegraphic messages had to be physically handed across national boundaries and retransmitted on each national system. The first international treaty to secure free flow of telegraphic communication between countries dates from 1849, covering circuits between Berlin and Vienna. This pioneering effort led first to the Austro-German Telegraphic Union in 1857, and then to the first International Telegraphic Convention, drawn up by 25 European countries in Paris in 1865. Today's International Telecommunication Union, now a specialized agency of the United Nations, dates its existence from this meeting (ITU, 1965). These early national and international efforts to regulate wire communication provided ready-made patterns for the regulation of wireless. In Britain as well as many other countries, the Post Office continues to have primary legal responsibility for the technical aspects of radio.

The 1857 Austro-German Union created a device so useful that it continues to this day: the separation of technical from political considerations in international communications agreements. International diplomacy moves much too slowly to keep up with rapidly changing technology. Political decisions are therefore incorporated in "conventions" — more or less permanent international agreements. Within the broad terms of these agreements, specific regulations can then be freely adapted by technical experts as the needs arise without invoking the cumbersome machinery of international coordination at the highest political level. The U.S. communications act can be compared

with the stable international convention, whereas the Rules and Regulations of the Federal Communications Commission provide the essential day-to-day technical flexibility.

8.2 Wireless regulation

The first international conference concerning wireless communication took place in Berlin in 1903. Its main object was to deal with the Marconi Company's refusal to exchange messages with rival commercial systems (§6.2) — much as mid-nineteenth-century national telegraphic systems had originally refused to connect up directly to neighboring networks.

Humanitarian considerations soon prevailed, for it was unthinkable that commercial self-interest should long be allowed to come first when human lives were at stake, as in maritime emergencies. The first effective international agreement in the wireless field was reached at the Berlin Convention of 1906, where steps were taken to ensure that the new medium would be available in times of emergency at sea. The United States did not ratify this agreement until 1912.

Two significant implications can be seen in these early international conventions. First, humanitarian considerations gave impetus to establishing legal control of wireless communication. Second, the earliest attempt at regulation was international in scope, indicating radio's unique ability to transcend political boundaries.

In the United States, Congress amended the Interstate Commerce Act in 1910 to bring interstate and foreign wireless as well as wire communication under federal jurisdiction; in the same year the Wireless Ship Act went into effect, requiring large passenger vessels to carry radio equipment capable of exchanging messages at a distance of a hundred miles. But the first comprehensive piece of radio legislation in the United States was the Radio Act of 1912. The act remained in effect for 15 years, all through the period of the basic technical and economic evolution of the radio industry.

This law came belatedly (Great Britain had adopted its first radio laws in 1904), as a direct result of the *Titanic* disaster (see §6.3). When the doomed ship sent out its distress message — “We've struck an iceberg. Sinking fast” — another ship was only 15 miles away; but 24-hour wireless watches were not then required, and the other ship's operator had gone off duty 15 minutes earlier, thereby innocently condemning 1,517 people to death in the near-freezing Atlantic. The *Titanic*'s own operator died at his transmitter. Later, when the rescue ship *Carpathia* approached the United States with the survivors, radio contact with the mainland was seriously hampered by interference from casual signals.

The *Titanic* disaster gripped the popular imagination, dramatizing as nothing else had done the vital importance of the proper use of radio facilities on

ships at sea. It was quickly followed by the passage of the Radio Act of 1912 and also by another international convention in London in the same year. By the act, the United States had at last adopted the recommendations of the Berlin Convention of 1906, which established the use of the international SOS signal, the prevention of interference with distress signals, and the interchange of messages without regard to the commercial systems used. The radio act empowered the Secretary of Commerce and Labor,¹ among other things, to issue station licenses to U.S. citizens and to specify the frequencies to be used (aside from those between 187 and 500 kHz, which were reserved for government use).

8.3 Failure of Radio Act of 1912

But the Radio Act of 1912 turned out to have a serious technical defect. It provided that the Secretary of Commerce and Labor would grant licenses to U.S. citizens “upon application therefor.” It did not specify the grounds on which the secretary could reject applications. In light of the limited uses of radio at the time, of course, Congress had no reason to anticipate that the secretary would need to reject anyone. Presumably, all who had a good reason to operate radio stations could be allowed to do so. Congress intended merely to provide a registration procedure, somewhat analogous to the already existing procedure for registering ships.

For a decade, the hands-off concept of the role of government in relation to radio worked satisfactorily. Existing services required only a few transmitters. Aside from amateurs, ships’ stations formed the most numerous class. Because of their mobility and the intermittent nature of their traffic, they could operate on a frequency-sharing basis without serious conflict.

In the period 1922–1923 broadcasting — an entirely new class of service — began to demand more and more stations, and a serious problem arose. As with the maritime service, the Secretary of Commerce at first required all broadcast stations to share time on the same frequency. Then in 1921, 833 kHz was assigned to news and entertainment stations and a second channel, 618 kHz, to crop and weather report stations. But whereas ships make only occasional exchanges of specific messages, a broadcast station must transmit a continuous, uninterrupted program service. The rapid proliferation of broadcast stations soon created intolerable interference. Increasing the number of channels allocated to broadcasting did not solve the problem, for the stations multiplied faster than ever.

To complicate matters, the engineering crudity of many broadcast stations made them incapable of holding precisely to an assigned frequency. Worse, some stations were portable and the owners moved them from place to place at

¹ Since 1913, the title of this office has been Secretary of Commerce.

will, completely disrupting any orderly plan of service. An ever-increasing amount of interference resulted, leading some station owners to take matters into their own hands. They began to change frequency, power, times of operation, and location — all in violation of their licenses. These changes created even worse interference, of course, so that a vicious circle was set in motion, and the broadcast service became more and more degraded.

A case in point of the kind of problems facing the Secretary of Commerce in trying to control this obstreperous new medium is that of Aimée Semple McPherson, a highly popular evangelist of the 1920s. She operated a pioneer broadcast station from her “temple” in Los Angeles. The station “wandered all over the wave band,” and after repeated warnings a government inspector ordered the station closed down. The secretary, president-to-be Herbert Hoover (exhibit 8.1), thereupon received the following telegram from the evangelist: “PLEASE ORDER YOUR MINIONS OF SATAN TO LEAVE MY STATION ALONE. YOU CANNOT EXPECT THE ALMIGHTY TO ABIDE BY YOUR WAVELENGTH NONSENSE. WHEN I OFFER MY PRAYERS TO HIM I MUST FIT INTO HIS WAVE RECEPTION. OPEN THIS STATION AT ONCE” (Hoover, 1952: II-142). Evangelist McPherson was persuaded to engage a competent engineer, and the station was allowed to reopen.

Clearly, both the number of stations and their operation had to be controlled in some way; yet under the Radio Act of 1912, the Secretary of Commerce had no choice but to grant licenses to every applicant. In 1923 a court held that “the duty of naming a wave length is mandatory upon the Secretary. The only discretionary act is in selecting a wave length” (286 F 1007). Unfortunately, there simply were no more usable frequencies for the secretary to name.

Finally, a 1926 court decision completely undermined the secretary’s regulatory power. WJAZ-Chicago (owned by Zenith Radio Corporation) had been licensed to share time with a Denver station. WJAZ had operated at times and on frequencies different from those authorized in its license. The secretary brought suit under the Radio Act of 1912, but the court found in favor of the station, stating,

If section 2 [of the Radio Act of 1912] is construed to give to the Secretary of Commerce power to restrict the operation of a station as [the secretary] contends is done by this license, what is the test or standard established by Congress, by which the discretion of the Secretary is to be controlled? . . . Administrative rulings cannot add to the terms of an act of Congress and make conduct criminal which such laws leave untouched. (12 F 2d 618, 1926)

A basic American political concept is illuminated by this episode in the history of broadcast regulation. In a “government of laws, not men,” the powers entrusted to those in authority must be limited by definition. As the court remarked in the Zenith case, our system does not “leave room for the play and action of purely personal and arbitrary power” (reprints of this decision and other key documents of the period are conveniently available in Kahn, 1973).

Exhibit 8.1
Herbert Hoover (1874–1964) as Secretary of Commerce



Hoover, whose term of office as Secretary of Commerce (1921–1928) coincided almost exactly with the first phase of broadcasting history, influenced the industry in its formative years.

Source: Unknown. Print of photograph used with permission of the *The Evening Star — The Sunday Star*, Washington, D.C.

8.4 Origin of Radio Act of 1927

In leaving the secretary's powers undefined, Congress in effect gave him no powers. What little restraint the secretary had been able to impose on the industry evaporated with the Zenith decision.

For three years Secretary Hoover and the broadcasters themselves had been urging Congress to bring the 1912 radio act up to date. In each session Congress considered bills proposing new legislation, but the nature of broadcasting had not yet been clearly defined, so it was difficult to legislate regulation of an unknown. The Zenith decision, however, made congressional action imperative.

In the period of less than a year that elapsed between this decision and the passage of the new radio act, 200 new broadcast stations took advantage of the moratorium on regulation, crowding the spectrum and compounding the confusion that already existed. By this time it was impossible in most places to

receive any kind of consistent broadcast signal. Thirty-eight stations created bedlam in the New York area as did the 40 in the Chicago area. A marked drop in set sales resulted. In his message to Congress in December 1926, President Calvin Coolidge said, "The whole service of this most important public function has drifted into such chaos as seems likely, if not remedied, to destroy its great value. I most urgently recommend that this legislation should be speedily enacted" (68 Cong. Record 32, 1926).

Finally, on February 23, 1927 a new radio act was passed. Despite the urgent need for a new law, it can hardly be said that Congress rushed into this piece of legislation. From 1923 on, radio bills had been continually under consideration. Nine bills were prepared before a satisfactory measure was agreed on.

The Radio Act of 1927, the first U.S. legislation to reflect the existence of broadcasting, was to a large extent the product of the radio industry itself. Secretary of Commerce Hoover, an ardent believer in free enterprise, had hoped that the industry would be able to discipline itself without government regulation. To this end he had called a series of national radio conferences in Washington in 1922, 1923, 1924, and 1925. In 1922 only 22 broadcasters attended; by 1925 the number had risen to 400. During those 4 years broadcasting emerged as a recognizably distinct service. Speaking at the fourth conference, Hoover said, "Four years ago we were dealing with a scientific toy; today we are dealing with a vital force in American life" (Fourth National Radio Conference, 1926: 1).

Hoover optimistically called the national radio conferences "experiments in industrial self-government" (Third National Radio Conference, 1924: 2), but even at that time he must have suspected the hopelessness of the experiment. He commented repeatedly on the indubitable fact that here was an industry that actually *wanted* government regulation. For example, at the very first national conference in 1922 he said, "This is one of the few instances that I know of in this country where the public — all of the people interested — are unanimously for an extension of regulatory powers on the part of the Government" (Dept. of Commerce, 1922: 1). From year to year the radio conferences grew more explicit in their suggestions for government control. The recommendations of the fourth conference (1925) were embodied in H.R. 5589, a bill that eventually became the Radio Act of 1927. The only basic idea in the act not already recommended by the radio conference was that of a regulatory commission.

The Radio Act of 1927 is essentially the same legislation under which broadcasting and all the other nongovernment radio services operate today, although it was later incorporated into the Communications Act of 1934. The 1927 act ended the era of doubt and confusion concerning the legal status of broadcasting, just as the withdrawal of AT&T from the operation of broadcast stations in 1926 ended doubt and confusion about the economic nature of the medium.

A number of other circumstances contributed to the significance of this transitional point. The first network company was set up in 1926; the first

competitive network operations and the first regular nationwide network service began in 1927. In the same period a series of technical improvements occurred that encouraged the rapid growth of a mass audience: higher-powered transmitters, improved superheterodyne receiver circuits, the alternating current power supply (eliminating batteries), and the dynamic loudspeaker. We can thus establish the years 1926–1927 as a genuine turning point in the history of U.S. broadcasting. After a period of tentative, trial-and-error growth, the new medium entered an era in which it could move forward along a well-defined path of development.

8.5 Start of regulation by commission

The 1927 radio act contemplated that most of the regulatory power would eventually be vested in the Secretary of Commerce, as it had been under the Radio Act of 1912. It provided for a five-man Federal Radio Commission appointed by the President with approval of the Senate. The commission members originally represented different areas of the United States. The FRC was to have been reduced to a lesser role after the first year, but its task proved so much more difficult than Congress had anticipated that its original powers were extended for another year and then another. Finally, it became apparent that the dynamic realm of radio communication would continually raise difficult administrative problems, and the FRC was made a permanent body on December 18, 1929.

On March 16, 1927 the FRC began addressing itself to the monumental task before it. The task was not made easier by the lack of appropriation for offices, furniture, and staff. The commission began its work in borrowed quarters with improvised facilities and staff. In its first year, the commission devoted itself “almost exclusively to clearing up the broadcast situation” (FRC, *Annual Report*, 1927: 1).

Among its first acts were to temporarily set the broadcast license period at 60 days, to define the standard broadcast band, to standardize channel designation (by frequency rather than wavelength), and to disallow portable broadcast stations. But it failed to take effective action on the most pressing problem — the need to sharply reduce the number of stations in operation. The commission chipped away at this problem over a number of years. From 1927 to 1932 it reduced the total number of broadcast authorizations, but only from 681 to 604. It did, however, cut back the number of stations authorized to operate at night (when sky-wave interference comes into play) from 565 to 397 (FRC, *Annual Report*, 1932: 25). In its second year the FRC set up the classification system providing for local, regional, and clear channels. For that year and for some years to come, its major project was to equalize radio services throughout the country.

At first, the commission issued its rules in the form of sequentially numbered General Orders. But by 1931 the number and complexity of its rules had

increased to the point where the General Orders had become unwieldy. The FRC then adopted the present method of systematically codifying all standing orders as Rules and Regulations. The first such set of Rules and Regulations became effective on February 1, 1932.

By this time too broadcasting technology had made many advances. The FRC had had the opportunity to make empirical tests and to collect expert opinion. Propagation theory was beginning to develop. During 1930 broadcasting experienced “almost a complete revolution in the type of equipment used” (FRC, *Annual Report*, 1931: 6). All this enabled the commission to adopt more stringent engineering standards aimed at reducing interference and improving signal quality. For example, stations had formerly been required only to keep within 500 Hz of their assigned frequency, but they now had to maintain a 50-Hz tolerance. Also, the FRC issued detailed “Standards of Good Engineering Practice” for the guidance of engineers in carrying out the Rules and Regulations. Further, stations were required to keep logs on both technical operations and programs.

In the same year the commission adopted the practice of alleviating the pressure of its workload by delegating to Hearing Examiners (since retitled Administrative Law Judges) the authority to conduct initial hearings. These time-consuming procedures resemble court trials, with all parties at interest submitting evidence and arguments with the aid of legal counsel. All these basic practices and procedures, devised during the first five years of the FRC, became a permanent part of the regulatory pattern.

8.6 Passage of Communications Act of 1934

Even when Congress passed the radio act, some members had wanted to go a step further and place under one federal jurisdiction both wire and wireless communication, both interstate and foreign. By 1929 a bill had been introduced to revise the radio act by divesting the Department of Commerce and the Postmaster General of their remaining duties in wireless and wire communications and to consolidate all such powers under one law and one regulatory agency. Congressional committees considered several variants of this bill in subsequent years. Finally, in 1934 President Franklin Roosevelt forwarded an Interdepartmental Committee recommendation to Congress, explaining,

I have long felt that for the sake of clarity and effectiveness, the relationship of the Federal Government to certain services known as utilities should be divided into three fields: Transportation, power, and communications. The problems of transportation are vested in the Interstate Commerce Commission, and the problems of power . . . in the Federal Power Commission. In the field of Communication, however, there is today no single Government agency charged with broad authority. (President of the U.S., 1934)

This recommendation resulted in the Communications Act of 1934. This law, still on the books, reenacted the Radio Act of 1927 and added new provisions

for jurisdiction over wire communication between the states and with foreign countries. It also added two members to the commission because of the enlargement of its responsibilities, and its name became the Federal Communications Commission.

In effect, then, the present law governing radio dates back to 1927. The FCC took over from the FRC with no break in continuity. In every subsequent session of Congress, attempts have been made to amend the act. Relatively few have become law, and most of those that have concern administration and technicalities.

It would appear, therefore, that Congress has been reasonably well satisfied with the working of the federal law governing broadcasting. If any profound dissatisfaction with the 1927 act had existed, Congress would presumably have done more than merely reenact it in 1934. Credit seems due to the members of the Congress of 1927, particularly the late Senator Wallace H. White of Maine, for devising a law in the very infancy of broadcasting that since then has been able to foster and accommodate the spectacular growth of both wire and wireless communication.

Nevertheless, the law lags behind technical development. The gap between some of the underlying assumptions of the act and the realities of the situation has become more apparent with time. For example, the 1927 law did not take sufficient account of the rapidly growing influence of networks; it gave the commission no way of directly regulating the most powerful force in the broadcasting structure. Erik Barnouw remarked that the law is "based on a premise that had been obsolete in 1927 and by 1934 was totally invalid: that American broadcasting was a local responsibility exercised by independent station licensees" (1968: 33).

Despite such criticism — and a substantial body of opinion holds the communications act in even lower esteem — it can be argued that the act has served its purpose reasonably well, given the realities of American politics and the dynamics of telecommunications development. A more telling case can be made against the way the law has been put to work. The commission has always been at the focus of intense political pressures. The executive branch uses its appointive powers politically; Congress uses its confirming, appropriating, and legislative powers politically; and the broadcasters use their lobbying power politically. In consequence, the commission, whose partisan appointees may be rather compliant to begin with, finds its every move subject to second-guessing from powerful special interests. Often, it seems, the interest of the public, which according to the communications act should be paramount, has had the least effective representation, inside the commission and out.

In chapter 17 we will return to the communications act in terms of its substance and its implementation. First, however, let us pick up the theme of the previous chapter and trace the development of the broadcasting industry.

Radio After 1928

Unlike magazines, which had been devised in response to a need, radio had devised a need in response to an invention. Into that vacuum went almost anything that could kill time pleasantly and almost anyone who had the temerity to walk in the front door and ask for a microphone. (New York Times obituary on Charles Correll, the Andy of Amos 'n' Andy, 9 Sept. 1972.)

9.1 Radio in retrospect

From the transitional period 1926–1927 emerged a national broadcasting system with the following characteristics: competitive free enterprise and dependence on advertising for economic support; syndication of programs, primarily by means of national networks but without completely sacrificing local ownership and programming in favor of monopoly ownership or centralized program control; government regulation, based on a compromise between public and private interests.

These traits of American broadcasting did not, of course, emerge in 1927 fully developed. The techniques of advertising, the functions of networks, and the concept of the dividing line between public and private interests continued to evolve. But radio broadcasting advanced steadily on the fundamental charter it received in 1926–1927 for two golden decades.

In retrospect those decades have come to seem like an age of innocence — so much so that in the early 1970s a cult of nostalgia grew up around the artifacts, the programs, the personalities of that time. Collectors restored old vacuum tube radios. One manufacturer even came out with a plastic replica of the walnut Zenith table model 91 of 1932.¹ Hobbyists exchanged tapes of programs dubbed off surviving 16-inch electrical transcriptions. Radio stations and networks played old programs and even wrote new ones in the old style.

Broadcasting took itself very seriously in those days. Announcers in the big

¹The *Horn Speaker*, a magazine devoted to old radio equipment, in its January 1974 issue, illustrated an E. H. Scott 30-tube “Philharmonic” in a magnificent console over 5 feet tall. A Scott radio cost as much as \$1,800 in the 1930s.

stations and network headquarters wore dinner jackets in the evening and delivered grammatically correct sentences in pear-shaped tones. Radio announcers were, after all, expected to set the standard of spoken English for the whole country. The bearded, blue-jeaned “jocks” of modern radio, with their vulgar slang and slipshod speech, would have been anathema in the 1930s.

Major stations and networks maintained stiff, correct policies. They worried a good deal about “good taste.” Until 1932, on CBS and NBC prices could not be mentioned even in daytime advertising. The networks refused to use recordings, and for a time stations that did use them were required by the FRC to identify each separate recording as such. In 1934 CBS refused to carry a speech by the Surgeon General of the United States because it alluded to venereal disease. Public broadcasting’s 1972 documentary, *VD Blues*, not to speak of the casual broadcast discussions of sex so common today, would have been unthinkable in that remote age.

Yet side-by-side with the self-conscious correctness of network radio and the stations of the large, prestigious corporations, there existed another, quite different standard of broadcasting — one not often recalled by present-day nostalgia buffs. Radio proved irresistibly attractive not only to big corporations and to institutions of higher learning but also to a variety of raffish, offbeat individuals who used it as a personal mouthpiece. Pioneer radio critic Ben Gross recalls,

Tailors, preachers, loan sharks, swamis, and physical-culture men, merchants, nostrum dispensers and frenzied advocates of odd ideas, such as Colonel Henderson of Shreveport, Louisiana, who combined primitive theology with hatred of chain stores, indulged in a saturnalia of “free speech.” . . . In a steady procession, there came before the microphones newscasters who merely read word-for-word items from the daily papers, owners of diploma mills, crystal-gazing fortunetellers, installment furniture men, conductors of matrimonial bureaus, fakers, nuts and dreamers making merry carnival. (Gross, 1954: 68)

In most cases the FRC was able to correct the worst of such abuses without resorting to license withdrawal. In two notorious instances, however, the commission not only took back licenses, but the Supreme Court declined to review its action — significant tests of the commission’s legal right to consider programs in evaluating a licensee’s overall performance.

KFKB-Milford (Kansas) was owned by a “Dr.” J. R. Brinkley, who had won national notoriety for a “goat-gland” operation that purported to restore flagging male vitality. Brinkley used the station to advertise his hospital and certain drugs, which he packaged and retailed through hundreds of franchised outlets. Three daily half-hours on the station were devoted to a “Medical Question Box” program on which Brinkley would diagnose the ailments of correspondents and prescribe his packaged remedies. Excerpts from actual broadcasts illustrate the technique.

Here's one from Tillie. She says she had an operation, had some trouble 10 years ago. I think the operation was unnecessary, and it isn't very good sense to have an ovary removed with the expectation of motherhood resulting therefrom. My advice to you is to use Women's Tonic No. 50, 67, and 61. This combination will do for you what you desire if any combination will, after three months persistent use.

Sunflower State, from Dresden, Kansas. Probably he has gallstones. No, I don't mean that, I mean kidney stones. My advice to you is to put him on Prescription No. 80 and 50 for men, also 64. I think that he will be a whole lot better. Also drink a lot of water. (47 F 2d 671, 1931)

The last prescription is interesting in view of the fact that the drugs prescribed are used for both kidney stones and gallstones.

Such unethical practices as diagnosing ailments and prescribing medicines on the basis of letters from patients embroiled Brinkley with the American Medical Association, which found that he possessed no recognized medical degree. The FRC refused to renew his license.

The second case involved a different class of objectionable programs. KGEF was licensed to the Trinity Methodist Church, South, in Los Angeles but in fact was owned by a Reverend Dr. Shuler. Many local residents protested renewal of KGEF's license, with some 90 witnesses appearing at the FRC hearing. Shuler had used the station for highly personal attacks and had twice been convicted of using it to obstruct the orderly administration of justice.

On one occasion he announced over the radio that he had certain damaging information against a prominent unnamed man which, unless a contribution (presumably to the church) of a hundred dollars was forthcoming, he would disclose. As a result, he received contributions from several persons. He freely spoke of "pimps" and prostitutes. He alluded slightly to the Jews as a race, and made frequent and bitter attacks on the Roman Catholic religion and its relations to government. (47 F 2d 852, 1932)

KGEF too lost its license, and both actions survived judicial appeal. It should be noted for future reference, however, that in both these cases the FCC acted only after strong protests had been made by the public and by such organizations as the American Medical Association.

9.2 Phases of development

In 1928–1948 "age" falls into three phases of radio growth. Phase I, 1928–1937, was the developmental period during which the characteristic patterns of government regulation, network and independent station programming, and advertising practices took form. As exhibit 9.1 shows, few new stations went on the air during this period. Although much of Phase I took place during a severe economic depression, the downbeat atmosphere helped rather than hindered

the growth of the medium. Erik Barnouw, the broadcasting historian, writes that in the depression years, broadcasting won “a loyalty that seemed almost irrational. . . . Destitute families that had to give up an icebox or furniture or bedding still clung to the radio as to a last link with humanity” (1968: 6). In these years, writes Edward R. Murrow’s biographer, Alexander Kendrick, “radio came into its own as a form of entertainment and communication, helping alleviate the depressed frame of mind which accompanied the depressed state of business. Radio was the universal solvent, a forum, a school-room, music hall, convalescent ward, companion, and soothsayer” (1969: 115). Nothing in television has ever equaled the popularity of radio’s *Amos ‘n’ Andy*, which at its height consistently captured more than half the available audience.

During this phase, radio fought to establish its access to essential program materials, news and music. In later sections we will discuss in more detail how the newspapers and news agencies battled to keep news off the air and how the music copyright holding organizations fought to squeeze the maximum possible royalty payments out of the broadcasters.

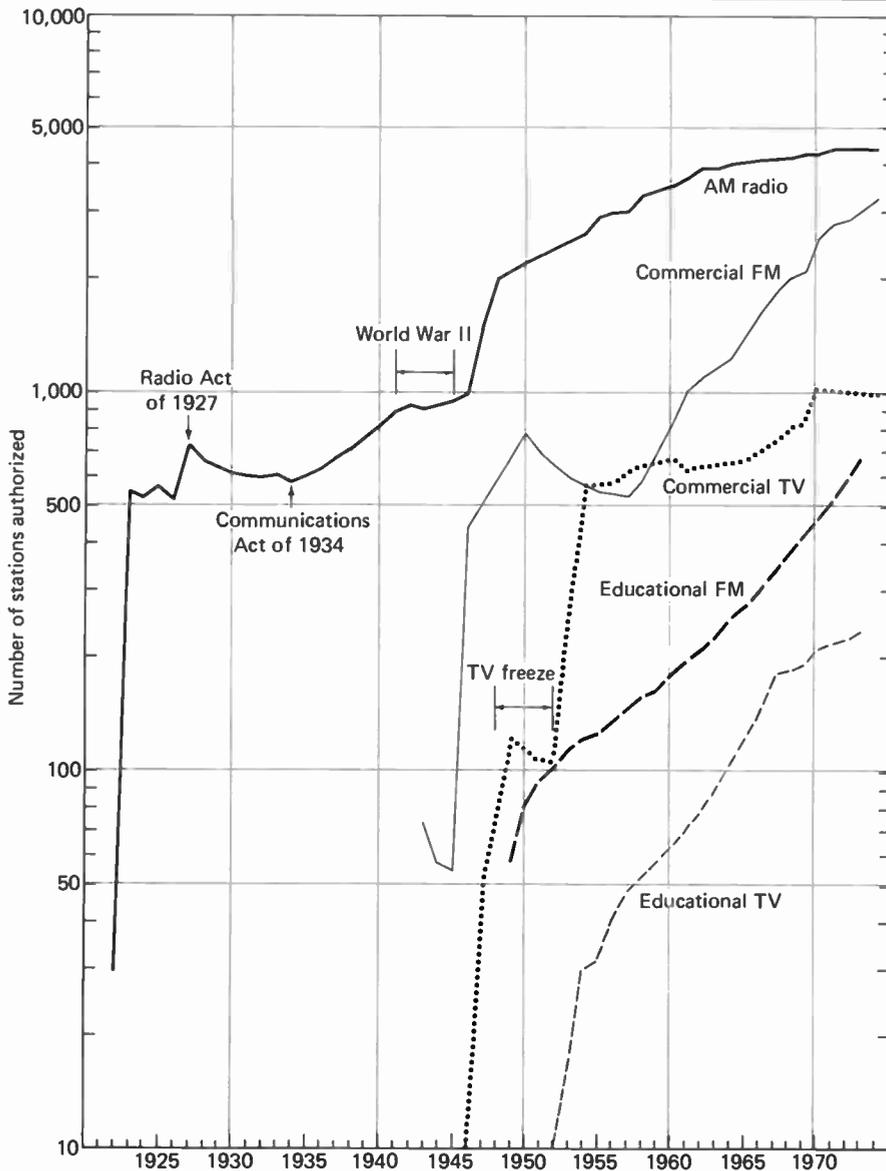
Originally, stations broadcast a great deal of live music and employed many musicians. Every major station had its own musical group, and radio networks had entire symphony orchestras. The musicians union eventually drove up costs to the point where live music almost disappeared from broadcasting except at the network level. Union demands became so exorbitant that Congress later attached an amendment (\$506, known as the Lea Act) to the communications act to prohibit coercive practices.

Phase II, 1938–1945, was a period of stability and prosperity. Growth was continuous but orderly (exhibit 9.1). This period straddles the years of World War II. Both psychologically and economically, the war had a profound effect on broadcasting. The artistic excitement of exploring a new medium was heightened by the emotionalism engendered by war.

Of course, manufacturers had to curtail the production of civilian goods, and this could have dealt a crippling blow to the new medium. Actually, it was an advantage; the government allowed manufacturers to write off advertising expenditures, thereby stimulating them to spend freely to keep their names before consumers.

The stations in turn invested in first-rate programming. Major writers became intrigued with the potentialities of the medium, and in this period came an extraordinary flowering of radio drama, produced with consummate skill and in real time (the networks still banned recordings). Programs featured such notable figures as Orson Welles, Norman Corwin, Arch Oboler, and Archibald MacLeish. This creative outpouring was, says Barnouw, “a byproduct of commercial affluence and had been financed by it, but had been done almost entirely in unsold time, as a result of an executive decision to use that time for more than fill-in purposes” (1968: 88). With the end of the war, the resumption of competitive selling, and the fateful diversion of radio network income to

Exhibit 9.1
Trends in rate of broadcast station authorization^a



^a Authorizations include construction permits and tend to exceed the numbers of stations actually on the air, especially in the early years of a new service. Note logarithmic vertical scale, which produces curve depicting rate of growth rather than absolute increase.

Sources: Commercial station curves based on FCC data in *Broadcasting Yearbook 1974*: A-109. Educational station curves based on data in FCC, *39th Annual Report*, Government Printing Office, Washington, D.C., 1974: 197, 199.

support the infant television industry, this brief, luminous period of creative innovation came to an end.

Phase III, 1946–1948, was marked by a tremendous increase in stations, as shown by the steeply rising graph in exhibit 9.1. Where stations had once been counted in the hundreds, they were soon to number in the thousands. Fm added to their number, and an era of extreme competitiveness began.

Although it has been lurking in the background all along, television made its first real inroads as a mass medium in 1948. That year was the high-water mark for sound broadcasting; thereafter, it first declined and then re-emerged on a different plane as it learned to cope with the competition of television.

9.3 Syndication: Networks

The most universal generalization one can make about broadcasting is that its appetite for talent and program material is voracious. Two ways of coping with this insatiability developed: extreme parsimony in parceling out and scheduling program materials; and program sharing by means of syndication.

In chapter 4 we discussed the technologies of recording and relaying that make syndication possible. We now turn to the organizational elements needed to put these physical resources to work. The network principle emerged early and by 1928 had become established on a national scale (see §7.9). By 1938, 40 percent of the 660 stations then in operation had become affiliates. But the importance of networks was much greater than this figure suggests, in that the independent (nonaffiliated) stations were mostly in the lower-wattage class; network stations had 98 percent of the nighttime wattage (FCC, 1941: 31). Since the FCC limits any one owner to only seven of each type of station, the basic network-affiliate relationship is a matter of contract rather than ownership. From the rather loose, informal affiliation agreements that were in effect when NBC started, this contractual relationship was elaborated, primarily by CBS, into a fairly standardized form. A network offered three basic services to its affiliates: it provided network programs, it arranged for relaying programs from the originating point to the affiliate, and it sold some of the affiliate's time in the national market.

In return for the network services, the affiliate usually gave a stipulated number of hours to the network free of charge: all income from these free hours went to the network. Part of the income from the other hours sold by the network was distributed among the affiliates according to agreed-on rates. In the late 1930s, NBC and CBS were distributing about a quarter of their radio sales income among their affiliates (FCC, 1941: 41).

When the Mutual Broadcasting System attempted to expand into a national operation in the late 1930s in competition with the older chains, it became clear that stations affiliated with CBS and NBC were tied to the networks with peculiarly powerful bonds. The older networks had tied up all but 2 of the 52

major stations on clear channels and nearly 75 percent of the powerful stations on regional channels.

Mutual's complaints prompted the FCC to thoroughly investigate radio network business practices in 1938. It concluded that the extent of control over the industry theretofore exercised by CBS and NBC was not in the public interest. The communications act empowered the FCC to "make special regulations applicable to radio stations engaged in chain [i.e. network] broadcasting" (§303, i). Accordingly, in 1941 the FCC adopted its "Chain Broadcasting Regulations," aimed at relaxing the control of radio networks over their affiliates and opening the door to more network competition. Four years after the investigation began, the Supreme Court finally settled the struggle with a decision in favor of the FCC rules (316 U.S. 407, 1942). The FCC later extended the same regulations to network television.²

The most immediate tangible outcome of the chain broadcasting decision was the end of NBC's dual-network operation. In 1943 NBC sold the Blue network, the weaker of its two, to candy manufacturer Edward Noble, who in 1945 changed its name to American Broadcasting Company (ABC). The predicted collapse of the network system failed to materialize, although MBS began to expand rapidly.

Thus the four-network pattern emerged. There were and are many regional networks as well. Attempts have been made from time to time to establish a fifth national network, but four seems to be the maximum number that can be successfully programmed. Each of the four national chains developed its own distinct corporate personality. NBC, as the oldest and first, assumed the role of dignified elder. By 1930 two of the original co-owners of NBC, Westinghouse and General Electric, had withdrawn, making the network a wholly owned subsidiary of RCA, which it remains to this day. In 1932 RCA itself became independent of its original owners. With corporate interests in global communications, government contracts, consumer sales, publishing, and other areas, RCA is a giant among international communications enterprises, and NBC naturally reflects this status.

The restrictive network contracts to which the FCC objected had been developed largely by CBS in its efforts to outdo the older network. CBS succeeded so well that by the time of the chain broadcasting investigation, its net income was actually greater than that of NBC despite the fact that NBC still held the Red and the Blue networks in its fold (FCC, 1941: 20).

During those easy-going years of the 1930s there was enough national business and high-caliber talent to support the two major networks without competition becoming notably strident. But in the 1940s a new and more competitive era began with the emergence of Mutual and the separation of NBC Red from

² The present version of the Chain Broadcasting Regulations appears in the FCC Rules and Regulations under the heading "Licensing Policies" for radio (47 CFR 73.131-73.138, 73.231-73.240) and under "Affiliation Agreements" for television (47 CFR 73.658). For details see §18.10.

NBC Blue. Moreover, by 1945 over 900 stations were on the air, as against fewer than 700 in the 1930s (exhibit 9.1).

CBS challenged NBC, now shorn of its Blue network, to an all-out battle for the number-one network position. Columbia's coup was based on its celebrated 1948 "talent raid," whereby CBS persuaded many NBC stars, such as Jack Benny, Burns and Allen, Edgar Bergen, and Correll and Gosden (Amos 'n' Andy), to join CBS. Columbia's secret weapon was the discovery that a top star could incorporate himself and sell the network the corporation instead of taking a salary. The profit on the sale of the corporation was taxed only 25 percent as a capital gain, whereas the tax on a correspondingly high salary was 90 percent (Gelman, 1971: 58). By 1949 CBS was well ahead of NBC in radio time sales and could claim all ten of the top-rated radio programs of that year.

When it separated from NBC, the American Broadcasting Company automatically assumed third place among the networks. The Blue had the advantage of bringing with it a respectable stable of strong affiliates, but it was weak commercially. Like Mutual, ABC had to seek new sources of advertising revenue and new program materials and talent.

The Mutual Broadcasting System, whose complaints had precipitated the chain broadcasting investigation, started on a different basis from the other networks. The two remaining non-network affiliated major stations on clear channels, WGN-Chicago and WOR-New York, had arranged to sell time jointly with WXYZ-Detroit, and WLW-Cincinnati. The four stations exchanged programs on a network basis. Their chief asset was *The Lone Ranger*, a program introduced by WXYZ in 1933. Thus MBS was a network owned by stations rather than a network owning stations.

The only way Mutual could expand, of course, was by signing up small stations. Some of the regional networks joined MBS in a body, and in the postwar period the number of small stations increased sharply. By 1948 Mutual had passed the 500 mark and advertised itself as "the world's largest network" (for current figures see exhibit 10.5). The number of affiliates in a network is not in itself significant, of course, since a single 50,000-watt Class I station on a clear channel in a densely populated area has more coverage than scores of 250-watt stations on local channels in rural areas.

ABC and Mutual could not afford the dignified airs of their elder, more prestigious corporate competitors, and, in the scramble to stay alive they shattered many of the sacrosanct traditions of the earlier phase of network radio. For example, ABC started using recorded materials in 1946, and MBS quickly followed suit. In the earliest days of broadcasting, recordings had been considered a virtual fraud on the public. The Department of Commerce even forbade their use at one time, and, as earlier noted, one of the first rules of the FRC (General Order No. 16 of August 9, 1927) required that recordings be clearly announced as such.

NBC and CBS regarded their ability to bring *live* programs to national

audiences as their most valuable asset. The highly complex dramatic programs of radio's golden age were all produced live, as were the elaborate wartime news roundups from dozens of widely separated geographic centers. In 1947 CBS relaxed the long-standing ban for one-time playback of network programs, but not until 1949 did both NBC and CBS permit general use of recordings.³

9.4 Syndication: Recordings

Despite the network ban on recorded material, syndication by means of records flourished in non-network programming. As early as 1928, Amos 'n' Andy comedy sketches were distributed in five-minute recorded episodes to 30 stations (Barnouw, 1966: 226). In 1931 an advertising agency survey disclosed that national advertisers had 75 transcribed programs on the air per week (Gelman, 1970: 74). Eventually, special recorded libraries, with periodic supplements, were sold or leased by subscription to broadcasting stations. NBC itself marketed such a service under the name "Thesaurus."

Music, the most basic program category of all, depended on recordings. In 1937 music accounted for over half the programming of all stations (FCC Annual Report 1938: 225). This dependence made broadcasting extremely vulnerable to the claims of music copyright owners.

It is impracticable for every music copyright holder to personally monitor the tens of thousands of commercial establishments where music may be performed for profit. The American Society of Composers, Authors, and Publishers was formed in 1914 as a nonprofit association to act as a monitoring and collecting agent on behalf of its members. ASCAP collects royalties due its members for performances of their music and distributes the fees to the copyright holders. As early as 1922 ASCAP began to demand payment for radio performances of musical works in its catalogue — whether recorded or live (for the law of copyright, see §17.12).

So universal was the problem for broadcasters that in 1923 they formed their trade association, the National Association of Broadcasters (NAB), specifically to deal with the ASCAP problem on an industry-wide basis. At the Fourth National Radio Conference in 1925, a broadcasters' committee complained that ASCAP's terms were "prohibitive" and "unstable" and asked for equal treatment for all stations. Since this problem was covered by existing copyright law, the conference took no action on the committee's recommendations (Fourth National Radio Conference, 1926: 37).

As radio broadcasting grew, the fees collected by ASCAP amounted to the major share of its income. When ASCAP proposed yet another increase in

³ On rare occasions the networks had waived the recording ban — for example, the chance on-the-spot broadcast of the *Hindenburg* dirigible fire in 1937 and the BBC eyewitness account of a dogfight over the English coast in the opening phases of the Battle of Britain in 1940 (Barnouw, 1968: 109; Kendrick, 1969: 200).

royalties in 1937, the broadcasters finally rebelled. By 1939 they had formed Broadcast Music, Inc. (BMI), their own rival music-licensing organization, in preparation for a showdown at midnight of December 31, when the old ASCAP contract expired. At about the same time ASCAP came under attack from the Department of Justice.

Under this combined pressure ASCAP reduced its demands to a point where they became acceptable to the broadcasters. (BMI continued in operation, however.) All stations are now licensed by one or more music-licensing organizations, for which they usually pay a percentage of their gross income; this arrangement avoids the elaborate bookkeeping that per-performance royalties require (Robertson, 1954). Relations between broadcasters and ASCAP remained uneasy and still flare up occasionally.⁴

9.5 News, commentary, and documentaries

News, another important source of broadcast programming that depends heavily on syndication, also caused difficulty in the 1930s. From the outset, news had been a radio staple. It will be recalled that KDKA's very first broadcast had been news of an election. In fact, even before broadcasting began, some of the earliest practical uses of radiotelegraphy had been news-related. The *New York Times*, for example, used radiotelegraphy in reporting the 1904–1905 Russo-Japanese war.

Thus newspapers themselves had exploited each new communications medium to speed up transmission of copy. Their interest, however, was in transmitting to newspapers, not directly to the public. Bypassing the written word seemed to threaten the very life of newspapers. Would people want to buy a paper to read news they had already heard on the radio? Would advertisers buy space in papers when they could advertise on the radio?

Some newspapers sought to protect themselves by investing in radio stations, initiating a problem of media “cross-ownership” that to this day remains a cause of concern (see §20.4). The most immediate defensive reaction, however, was negative — an attempt to cut off radio news at the source, the news agencies. In 1933, under pressure from their publisher clients, the three major U.S. news agencies of the time — Associated Press, International News Service, and United Press — joined in refusing to make their normal news services available to radio stations. Instead they set up the Press-Radio Bureau (1934–1940), restricting stations to a total of ten minutes of wire-service news a day. Even that small budget of news could be used only noncommercially and only after it had been published in the newspapers. These terms were called “tyran-

⁴ Cable television created a new source of friction over copyrights (see §11.3). The copyright law is discussed in §17.12. Exhibits 12.6 and 12.7 give current music-licensing costs to broadcasters.

nical and indefensible” by a U.S. senator, who likewise criticized the networks for having “surrendered radio’s birthright” (Dill, 1935).

The Press-Radio Bureau never worked effectively, though. Only about a third of the stations on the air subscribed to the Press-Radio Bureau service. Since the agreement exempted “commentary,” most radio newsmen instantly became “commentators” in order to evade the restriction (Smith, 1965). UP broke the embargo in 1935, soon to be joined by INS. The Press-Radio Bureau finally expired, unmourned, in 1940.

When the press associations began serving stations, it became evident that radio news coverage, despite its ability to beat newspapers on spot news, actually stimulated newspaper reading rather than depressing it. The wire services eventually acquired even more broadcasters than publishers as customers. In 1974 AP even began feeding voiced news reports to its radio members.

Perhaps because of radio’s frustrations in trying to handle news more conventionally, it turned to an unconventional format — dramatized re-creation of news events, with actors impersonating the public figures of the day. *The March of Time*, inaugurated by CBS in 1932, was extraordinarily successful in spite of its questionable mixture of fictional form and factual content. “From the vantage of a later day it would seem wildly irresponsible and even illegal, but at the time it was a glorious game played with bravura by a brilliant company [of performers]” (Barnouw, 1966: 277).

The March of Time pioneered in documentary journalism, a form that became a characteristic and justifiably praised element in broadcast programming. Later, when the *Time* series was transferred to film, it linked the established documentary tradition in radio to the emerging one in television. CBS formed the first radio documentary unit as such in 1946. Its first production, “The Eagle’s Brood,” produced in 1947, dealt with juvenile delinquency. Radio documentaries continued for four more years but began to decline after 1948. A historian of the broadcast documentary summarized the contribution of radio to the genre as follows:

It had presented information in a compelling form on numberless major and minor issues and problems confronting the American people. It had evolved a special combination of drama, journalism, and education in a successful presentation of history. And as it did all these things, it gave a legacy to television. (Bluem, 1965: 71)

Broadcasters were rather slow to develop radio’s potentiality for instantaneous coverage of real-time news from distant points. Sporadic newscasts from overseas started as early as 1930, but not until the last years of the decade — after CBS made Edward R. Murrow its European news director — did overseas broadcast news begin to capitalize on radio’s unique advantages. When Mur-

row arrived in Europe in 1937 radio news chiefs overseas still spent their time covering inconsequential events. The series of political crises that led to World War II soon put an end to such innocuous programs; Murrow and others began organizing complex roundups from capitals all over Europe and reporting live from the very battlefields. This was the start of a broadcast journalism tradition that eventually brought the Vietnam War into America's living room.

One of the early discoveries about the use of news-related material in broadcasting was that the medium was ideally suited to editorial commentary as well as to straight news reporting. The pioneer commentator, H. V. Kaltenborn, started such a series on WEAJ in 1923. To his surprise, he found that the same comments he wrote for his paper, the *Brooklyn Eagle*, without causing a ripple of concern provoked sharp reactions when spoken on the radio (Clark, 1965). He learned also that the executives of a company like AT&T, the WEAJ licensee, were hypersensitive to such reactions. After only a few months WEAJ abruptly discontinued Kaltenborn's popular news commentary program. Nevertheless, news commentary became a radio fixture by the late 1930s, when events leading up to the outbreak of World War II called urgently not only for fast reporting but also for interpretation.

Broadcasters distinguished between commentary made by a qualified individual in his own name, such as Kaltenborn, and a station editorial aired in the name of the licensee. An editorial, according to newspaper tradition, represents the *publisher's* point of view. By contrast, both station licensees (the equivalent of publishers) and the regulatory agency questioned the propriety of editorializing by licensees. Moreover, licensees (as in the case of AT&T and the Kaltenborn commentaries) were not prepared to face the adverse reactions controversial opinions inevitably provoke. Yet broadcasting could hardly lay claim to qualifying as a mature news medium as long as licensees declined the responsible role of opinion leadership long accepted by publishers. Not until 1949 did the FCC sanction editorializing by licensees (§20.6).

9.6 The "parsimony principle"

Syndication was only part of the answer to the incredible voracity of the broadcasting medium. In addition, stations and networks had to feed program materials to the microphone as sparingly as possible. In the early days this inspired stratagems for stretching to the utmost whatever program materials they could beg, borrow, buy, or steal. This "parsimony principle" became fundamental to the programmer's art.

The stratagems that evolved in those times persist to this day: scheduling in regular daily or weekly cycles, repetitive program formats, serialization, recycling of program material. Once designed, a program format — the opening and closing, transitional devices, fixed slots for the insertion of new content of a prescribed type — can be used endlessly without further investment of time

and effort. New material can be used sparingly, parceled out in minimal amounts to fit the prearranged pigeonholes.

A serial drama is the classic case of these stratagems brought to their ultimate perfection. And among serials, the daytime soap operas — so-called because soap companies often sponsor them, aiming them at housewives — reached the pinnacle of parsimoniousness. Soap operas are notorious for the snail-like pace of their plots. The predictability of the delaying tactics that drag out the action of each episode was satirized in the following proposed rules for saving time by uncluttering soap operas:

1. All telephones must be answered on the first ring.
2. A line of dialogue like "Mildred's pregnant" cannot be repeated back and forth by the cast more than three times . . .
3. When a character hears some bad news (such as "Mildred's pregnant") the camera may not focus on his stunned face for more than 25 seconds . . .
4. Once it is determined that a character has a terminal disease, he must die within 47 episodes . . . (Epstein and De Bartolo, 1971).

Irna Phillips, who for 21 years wrote *The Guiding Light* for radio and created the first television serial, *As the World Turns*, estimated that in her 41-year career she turned out the equivalent of 2,500 novels — a significant comparative measure of the appetites of the two media. She has described how she began with *Sue and Irene* at WGN-Chicago in 1930, playing all the parts with only one other actress — economy in production costs is another factor in favor of soap operas (Gelman, 1971: 48). At their high-water mark, nearly 50 daytime radio serials could be heard each week, and not until 1960 did first NBC and then CBS drop the few survivors. *Ma Perkins* endured for 7,065 installments in a run of 27 years (Quaal and Martin, 1968: 65).

Audience participation or game shows are another parsimonious type of programming that developed early. By 1937 they had become a national phenomenon. The best-known pioneer was *Professor Quiz*. His first question has been preserved for posterity: "What is the difference between a lama with one *l* and a llama with two *l*'s?" The contestant missed it (Gelman, 1970: 100).

The disc jockey format represents the extreme in parsimoniousness, combining economy of production costs with full exploitation of syndication, that is, recorded music. It is an inexpensive and infinitely flexible format, adaptable to every type of music taste, to any time of day or night, and to every class of listener. At first the DJ had rather low caste in the radio talent hierarchy, but as the quality of recordings improved, so did the DJ's status.

The pioneer star of the format, Martin Block, started a DJ program in 1935 that became the famous *Make Believe Ballroom* on WNEW-New York. As a trade journal put it, "Block made disk jockeying pay, Ted Husing made it respectable, and television made it essential" (*Broadcasting*, 1959). By the 1940s, top musical stars like Paul Whiteman and Tommy Dorsey were not

above presiding over DJ programs. Relaxation of the networks' ban on recorded programs in the late 1940s gave the final sanction to the DJ format.

9.7 Radio as popular art

The DJ program, in its various guises, is a popular art form unique to radio. Seen in the perspective of popular arts in general, however, broadcasting introduced little that is new. It remains to this day largely a synthetic, assimilative medium.

At first, radio merely reproduced literally the materials of the newspaper, stage, platform, press, pulpit, and concert hall. The first radio dramas, for example, were simply remote broadcasts of unmodified stage performances. Soon, though, producers realized that broadcast plays would be much more effective when performed under studio conditions, with carefully coordinated music and sound effects. Loss of the visual element of drama could be offset by using suggestion, by appealing to audience imagination, and by capitalizing on the intimacy of the medium.

In *The Unembarrassed Muse*, a study of popular arts, Russell B. Nye concludes that the only original contributions of radio were the audience participation show, the documentary, and the talk-discussions, or forum, show.

The vast majority of [radio's] programs were simply transferred from movies, stage, and fiction, using the same staple materials that had supported pop art for generations, cast into shapes compatible with the new medium. Radio was merely a new way to do old things. (1970: 399)

Nye points out that even talk-discussion programs have their forerunners — in lyceums and Chautauqua Assemblies.

Gilbert Seldes, the first major American critic to write seriously about popular arts, disagreed with this assessment (1962). He considered the soap opera as “the greatest invention of radio, its single notable contribution to the art of fiction” (1950: 113). Although the radio serial, as indicated in §9.4, is a case of total adaptation to the medium, the long-drawn-out serial story as a popular art form goes back to Dickens and beyond and had its counterparts in magazines and movies.

It might be argued that remote pickups of real-life events, transmitted in real time, can be considered a format unique to broadcasting. Certainly no other medium can achieve this feat of realism. The fact remains, though, that reality imposes its own format. By making decisions as to which aspects or what parts of an event to pick up, the broadcaster does shape the audience's understanding of an event to some extent, but the event itself has its own underlying structure, beyond the broadcaster's control.

A better argument might be that broadcasting combines familiar forms into unique new configurations. The phone-in radio talk show, for example, com-

bins two media of communication — wire and radio — into a new format. It also uses still another technology — recording — in order to achieve a precautionary margin of delay. Television, however, has exploited such technological resources more vividly than radio. For example, radio offers no acoustic equivalent to television's instant replay, with its ability to manipulate time by running it faster, slower, backwards, forwards, and even arresting it altogether.

9.8 Advent of fm

Frequency modulation radio introduced a new element to the broadcasting scene of the 1940s. The principle of frequency modulation had long been known, the first patent dating back to 1905. Practical application became possible when Edwin Armstrong improved the technique in 1933, precipitating the “biggest and bitterest behind-the-scenes fight in radio's career” (*Fortune*, 1939: 86).

Armstrong, a man of singular persistence and conviction, fought against the skepticism and even outright hostility of the radio industry. During the period 1934–1935 he carried out tests, with the cooperation of RCA, from a transmitter site on New York's Empire State Building. RCA, having already made deep commitments to the future of television, later displaced Armstrong's transmitter in favor of television experiments. In 1937 the inventor built his own station, W2XMN, in Alpine, New Jersey. Armstrong always contended that RCA had deliberately tried to scuttle fm (*Senate CIFIC*, 1948: 11). In 1965 the wheel came full circle with the installation of an array of 32 fm antennas atop the Empire State Building. Unfortunately, Armstrong did not live to see this vindication; he died by his own hand in 1954.

The FCC allocated experimental channels to fm in 1936. But soon fm again became embroiled with television, this time in a conflict over spectrum space. In 1939 the FCC allocated 19 channels to television but only 13 to fm. “If the Commission and the industry had recognized the future importance of frequency modulation, the FM allocation would have been more generous. For it was FM rather than television which was on the verge of immediate commercial development. This initial mistake proved difficult to rectify” (*Maclaurin*, 1949: 229).

In 1940 the FCC moved fm to channels in the 42–50-MHz band and authorized commercial operation. Thirty fm stations were on the air in 1942 when the wartime freeze was imposed. Three years later, on the basis of controversial engineering evidence, the FCC moved fm up to the present allocation of 88–108 MHz (exhibit 3.8). This move made the half million receiving sets built for the lower band instantly obsolete.

Most major am stations felt obliged to take out fm licenses as insurance against the possibility that fm really would displace am, as its enthusiasts were predicting. The number of fm licenses reached a peak in 1948, when over a

thousand were outstanding. But at that time television was expanding rapidly, and the number of fm stations began to decline. In 1949, 212 commercial fm stations went off the air, and total authorizations continued to decline year by year (exhibit 9.1). With most fm stations duplicating programs already available on am and with cheap receivers unable to reproduce the full potential range of fm sound, the public had little incentive to invest in fm-equipped receivers.

Fm channels are designed to allow incorporation of a variety of subsidiary services by multiplexing (§3.3), or in some cases by simplexing (the temporary replacement of the regular broadcast service by another service). In the 1940s broadcast facsimile on fm channels caused a flurry of interest. It was thought that a market might be created for newspapers reproduced on home facsimile print-out machines, but the idea failed to catch on.

The FCC issued Subsidiary Communications Authorizations to fm stations, thereby permitting them to multiplex a variety of nonbroadcast subscription services on fm channels. These supplementary services, known collectively as *functional fm*, include background music for places of business and waiting rooms (*musicasting*, *storecasting*), public transportation (*transitcasting*),⁵ and the like. Many other, more specialized services have been suggested, including even transmission of slow-scan still pictures to accompany radio talks (Parker, 1969).

During the 1960s a growing interest in high-fidelity reproduction of popular as well as classical music increased the demand for fm. In 1961 the FCC authorized multiplexing stereophonic sound for a growing audience of hi-fi enthusiasts, and in 1965 the commission moved to stop some of the wasteful duplication of programming by commonly owned am/fm stations, ruling that in cities with populations of more than 100,000, such fm stations had to be programmed separately for at least half their air time.

9.9 Educational radio

In contrast to commercial broadcasting, the fortunes of educational, noncommercial stations declined during the period 1928–1948. The failure of most educational institutions to defend their original am assignments against the raids of commercial interests confirmed what some had said from the first: at the very outset a share of the am frequencies should have been set aside exclusively for educational use; educational interests could not reasonably be expected to compete with commercial interests in the open market for the use of radio channels.

⁵ When an injunction was sought to ban transitcasting on the grounds that it was an invasion of passengers' privacy, the Supreme Court upheld the right of the broadcasters by a narrow margin. (343 US 451, 1952).

This point of view was revived when Congress began to consider revising the Radio Act of 1927. A proposal to reserve 25 percent of the am channels for education became a major issue during congressional debates on the Communications Act of 1934. The only way to have made such reservations would have been to revoke assignments already made to commercial operators because there were few desirable assignments that remained unused.

In order not to delay passage of the act, the supporters of educational reservations agreed to a compromise: a provision requiring the FCC to report to Congress on the advisability of allocating “fixed percentages of radio broadcasting facilities to particular types or kinds of nonprofit radio programs or to persons identified with particular types or kinds of nonprofit activities” (§307, c).

In January 1935 the FCC reported that in its opinion existing commercial stations gave ample opportunity for educational programming, so no special allocation of frequencies for this purpose was needed. Everyone agreed that the educational potential of radio was incalculable; in fact, the general atmosphere of enthusiasm and optimism accurately presaged the euphoria surrounding the advent of educational television twenty years later. Even some of the phrases used were identical. Said the FCC chairman in 1936: “Radio, properly used, can become an even greater instrument of instruction than the printing press” (Marsh, 1937: 18). But the high hopes faded; the solution proposed by the FCC simply did not work.

Tacitly acknowledging this fact, the FCC in 1945 reversed its previous thinking when the opportunity arose to allocate fm channels.⁶ The commission set aside 20 of the 100 fm channels in a special classification reserved exclusively for noncommercial, educational broadcasting. In view of the small audience for fm and the limited demand for licenses at the time, this may not seem like a particularly bold gesture, but it did have significance as a precedent-setting move. Reserving channels for educational fm struck a blow for pluralism; it established the principle of withholding a portion of broadcast facilities from commercial use. Later, the more radical proposal to reserve television channels for educational programming therefore came as less of a shock.

To stimulate use of the reserved fm frequencies, the FCC in 1948 liberalized its rules to permit informal operation of 10-watt noncommercial stations. Syracuse University, which had cooperated with General Electric in developing low-cost transmission facilities for such stations, received the first grant under the revised rules in October 1948. Many schools that otherwise would not have had sufficient funds for a station took advantage of the new rules. About half the 615 fm educational radio stations on the air in 1974 were 10-watters (FCC, *Annual Report*, 1974: 64).

⁶ The first educational fm reservations had been made in 1940, when the FCC made the initial (and abortive) allocation for regular fm operations. At that time 5 of the 40 channels were earmarked for education.

Unfortunately, the 10-watt rules also invited schools to start educational fm stations without serious commitments. For example, a license applicant proposed setting up a 10-watter at a construction cost of \$97 and an annual operating budget of \$130 (Simkins, 1974: 19). Many became “electronic sandboxes,” functioning as “a kind of practice area for those not yet ready to undertake a serious program service” (Robertson and Yokom, 1973: 108). Their presence proved an embarrassment in the 1970s when public broadcasting began to take on the dimensions of a true alternative service, for by then it was difficult to find unassigned channels on which full-power noncommercial stations could operate.

9.10 Eve of television

The post-World War II era for broadcasting began officially on October 8, 1945, when the FCC returned to peacetime licensing procedures. The years 1937–1944 had been extremely prosperous for the radio industry. The wartime curtailment of consumer goods had had no adverse effect. Total annual revenue had more than doubled in the 8-year period, and income had risen from 20 cents on the dollar of revenue to 33 cents. In 1944 alone the income of the industry amounted to more than 100 percent of the value of tangible broadcast property as computed at its original cost (FCC, 1946: 48).

Little wonder that the resumption of peacetime licensing found would-be licensees waiting in line to qualify for a share in so lucrative a business. Whereas at the close of the war only 2 percent of cities under 5,000 people and only 13 percent of cities of 5,000 to 10,000 had stations, within less than 2 years a respective 16 percent and 43 percent of these two classes of communities had radio stations. The total number of radio communities nearly doubled within 16 months (FCC, 1947: 1).

Many new stations, located in communities theretofore not served by local stations, opened up sources of local advertising revenue not previously available to radio. As competition grew, they enticed more and more small local businesses into advertising on radio. There were, after all, only a limited number of companies large enough to use national or regional advertising at the network level; so the great unexploited potential lay in the tens of thousands of small, local merchants. Until 1945 network advertisers (i.e. national and regional advertisers) had contributed the largest share of radio’s revenue. In 1947 revenue from local advertisers for the first time surpassed that from network advertisers.

Increased radio competition made itself felt in the program field in forms both good and bad. The emphasis on selling led to a fascination with program ratings that amounted to a fetish. Reciprocally, a tendency developed toward programs that would “buy” audiences and thereby inflate ratings artificially, such as the giveaway contests that reached a zenith in 1948. On the local level,

the narrow margin of profit of the smaller, independent stations made it difficult to turn down advertising of dubious ethical standing, and there occurred a resurgence of some of the pitchman and patent-medicine-show atmosphere of the earliest days of radio.

On the other hand, competition also shook the industry out of its complacency and stimulated more imaginative, creative programming. Many stations took the advice the FCC offered in a 1947 study on the outlook for the industry and began to serve minority groups that until then had not seemed important enough to merit special attention (FCC, 1947).

By 1948 the history of sound broadcasting in America reached a transition point. Television now began to monopolize public attention. In 1948, Bob Hope's radio *Hooperating* was 16, Jack Benny's 26. By 1951, their respective ratings had tumbled to 3.2 and 4.8 (Gould, 1951). As the golden age of radio drew to a close, two of the national radio networks were already taking out insurance against the future by getting a foothold in television. ABC's role was as yet doubtful. Mutual's radio position was precarious since it depended on small stations, many of which might well suffer if television continued to make inroads into the audience. Pessimists in 1948 foresaw a bleak future for radio in the face of television's seemingly overwhelming advantages. But adaptations were already being made, eventually to result in a remarkable renaissance of sound broadcasting.

9.11 Radio reascent

Television not only lured away radio network advertisers and audiences, but to compound the loss network radio had to pay the bill for network television's initial development. Radio's very advertising power was thus turned against itself. Television moved out of the red in 1951 and had shot past radio in gross revenue by 1953. Yet radio's overall revenue did not fall proportionately, and in the 1960s it actually climbed to new highs.

Although in 1950 networks accounted for a third of all radio time sales, within a decade their share declined to only 6 percent. But local sales underwent a compensating expansion, accounting for 70 percent of radio time sales in 1969 as against 43 percent in 1950. Growth in the number of stations on the air also helped account for radio's expanded income. Am and fm stations on the air almost tripled in number between 1948 and 1968, growing from about 2,000 to nearly 6,000 (exhibit 9.1).

Radio, especially in its dominant form — network radio — had been based on the premise of being a family medium — a rounded program service aimed at a broad spectrum of audience interests and offering a little bit for everybody in the family circle. Television preempted this bland, mass-oriented role, driving radio out of the living room and into the kitchen, the bedroom, and the car. Radio became *personal* and *mobile*, accompanying individual listeners around

the house, along the highway, to the picnic, to the beach, over the water, and into the streets. Exhibit 9.2 reflects the trend toward mobility. In the 1950s home receiver production declined, but production of car, portable, and clock receivers rose sharply. In absolute numbers, car radios increased the most; proportionately, though, portables had the greatest gain, more than doubling in number.

Networks had once provided ready-made, distinctive personalities for their affiliates. The relatively few non-network stations in a community at that time stood out almost automatically, without having to work particularly hard on building an independent image. But with the network stars following the national advertisers into television and new radio stations cropping up all over the dial, it became almost impossible for listeners to tell one radio station from another.

From the programming point of view, radio stations in the television era faced two primary problems: how to overcome anonymity on the crowded dial and how to identify and retain a loyal if small audience. The answer to both questions came with *formula* radio, first introduced under the name Top 40.

Invented about 1949, though not fully exploited until the mid-1950s, the Top 40 formula proved capable of moving a bottom-ranked station to the first rank in its market within months. The name Top 40 refers to the 40 current best-selling popular records. The formula demands strict adherence to a carefully structured “playlist” based on recording sales figures. It also involves a distinctive announcing style and the use of production gimmicks such as echo and filter effects, catch-phrases and slogans, musical station break announcements, and constant hammering on identity by means of promotional stunts.

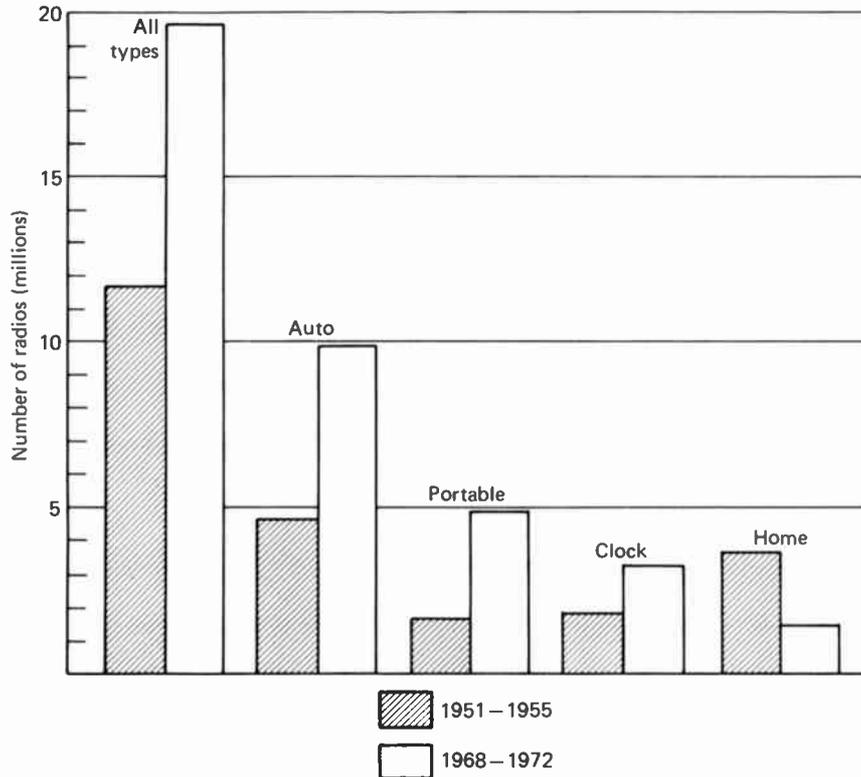
Monitoring a Top 40 station for an hour during the stations’ heyday disclosed some of the characteristic traits of the formula: 125 program items in the hour; 22 commercials; 73 weather, time, promotional, contest, and other brief announcements; call letters repeated 58 times; a single 3½-minute newscast in which most stories concerned accidents and assaults and averaged two sentences in length. In short, an aggressive sound — loud, brash, fast, hypnotic.

The success of the Top 40 formula lay as much in its ruthlessness in driving people away as in its dedication to a chosen audience. Programmers who still thought in pretelevision family audience terms tried to please everybody, whereas, formula radio selected a well-defined target audience and programmed to please that audience exclusively, cheerfully accepting abuse from former listeners whom the formula repelled.

Not all formulas follow the original Top 40 pattern. Indeed, “free form” radio developed in reaction to the rigidity of Top 40, restoring autonomy to the DJ as musical arbiter and personality merchandiser. The formula principle, though, can be applied to almost unlimited types of specialization — in most cases to specialized musical appeal but to many other types of appeal as well.

Radio became the medium of youth because of the close identification of

Exhibit 9.2
Trends in radio receiver production



Production averaged for two five-year periods to iron out annual fluctuations. Includes U.S. brands only.

Source: Adapted from Electrical Industries Association data as reported in *Television Factbook No. 43*, Television Digest, Inc., Washington, D.C., 1974: 76a.

popular music with youthful lifestyles and aspirations and because of youth's unprecedented affluence in the 1960s. Broadcasting, as such, symbolizes establishment authority, but music played over broadcasting stations escapes the onus of government certification and control. Music became the vehicle for a code language of the youth subculture. Symptomatically, the FCC precipitated an uproar in 1971 when, with prompting from the White House, it expressed concern about the content of lyrics. The commission issued a public notice reminding licensees of their responsibility to learn the language of lyrics (comparing the problem to that of monitoring foreign language programs) and to be aware of what their stations might be covertly saying about drugs through the medium of music (28 FCC 2d, 409; see also Kahn, 1973: 282).

In an illuminating special report for *Broadcasting*, Michael Shain wrote that music has been free to “adventure creatively and, consequently, to keep up with and at times ahead of the changing lifestyles of its audience.” He regards rock-and-roll as primarily a way of making statements, saying that “its sociological innovations may far outweigh any innovations it may have made in music” (1971: 32).

The construction of music formulas has become so intricate that a lively market for firms specializing as formula consultants and syndicators has developed (see Gelman, 1969). Drake-Chenault Enterprises, for example, specializes in providing automated programming services keyed to formats that the company calls “Hit-parade,” “Solid Gold,” “Classic Gold,” and “Great American Country.” Such fanciful names are symptomatic of the tendency to subdivide music, at least in name, into more and more discrete categories. The listing of music formats carried in *Broadcasting Yearbook* includes scores of names of music formulas, many of which give the uninitiated little hint as to the category of music they actually denote.⁷

The all-news station, the radio formula distinctly not youth-oriented, is one of the most extreme radio specializations. This formula offers an interesting example of the parsimonious use of program materials. There is simply not enough real news to broadcast only news. And in fact, hard news occupies only a small percentage of the time on all-news stations. The rest of the time goes to features, service announcements, advertising, promotion, and other non-news items. Also, the format depends on what we might call the “revolving-door principle,” the expectation that listeners will not stay tuned for long but will come back periodically. All-news stations have low average ratings but high cumulative ratings (see §13.4). As with all formulas, predictability plays an important role. It costs so much to run an all-news station that few owners venture into the field. The most notable examples have been the Westinghouse and CBS groups, which can afford the investment and need the prestige (see Powers and Oppenheim, 1973).

Perhaps the ultimate in specialization was reached in the 1966 attempt to convert a Los Angeles fm station to an all-advertising format, under special authorization by the FCC. Programming consisted exclusively of classified ads, grouped as to type (employment, automotive, real estate, etc.) and recycled periodically. For a year the licensee tried variations on the basic format but had to admit defeat after losing several million dollars (see Kushner, 1972).

Revival of interest in fm in the 1960s, reflected in the growth rate chart of exhibit 9.1, contributed to the increased diversity of the newly emerging character of radio. Fm can be operated at somewhat less cost than am, so it can

⁷ This vagueness of nomenclature makes classification difficult, but the chief recognizable music types featured by radio stations in 1973 appeared to be as follows: Country and Western, 26 percent; MOR, 25 percent; Contemporary, 24 percent; Black, 10 percent (*Broadcasting Yearbook*, 1974: D32–50). (On automation of radio programming see Abrams, 1974.)

afford to cater to smaller audiences. It became identified with particularly esoteric programming and, of course, with any type of music that benefits importantly from high fidelity. By 1974 the trade journal *Broadcasting* could say that “the rites of passage” of fm were finally over and it could be regarded as an economically mature medium in its own right (24 Sept. 1974). In that year Congress began considering an all-channel radio bill — similar to one earlier adopted for television — that would require radio manufacturers to equip all but the cheapest receivers with combination am/fm tuners. This change would correct fm’s one remaining coverage weakness: in 1974 only about 30 percent of auto radios had fm tuners, compared with 90 percent of home radios. Even so, a 1974 projection estimated that by 1980 fm would be bringing in over 30 percent of all radio revenue (Crater, 1974).

As to radio networks, they were reduced in the television era to feeding short news summaries and occasional features to their affiliates at intervals throughout the day. Many stations found it impossible to incorporate network programming into the seamless web of their formats. Recognizing this problem, ABC tried to update network radio by offering four separate services, each tailored to a major type of formula. ABC calls its subnetworks “Contemporary,” “Entertainment,” “FM,” and “Information.” This move proved successful, and ABC displaced Mutual as the network with the largest number of radio affiliates (exhibit 10.8). Meanwhile, Mutual ventured into another area of specialization, offering a network service tailored for black-oriented stations.

Television’s overall impact on radio turned out to be less than fatal. Radio still has a loyal following and performs unique services made possible by its relative cheapness and its ubiquity. Despite the inroads of television, one commentator summarized the case for radio on its fiftieth anniversary as follows:

The printed word and radio, now both largely nonfiction, live and flower for an ever better-informed public. Radio in particular seems to have grown up since TV took over its hackneyed situation comedy routines, its stand-up comics, its weekly musicals. What was worst in radio has deserted for the glamour of the picture tube. What is left is often the very best in music at many levels, news coverage, unparalleled in any other medium including TV and print, some of the most rewarding talk, sober or gay, available anywhere, and a format so simple and comparatively inexpensive as to be indestructible. (Tobin, 1971: 40)

9.12 National Public Radio (NPR)

Noncommercial radio found itself even more seriously undermined by television than commercial radio. To be sure, station authorizations continued at an increasing rate (exhibit 9.1), but the stations were mostly low power. During the hectic years of educational television’s evolution, radio was neglected. The federal ETV Facilities Act of 1962 provided matching funds for noncommercial

television station construction but ignored radio. The Public Broadcasting Act of 1967, however, corrected this omission, making radio eligible both for construction grants and for program aid from the Corporation for Public Broadcasting.

A radio tape-syndicating network for educational stations had been started in 1950 by the National Association of Educational Broadcasters. But the category “noncommercial, educational radio” embraced such a variety of enterprises with such varying goals that it had no meaning for the general listening public. After a 15-month tour and a study of educational radio stations in 1971–1972, a research team admitted being “confused, for no two stations are alike, and there are almost no models to which to point” (Robertson and Yokom, 1973: 115).

The only way out of the confusion was to select from among the diversified station pool those able and willing to form a cadre of professional, full-service public radio stations. National Public Radio, incorporated in 1970 and financed primarily by the Corporation for Public Broadcasting, set up as initial criteria for affiliation a minimum staff of three full-time professionals and a broadcast schedule of at least 14 hours a day. These standards were to be gradually increased year by year.

By 1974 NPR had over 160 affiliates, the majority associated with colleges and universities. NPR supplied about 40 hours of live network programming a week and also shipped tapes to affiliates. Affiliation costs only \$100 a year plus the cost of returning tapes. NPR’s showcase program, *All Things Considered*, won a Peabody award in 1973. The program consists of a daily 90 minutes of network news and features — about a third of which comes from the news departments of member stations — differing sharply from commercial radio’s one-dimensional, headline approach. As one critic described it, a news event on *All Things Considered* is “tossed in the air like a balloon, examined from various sides and maybe even punctured or shot down” (quoted in Simkins, 1974: 17). In its first three years NPR also carried more than 300 hours of live (if not always lively) congressional committee meetings. And NPR went to unusual lengths to achieve completeness and authenticity — for example by giving verbatim readings of the seemingly interminable presidential Watergate tape transcripts.

A much smaller class of noncommercial stations turns down even the mild degree of institutionalization implied by membership in NPR. Their leading proponent, Lorenzo Milam, calls them “free-form noninstitutional radio.” They depend entirely on listener and foundation financial support and regularly draw outraged complaints from a wide variety of established institutions.

Only a handful of this type of community stations exists. Although small in number, they represent a significant trend and probably have far more influence than their shaky economic base and limited listenership suggest. They are typified by the Pacifica Foundation group, which has outlets in Houston, Los

Angeles, New York, and San Francisco. Pacifica also syndicates material to about 70 other stations, including many in the NPR group.

A critic described Pacifica's New York fm outlet, WBAI, as a station with "real hair, sweat and body odor" (Braudy, 1972: 10). Most of its programming has to do with public affairs and differs as much from the norm as to be unrecognizable as broadcasting in the commercial sense. It does things like scheduling four days and nights for the uninterrupted reading of Tolstoi's *War and Peace*, using as readers such celebrities as William F. Buckley, who usually devotes his public appearances to forwarding ultraconservative viewpoints. All this is done with a sublime contempt for ordinary standards of "professionalism," which is regarded as a barrier to communication. The Pacifica stations have "as their inimitable signature an amateurish and awkwardly friendly sound" (Braudy, 1972: 10).

The Pacifica viewpoint opposes the formalized institutionalism of broadcasting and celebrates the spontaneous creativity alleged to lie hidden in every mute, inglorious Milton. A leader of the movement, Lorenzo Milam, a genuine original with an infectious passion for noninstitutional radio, has published a booklet of highly practical advice (larded with outrageous asides) on how to start a community radio station. For no reason except to get attention, he called it *Sex and Broadcasting*. In his view,

A radio station should be a place in the community for concerned and talented and plain-home-folk individuals to have a chance to express themselves. In the place you live right now, there are hundreds of secret talents: there is someone who collects (and loves) old jazz; there are politically aware people — who can speak to reality, and raise so many consciousnesses in the process. . . . There are individuals, walking down the street right now, right there: live, living people who can play the guitar or the kazoo or the harp — people who would be delighted to know that there is one door to the ether which is open and free to them: a door to all the hungry minds and souls of so many people who will, at last, know (through your station) that they are not alone. (Milam, 1972: 43)

Only in radio could one conceive of community broadcasting of the type Milam advocates. Television, even noncommercial television, simply involves too much investment and institutionalization. As we shall see in §11.5, however, a similar underground communications movement does exist in the video field. Cable public access channels offer an outlet sufficiently tolerant of unprofessionalism and uninvolved with profit to function as an alternative medium.

History of Television

Refinements in radio technology have not altered the original basic signal specifications of am sound radio. A homemade crystal set sold in 1920 by Horne's department store in Pittsburgh could still pick up KDKA today. But the same cannot be said of television. Signal specifications constantly changed during the developmental phase, each change outmoding all receivers built previously. This made it essential to prevent the technological evolution of television from becoming frozen at too early a stage, a condition that could have made countless receivers obsolete.

10.1 Quest for higher resolution

All early attempts at devising a practical television system eventually reached the same impasse: the dependence on mechanical moving parts imposed insurmountable limits on the number of lines per picture and, therefore, on resolution. The famous 60-line picture of Felix the Cat shown in exhibit 10.1 indicates the degree of resolution obtainable in the experiments of the 1920s.

Mechanical systems depended on the scanning wheel, a device invented in 1884 by a German, Paul Nipkow. Exhibit 10.2 shows a Nipkow scanning wheel, with its spirally positioned holes. As the wheel spun, each succeeding hole scanned one line. It obviously required quite a large wheel to scan even an image area the approximate size of a postage stamp.

A great deal of effort nevertheless went into experiments with mechanical systems. The British Broadcasting Corporation began public demonstrations of a low-resolution mechanical system as early as 1936. The BBC soon shifted to an electronic system but paid the penalty for being the first to offer regular television service. Having initially settled on too low a line frequency, the BBC had to introduce a second system in 1964, one approximating the definition that had meanwhile been adopted in the United States (see exhibit 3.10).

As a satisfactory medium of public communication, television had to await the development of an all-electronic system. The major U.S. contribution to this development came about as the result of a team effort. In 1930 Vladimir

Zworykin became head of a celebrated group of over 40 engineers at the RCA laboratories in Camden, New Jersey. The team resulted from merging the television research program of GE and Westinghouse with that of RCA. Zworykin's position of leadership was based on his 1923 patent on the first electronic television pickup tube, the iconoscope (exhibit 10.3).

The Camden team mounted a systematic attack on all aspects of television development, investigating not only technological problems but also the subjective problem of what standards of resolution would be required to win public acceptance. No one knew for sure how good television had to be to persuade the mass public to invest in it. The RCA studies made it apparent that much higher resolution than had been obtained to date was essential for mass acceptance.

During the 1930s the Camden team tackled and solved all the outstanding problems. They went from the 60-line system shown in exhibit 10.1 to higher and higher line frequencies. They increased image size and brightness, introduced interlace scanning, adapted equipment for use in the vhf band, and introduced sets into homes on an experimental basis. In 1939, at the World's Fair in New York City, this decade of intense, systematic developmental work culminated in a vital public demonstration of a 441-line all-electronic system (exhibit 10.4). Franklin Roosevelt, who opened the fair, became the first president of the United States to be televised. There, for the first time, the general public saw U.S. television in operation.

The 1939 telecasts were nonetheless experimental. Full-scale commercial exploitation had to await still further development and debate about standards. The National Television System Committee recommended present standards in March 1941, increasing line frequency to 525 and adopting fm rather than am for the sound component. Within two months the FCC approved the NTSC proposals and that same year authorized the first 18 commercial stations. But before manufacturers could tool up for mass production of receivers, the United States entered World War II. On April 22, 1942, all production of civilian consumer electronics came to a halt, although six pioneer stations continued to operate on a limited schedule during the war, telecasting to about 10,000 receivers.

Resumption of station licensing in 1945 did not, however, lead to immediate resumption of television activities. Postwar shortages of materials made it impossible to build stations and manufacture sets. Moreover, potential investors held back because of uncertainty as to whether the FCC might again change the standards, perhaps opting for color (the NTSC standards of 1941 pertained to black-and-white only). On March 18, 1947, the FCC reaffirmed the NTSC standards and put off a decision on color standards. Once more television had the go-ahead, this time under more favorable conditions. The image orthicon tube, introduced in 1945, had improved camera sensitivity; coaxial cable had been developed and installed between key cities in the east; wartime shortages

Exhibit 10.1
Experimental low-resolution television of the 1920s



The first "star" of U.S. television, the comic strip character Felix the Cat, was used as a model by RCA engineers in 1920s experiments.

Source: RCA Corporation.

were coming to an end. During the summer and fall of 1947, the first television gold rush began.

10.2 Freeze of 1948-1952

Thus 1948 became a pivotal year in the history of American television — the year in which it emerged as a mass medium. For the first time, expansion of the industry could move ahead on a firm technical footing.

During 1948 the number of stations on the air increased from 17 to 41, and the number of cities served went from 8 to 23. Set sales increased more than 500 percent over the 1947 level and by 1951 had already surpassed radio set sales. Increased opportunities for viewing in 1948 multiplied the audience in one year by an astonishing 4,000 percent. Within a decade there were about as many sets in use as there were families in the United States.



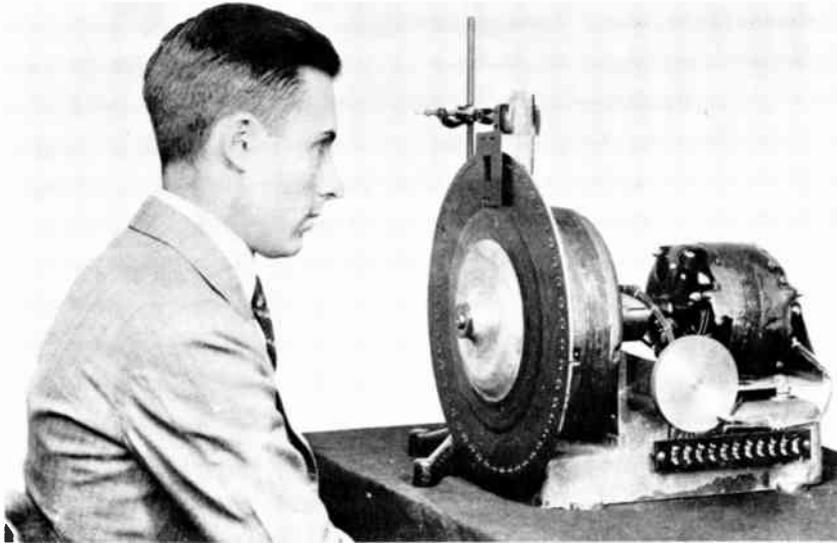
The system that reproduced this picture had only a 60-line frequency compared with the present-day standard of 525 lines.

Source: RCA Corporation.

Also in 1948 network relay facilities became available in the Midwest as well as on the East Coast; regular network service was initiated, important advertisers began experimenting with the new medium, and large-scale programming began: the national political conventions, Milton Berle's *Texaco Star Theater*, Ed Sullivan's *Toast of the Town*, a telecast of the Metropolitan Opera production of Verdi's *Otello*.

By the fall of 1948, however, the FCC had become increasingly aware of the following conditions: first, the current allocation plan, adopted before much was known about vhf propagation, caused interference between stations; second, the twelve channels then allocated to television would prove entirely inadequate to take care of the demand for stations. Furthermore, the color

Exhibit 10.2
Mechanical television scanning system



Scanning disc receiver of 1927. The wheel contains fifty spirally positioned apertures that scan the field with as many lines with each revolution. Note the small image area (the postage-stamp-sized rectangle in the plate at which the viewer gazes) compared with the size of the wheel.

Source: Courtesy of Bell Laboratories.

system question, which had clouded the issue all along, had become more and more pressing as the technology of the medium progressed.

Realizing the inadequacy of the existing rules, the FCC stopped processing license applications on September 29, 1948. This initiated the famous “freeze”: it permitted already authorized stations to go ahead with construction but froze all other applications. For nearly four years, until June 1, 1952, the maximum number of stations allowed to operate was arbitrarily fixed at the 108 “pre-freeze” stations.¹ Even so, during this period television continued to expand at a rapid pace. The number of sets in use rose from a quarter million to over 15 million. After heavy losses at the outset, by 1951 stations began to earn back their investment rapidly (exhibit 12.1). The coaxial cable and the microwave network joined the East Coast to the West Coast in 1951, inaugurating na-

¹ These lucky few became some of the most profitable stations in the country. The history of each is recounted in *Broadcasting* (1970: 154).

Exhibit 10.3
Vladimir Zworykin and his iconoscope tube



Zworykin displays the key invention that opened the door to the age of electronic television.

Source: RCA Corporation.

tional network television, which soon reached 60 percent of all the homes in America.

Meanwhile, the FCC had been holding a series of hearings to settle the engineering and policy questions that had brought on the freeze. The long-awaited decision, the charter of present-day television in the United States, came on April 14, 1952, with the FCC's historic *Sixth Report and Order* (17 FR 3905, 1952).

The new rules provided for the present 82 channels (exhibit 3.9). A table of 2,053 assignments awarded the use of one or more channels to 1,291 communities, over 66 percent of them uhf assignments. About 10 percent were reserved for noncommercial educational use, mostly in the uhf band. The table

Exhibit 10.4
David Sarnoff (1891–1971) unveiling electronic television at 1939 World’s Fair



At its first large-scale public demonstration in the United States, electronic television approached modern standards.

Source: RCA Corporation.

has undergone changes from time to time, the most significant being the increase in educational reservations to about 35 percent of the total.²

Tremendous pressures for new stations had built up during the freeze. In less than a year after the thaw, all outstanding uncontested applications had been granted. Then began the long-drawn-out process of deciding among competing applicants for the few remaining channels in the most desirable markets. The number of authorized stations more than tripled in the first postfreeze year (exhibit 9.1).

The FCC adopted NTSC color standard recommendations less than two years

² Additional channel allocations, known as “drop-ins,” continue to be proposed from time to time. A 1973 plan, for example, proposed reducing the separation mileage and mandating the use of directional antennas in order to drop in over 60 new vhf channel assignments in the top markets (OTP, 1973). Minimum separation rules vary according to region: the requirements are greatest in the south, where co-channel assignments must be 220 miles apart; adjacent channel assignments must be 60 miles apart (47 CFR 73.610).

after the end of the freeze, but the decision did not result in immediate wholesale adoption of color; the first period of U.S. television was black-and-white. A dozen years passed before color turned the corner and most commercial stations could transmit network programs in color. The boom in set sales that signaled the completion of the conversion to color began in 1968.

10.3 Uhf's hard times

The FCC decision to allocate channels in both vhf and uhf bands and, moreover, to intermix the two within markets created two classes of television stations — first and second. There is little inherent difference between the two as long as uhf stations have sufficient scope to use the high power and antenna elevations necessary to achieve equality of coverage. Although the FCC gave them theoretical equality, in practice uhf stations could not at first achieve maximum power, for both economic and technical reasons.³

A more serious uhf drawback was the absence of receivers for the new service; to tune in uhf stations, viewers had to buy converters. Long after uhf was introduced, manufacturers continued to build vhf-only receivers because of the low demand for all-channel sets.

The effect of these disadvantages shows up clearly in the rate of uhf television station authorizations. After an initial high point of 125 stations in 1954, uhf licenses steadily declined for six years and in 1960 reached a low point of only 76 stations. Then began a steady climb, and by 1974, there were 195 stations (exhibit 9.1).

The major reason for the turnabout was an amendment to the Communications Act that empowered the FCC to compel manufacturers and importers to equip all new receivers with tuners for all 82 channels, effective as of 1964 (47 CFR 303s). But uhf continued at a disadvantage because without click-stops on the uhf dials, it was still difficult to tune in uhf stations. Not until a decade later was this defect remedied.

Unable to obtain network affiliations in most markets, uhf stations depend primarily on syndicated programming and local advertising. Freedom from the restraints of network schedules enables them to program sports events more freely than network affiliates, and this category of programming has proved especially lucrative. Uhf also depends on children's programming and syndicated material. A few stations have had success with special audience appeals, notably Spanish-language programming, but operating and production expenses are too high for many uhf television stations to emulate fm radio in cultivating narrowly defined target audiences.

³ The pioneer commercial uhf station, KPTV-Portland (Oregon) went on the air in September 1952, using an RCA experimental transmitter. High power could not be achieved until the 1960s. In 1974 WTAF-Philadelphia inaugurated the first television transmitter to operate at the maximum power of 5 million watts.

In 1970 uhf stations as a group lost \$45 million, although the more favorably located were beginning to turn a modest profit. According to a 1972 study, of 81 uhf stations surveyed about half were operating at a profit. Their mean profit of \$194,500 contrasted with a mean of nearly \$3.7 million for the profit-making vhf stations in the first ten markets of the country (NAB, 1973c: 5, 41).

10.4 Network rivalries

During the freeze NBC got an important head start by signing up the maximum permissible number of pioneer vhf stations; CBS, also starting early, failed to do so.⁴ CBS corrected this weakness in 1953, when ABC merged with Paramount Theaters. The merger would have given the new company two television stations in Chicago, a violation of the FCC rule against owning two stations in a single market (47 CFR 73.658, i, 4). So Paramount sold WBKB, one of the pioneer vhf television stations, to CBS, which thereby obtained a coveted owned-and-operated station in another of the most important national markets.

By 1953 CBS led NBC in both radio and television audience size. The two networks banked on differing concepts of television programming. CBS followed traditional radio lines: big, single-sponsored programs and regular scheduling. NBC, judging that traditional radio methods did not suit the economics of television, emphasized the magazine concept and multiple sponsorship (Smith, 1954).

These innovations were made by Sylvester Weaver, who in 1949 had resigned from an advertising agency to become NBC's vice president for television. Six years later he left as chairman of the board. The most imaginative of early television executives, Weaver took the risk of starting what then seemed like daring extensions of network programming into early morning and late evening — *Today* and *Tonight*, “the perfect formats for live television from which all the other desk and sofa talk shows descend” (Brown, 1971: 235). Weaver also originated the idea of interrupting regular programming with occasional blockbuster “spectaculars,” now called specials.

Exhibit 10.5 shows the relative size of the networks, with CBS and NBC about equal but ABC having substantially fewer television affiliates. Note that proportionately twice as many television stations as radio stations have affiliation contracts.

For both CBS and NBC, recapturing commercial program control from advertising agencies was significant. Agencies had created most of the big commercial shows on radio simply because networks and stations had not developed their programming capacity fast enough to fill their needs (see §7.12). Now, in addition to controlling all news and special-events productions, the television networks moved to create their own entertainment programming. In 1955

⁴ In 1974 the Columbia Broadcasting System changed its name officially to CBS Incorporated.

Exhibit 10.5
Number of commercial network affiliates

Network	Number of affiliates	
	Radio	Television
ABC	1,479 ^a	168 ^b
CBS	249	192
MBS	620 ^c	—
NBC	216	211
Total affiliates	2,564	934
Unaffiliated ^d	4,936	363
Percentage affiliated	34	61

^a Aggregate of ABC's four subnetworks: Contemporary, 360; Entertainment, 386; F'm, 219; Information, 514.

^b ABC-TV also has 82 "secondary" affiliates.

^c Mutual's Black Network has 80 affiliates.

^d Total stations on air minus those listed as affiliates. Includes both am and fm radio.

Source: Network and station listings taken with permission from *Broadcasting Yearbook 1974*: A109, E13–16, except for ABC radio data obtained from network.

Weaver, then president of NBC, said that networks "must gamble on shows, on talent, on projects; and we will lose in doing this all too often. But only a great network can afford the risk, and that is essentially why the great network service is so important to this country" (Weaver, 1955). Exhibit 12.9 shows that advertisers supplied fewer and fewer prime-time programs in the 1960s, but networks too declined as a program source, leaving the package producers as the main source (though usually with network financial participation).

ABC entered television late in 1948 but lagged well behind the two older networks until its merger with Paramount Theaters in 1953. Capitalizing on this motion-picture connection, ABC-TV thereupon launched an all-out policy of mass-audience programming based on tried-and-true Hollywood formulas. Many critics felt that the successful example of ABC's assembly-line movie approach to television programming did much to hasten the end of television's era of innovation and experimentation (Albrook, 1967). ABC drastically curtailed live programming — from 38 percent of its schedule in 1959 to only 8 percent in 1969. By the 1960s ABC began to move up in billings toward the levels of CBS and NBC, and in the 1964–1965 season the television networks found themselves for the first and only time in a brief three-way tie in average ratings.

The Mutual Broadcasting System, always on a somewhat shaky financial footing even as a radio-only network, found itself unable to follow the three major chains into television. The Dumont Network competed as a weak fourth network for five years but dropped out of the expensive competition in 1955. Subsequent attempts at launching a fourth commercial network have likewise failed, although the Hughes Television Network succeeded in building a limited-service chain that distributes occasional sports events.

Thus television proved able to support only three commercial national networks, whereas radio had been able to support four. This difference reflects both the numbers of channels available and the costs of station construction and operation (exhibits 12.2 and 12.6). After the first few years of expansion following the freeze, the commercial television station growth rate tended to level off (exhibit 9.1). The number of radio stations continued to increase, despite television competition. On the other hand there was substantial growth potential in the field of noncommercial television; in 1966 the Carnegie Commission on Educational Television predicted a need for an increase from 124 to 380 noncommercial stations (CCET, 1967: 75).

The economics of radio permit small, localized services in virtually every community. The economics of television, on the other hand, allow for fewer but larger primary transmission sources in major markets, with programs redelivered to smaller communities. The need for redelivery accounts for the initial growth of community antenna television.

In 1955 CBS made a study of television economics that forecast a ceiling of about 600 commercial stations (CBS, 1955). Taking into account some upward adjustment in general population and economic growth, this estimate seems valid even now. In the same vein, a 1974 Rand Corporation study concluded that the establishment of a fourth commercial network remains unlikely even if drop-in channels were to expand the potential number of affiliates (Park, 1974).

10.5 The “live” decade: 1948–1957

If we sometimes look back nostalgically to radio’s “golden era” of the 1930s and 1940s, we could justifiably do the same with television’s first decade and with somewhat comparable emotions. The networks put first priority on stimulating people to buy sets. Advertising helped, and the networks made liberal use of radio to bring about its own decline. But above all else, programs motivated set purchasing:

It was the only time in the history of the medium that program priorities superseded all others. If there was an abundance of original and quality drama at the time . . . it was in large part because those shows tended to appeal to a wealthier and better-educated part of the public, the part best able to afford a television set in those years when the price of receivers was high. (Brown, 1971: 154).

Television began without benefit of tape recording or feature films. Most production, local and network, was live — a throwback to the earliest days of radio. This live era lasted about a decade. John Crosby, the leading New York critic during television’s formative years, considers 1955 as conceivably television’s “greatest vintage year” (Crosby, 1973: 5). The video tape recorder came on the scene in 1956. At about the same time feature films, theretofore artificially held back by the question of rights, began to flood television. The

removal of *Studio One*, since 1948 the most prestigious of the live drama series, from New York to Hollywood in 1958 symbolized the end of the live decade.

Most of radio's top talent and program formats survived the transition to television. Amos 'n' Andy failed and, for different reasons, so did Fred Allen (who on seeing a bowl of fruit standing on a receiver remarked it was the best thing he had seen on television). But names like Jack Benny, Bing Crosby, and Bob Hope became as familiar to television viewers as they had been to old-time radio listeners.

As to format, versions of virtually all the typical radio program types emerged during television's first ten years: soap operas, situation comedies, western serials (on film), game shows, children's shows, science fiction, musical variety shows, discussion programs, and the like.

News, though a staple from the beginning, developed somewhat slowly as broadcasters mastered the problems of film, which at first had to be obtained on contract from theatrical newsreel producers. The first stellar network studio news team, Chet Huntley and David Brinkley, emerged in 1956, and in 1957 Mike Wallace brought his new, probing style of interviewing to national audiences. The first documentary series made for television, *Victory at Sea* (1952), consisted of edited stock footage from World War II archives. "Christmas in Korea" (1953) in Edward R. Murrow's *See It Now* series — the first of its kind to "look like a documentary" (Freed, 1972: 56) — launched a documentary tradition that is unique to television.

That most parsimonious of radio formats, the disc jockey show, proved difficult to transfer to television effectively. "Talking heads" were anathema, and the early instant experts of television made up profound slogans about the importance of the visual element: "If it doesn't wiggle, it's not television" and "Babies and animals are sure-fire audience pleasers." Weaver launched *Tonight* in 1952. It started in a minor key, but Jack Paar turned it into a major attraction when he joined the show in 1957. Dick Clark introduced another successful adaptation of the DJ format, capitalizing on the emerging rock-and-roll craze; his teen-age dance party formula became a national fixture beginning in 1957 and stimulated local imitations throughout the country.

But original television plays constitute the most memorable entertainment achievements of television's live decade. "Talent seemed to gush right out of the cement" says Jack Gould (1973: 6). Robert Alan Aurthur, a young playwright at the time, later recalled the challenge of producing 52 live, original plays a year — no reruns in those days. Aurthur wrote the script for the last of the *Philco Playhouse* (1948-1955) series, "A Man is Ten Feet Tall." He wrote it for Sidney Poitier at a point in Poitier's career when he was running a barbecued rib joint in Harlem between acting jobs. The casting was tricky:

Today it's no big thing for a black to play a leading part on television, but 1955 was something else. Two Southern newspapers printed editorials calling me a Communist, and several others condemned the network for airing the show. Six Philco

distributors threatened to cancel franchises, and we received a rolled-up petition from Jackson, Miss., with more than 6,000 signatures of people who swore they'd never watch the Playhouse again. (Aurthur, 1973: 10)

The source of the petition has a special irony in that WLBT-Jackson (Miss.) later lost its license for failing to meet its obligations to the black members of its community (§22.7).

It is tempting to become sentimental about the live decade. A more realistic appraisal, perhaps, is that of Robert Saudek, producer of *Omnibus*, a series initiated in 1952 with Ford Foundation support as an experiment in high-quality programs. Asking himself if the strain of live production was really worthwhile, Saudek replied,

Any sane observer would have to say no, because it is both efficient and economical to put shows on film or tape. Not only does it provide profitable reruns, but also . . . the scheduling of crews, studios, lights, cameras, sound and all the other hardware can be computerized. In that way a whole season of shows can be frozen and stored away like TV dinners to be retrieved and served up on demand. (Saudek, 1973: 22)

In short, the economics of the medium drove it inexorably toward syndication. This was true at the local as well as the network level. Local live production eventually dwindled down to news, sports, and children's programming, plus a sprinkling of religious, public affairs, homemaking, and agricultural features. And even these few so-called local live programs draw much of their content from syndicated material: news agency stories, kiddie cartoons, Department of Agriculture films, and canned religious features. A good deal of the newsfilm seen on the local programs of network affiliates consists either of news stories syndicated by the networks to their affiliates "down the line" at times when the relay facilities lie idle, or of taped repeats of network news stories. It should be noted too that consulting firms that design programming formats represent still another form of syndication.

10.6 Syndicated programming

We have defined networking as a syndication device (see §4.1), but in the trade *syndicated programming* refers to recorded material (including film) distributed by non-network means.

Among the firms specializing in the sale of syndicated materials, spinoffs from the old-line movie production companies have a dominant position. For example, the Allied Artists' Television catalogue includes a package of 41 sci-fi and horror movies and a package of 50 features referred to as "Camp and Classic." MGM-TV offers 88 episodes of *Flipper* and also feature films. Other syndication firms grew out of talent agencies, the networks themselves, and publishing companies. Time-Life Films markets 26 half-hours of *Wild, Wild World of Animals*. Over a thousand half-hour programs of *What's My Line*, 312

Deputy Dawg cartoons, and 216 episodes of *Beverly Hillbillies* are among the offerings of Viacom Enterprises, formerly CBS's syndicating arm.⁵

Syndicated materials, as these examples suggest, consist typically of (1) off-network series (those initially shown in regular network schedules and subsequently released for syndication), (2) first-run syndicated series (programs produced or imported especially for the syndicated market), and (3) theatrical feature films (including other theatrical releases such as cartoons and short subjects). Stations are said to "buy" syndicated material, though in reality they purchase only the right for a number of showings (usually two) within a stated period of time.

Prices vary according to market size and are subject to some of the hardest bargaining in the broadcasting industry. The purchaser gets exclusive use of the material for his service area during the contract period — subject to some FCC limitations as to geographic area, designed to prevent big, major market stations from freezing out smaller stations on the fringes of their coverage areas (47 CFR 73.658, m). The smaller stations pay the least and are said to get the most tattered prints of programs that have been long in syndication (Manning, 1973: 38).

Off-network series Once the networks shifted from live production to film, they began to build up more and more filmed material to feed into the syndication market. Actually, the trend had already set in during the decade of live television broadcasting. *Dragnet*, for example, one of the earliest television film series made in Hollywood, first appeared in 1952. By 1958 over a hundred syndicable network series had been filmed (Barnouw, 1970: 80).

Bonanza, introduced in 1959, was the first hour-long series in color, and it dominated the network ratings during most of its 13-year run. Distributed in syndication to nearly a hundred foreign countries, *Bonanza* succeeded wherever it went: "The simple message that good always triumphs over bad is just as clear in Farsi as in English" (*Time*, 1972). But the very symbol of off-network syndication success is *I Love Lucy*. In several formats, the Lucille Ball program was initiated in 1951 and ran for 23 years on CBS. Viacom Enterprises markets 179 half-hour episodes for syndication and 13 full-hour films of *The Lucy-Desi Comedy Hour*. In early 1974, while *Here's Lucy* was still being shown as a first-run network program on WCBS-New York, three independent New York stations were running syndicated *Lucy* episodes, one of them twice a day. Sometimes five *Lucy* episodes could be seen on the same day (Funt, 1974).

Some syndicated series have been run dozens of times in the same markets. By 1974, 52 *Abbott and Costello* theatrical film shorts had been com-

⁵ In 1973 the FCC required networks to limit their syndication activities (47 CFR 73.658, j). The above examples of syndication are drawn from *Broadcast Daily* (1974), which during the National Association of Broadcasters' yearly convention carries, as do other trade publications, annual listings of syndicators and their wares.

pletely recycled in New York 48 times (Funt, 1974). With time, new generations of viewers grow up and rediscover the programs that amused their elders. For example, aficionados are beginning to elevate the oldest *Lucy* and *Perry Mason* episodes to the level of syndication “classics.” The more recent *Star Trek* (1967–1969) has acquired such a loyal following that the Third Annual *Star Trek* Convention of 1974 in New York attracted 12,000 devotees.

First-run syndication As the availability of off-network programming increased in the 1960s, the amount of first-run syndicated material decreased (Manning, 1973: 40). In 1970, however, the FCC ruled that networks could occupy no more than three hours of prime time each evening (see §12.4). The FCC thus opened up seven half-hours a week in the most lucrative time periods for non-network programming in a deliberate attempt to expand the market for producers of syndicated programming.

At about the same time the networks began cutting back on the number of new episodes produced for their prime-time series. Where traditionally the networks sought to fill a 9-month season with 39 new episodes in each series before going into lightweight summer replacements, they cut back to 24 or even fewer new episodes. Reruns of the season’s early episodes began appearing three to four months before the end of the regular season. This reduction means, of course, fewer programs for the off-network syndication market.⁶

The unstable nature of the first-run syndication market dictates low-cost formats — semidocumentary wildlife programs, voice-over travelogues, quizzes, and the like. Less typical is the daily talk-variety program, such as *The Mike Douglas Show*. Produced and distributed by Group W (a Westinghouse subsidiary, the outgrowth of the company’s pioneer venture with KDKA), this series in every respect resembles a daily network program except for one thing — its manner of distribution. Even the Group W station in Philadelphia that provides the production facilities broadcasts it on a delayed basis.

The growing market for first-run syndication material has given a new lease on life to some otherwise doomed network programs. Changing network policies and fading popularity sometimes cause cancellation of network series even though they still attract loyal audiences. For example, when ABC terminated *The Lawrence Welk Show* after 14 years, the series continued in production and re-emerged in syndication on more stations than had previously carried it as a network show. CBS’s twenty-year-old soap opera *Secret Storm*, after

⁶ According to CBS, only 14 percent of the total potential audience sees the average first-run program, and the average rerun gets an audience of 15 million — only 30 percent less than the first-run audience (Wood, 1972). More resentful than the audience, apparently, is the Screen Actors Guild, whose members get less work because of the cutbacks and whose contracts have much to do with ever-increasing production costs. SAG recommends filling no more than 25 percent of the season with reruns, whereas the actual average in 1971–1972 was 41 percent (*Broadcasting*, 12 June 1972). During the 1972 campaign, President Richard Nixon cultivated labor votes by publicly supporting the union’s demands (Krebs, 15 Sept. 1972).

yielding its place to a quiz show, promptly went into first-run syndication on 140 stations (Brown, 18 Jan. 1974).

Feature films One of the most striking program developments in television has been the rise of the feature film to its position as the entertainment format most in demand. In the earliest days, feature films were foreclosed because no provision for release to television had been made in the complex, tightly woven pattern of rights in theatrical film contracts. After 1948 film producers remedied this omission, but they still held back, uncertain as to how dangerous television might be to their interests. A single television showing of a film could, at least hypothetically, wipe out its salability in thousands of theaters.

In 1955 ABC, the most film-oriented of the three networks (see §10.4), drilled the first hole in the dike by purchasing 100 features from J. Arthur Rank and programming them for housewives as *The Afternoon Film Festival*. Other production companies soon followed suit, releasing features in blocks (despite a Supreme Court decision against block booking by movie exhibitors; see 334 US 131, 1948).

These packages consisted of old films that had already been in the vaults for some time. More recent films, especially those marked by top talent and major investment, were still jealously guarded. In 1966 the first genuinely big feature, *The Bridge on the River Kwai*, was released to television and made a sensational impact on audiences. Feature films soon became the most compelling entertainment television could offer.

In 1973 ABC broke all records by paying \$3.3 million for a single showing of *The Poseidon Adventure*. The next year NBC topped that record by paying an estimated \$5 million for the rights to a single airing of *Gone With the Wind*, only to double that figure later in the year for the right to show the all-time box office leader, *The Godfather*. The networks charge more than normal rates for advertising spots in such programs, of course (*The Godfather* captured 61 percent of the audience and earned \$225,000 per commercial minute). Even so they could not recover costs in advertising revenue alone. Blockbuster features also serve to build up audiences for other films and adjacent programs, and to “hypo” ratings (Brown, 30 July 1974).

In the mid-1960s the television networks themselves began making feature-length productions. After all, the rental fee for just one showing of a first-rank theatrical feature would more than pay for making a brand new low-budget film. And whatever a made-for-television feature might forego in box-office income it could more than make up in subsequent earnings from domestic and international syndication. Operating on this premise, in 1966 NBC collaborated with Universal Studios in launching *World Premiere*, a series of two-hour made-for-television features. By 1968 the other networks had followed suit, and feature films, once seen only on independent stations, could now be viewed on the networks every night of the week.

The two-hour features cost NBC three quarters of a million dollars each; ABC's 90-minute films cost about half a million. Few regular theatrical features can be made for less than a million, and top-rank features run five million and up.

The made-for-television feature was at first regarded as "a kind of grubby step-child of film" (Whitney, 1974: 21), but by the 1971–1972 season, when some 100 of them were produced, it had begun to establish itself as a respectable medium. In 1974 *The Autobiography of Miss Jane Pittman*, starring Cicely Tyson, established a new level of seriousness for the breed. In the main, however, the television features fulfilled a simpler need that the motion picture industry had begun to neglect. As one critic put it, the television features performed "a cultural service by keeping alive the traditional commercial genres that, aside from the cop dramas, are seldom available now in movie houses" (Schickel, 1974).

10.7 A vast wasteland?

In his first public address to the broadcasting industry, President John Kennedy's appointee as FCC Chairman, Newton Minow, coined a phrase that will assure his place in broadcasting history. Minow challenged broadcasters to sit down and watch their own medium for a full day. He assured them they would experience a "vast wasteland" of violence, formulas, commercials, and boredom (1964: 52). The phrase caught on and has become part of the language of broadcasting.

Television has high peaks of achievement, but between the peaks must, by the nature of things, lie either broad valleys or vast wastelands of routine entertainment programming. How green the valleys are depends on the viewer. The voracity of the medium, as we pointed out, has no parallel in previous history. The whole of Hollywood's annual output, combined with the entire Broadway drama season and with the Metropolitan Opera season thrown in, would fill not more than a small fraction of television's annual schedule. Nor would all this material necessarily interest the mass audience or satisfy its standards of taste and morality.

Of course, daytime television aims to please not FCC commissioners but people at home during the day and hence advertisers. Whatever this says of people's standards of entertainment, they remain stubbornly loyal to the wasteland. So intense is the interest in soap operas, for example, that some buy the "Daytime Serial Newsletter," a monthly publication that summarizes the plots of 14 daily serials for those who may miss an occasional episode. As to advertisers, the measure of their interest is seen in the fact that 75 percent of network profits comes from daytime television. A single hour of soap operas can bring in \$7 million a year (Adler, 1971: 47).

During prime time, attracting and holding the attention of tens of millions of

people night after night demands programs of the broadest possible appeal. This requires more than a single, unitary appeal. Paul Klein, a specialist in audience demographics, has called this quality *bimodality* (1971: 22). For example, on a graph depicting age, a program with bimodality would show audience interest peaking at lower age levels, dropping off at mid-age levels, and peaking again at higher age levels.

Multiple appeals may cut across all sorts of lines that otherwise set people poles apart. The success of *All in the Family*, a program about a thoroughgoing bigot, seems to hinge on bimodal perceptions of Archie Bunker's prejudices. Some agree with the program's overt antibigotry message; others receive the opposite message, enthusiastically endorsing what they perceive as Bunker's courage in telling it like it is. Probably neither group by itself would have been large enough to keep *All in the Family* at the top of the ratings, but the two groups working together in unconscious and ironic harmony made it unbeatable.

Once caught in the deadly cycle of the daily or weekly grind, even the brightest talents fade and the most luminous ideas lose their luster. The longest-lasting series, such as Ed Sullivan's *Toast of the Town* and *Meet the Press*, constitute formats more than programs. Yet even the dud that fails to last a season represents the end product of a remarkably long chain of selective decisions. It has been estimated that the television networks consider 1200 story ideas a year. Less than 8 percent reach the pilot stage, and fewer still survive as program series.

The frantic search for novelty concerns not actual newness, since not that many genuinely new things exist in the world, but rather the appearance of newness. The pursuit of novelty takes program planners to exotic locales and produces such unlikely characters as talking horses, housewife witches, spacemen of the future, and cavemen of the past. Paradoxically, the search for novelty leads also in the opposite direction, toward imitation and stereotyping.

The quest for novelty eventually led to "relevance." The authors of a popular survey of television program evolution dubbed 1970 "The Year of Relevance." They point out how the networks piled on "one socially conscious series after another — *The Young Lawyers*, *Storefront Lawyers*, *The Senator*, *Matt Lincoln*, *Headmaster* and an all-black rendition of *Barefoot in the Park*. It turns out, however, that most viewers still are blissfully seeking irrelevance, and all these well-meaning ventures fail" (Shulman & Youman, 1973: 284). The unlikely marriage of *Laugh-In*'s sophisticated production techniques with a trendy interest in country music produced in 1969 the most bizarre example of calculated relevance, *Hee Haw*.

These attempts were belated, hence already trite, spinoffs from earlier television responses to the social ferment of the 1960s. *The Smothers Brothers Comedy Hour* (1967) and *Laugh-In* (1968) had inaugurated a fashion of making acerbic comments on theretofore sacrosanct topics. CBS canceled the Smothers

brothers' program in 1969 under controversial circumstances. "The Comedy Hour got too relevant," wrote Tommy Smothers, adding, "We wanted to make it a platform for a dialogue between many people; the young, the old, the black, the white, even the dissident, because we felt that frustration finds a much healthier outlet in laughter. We are proud that our program touched on many relevant things, both humorously and seriously" (1969: 9). CBS ascribed the cancellation simply to the failure of the brothers to submit a program tape in time for preview, but clearly CBS was not prepared for as much relevance in entertainment programming as the brothers were giving it.

The extent to which blacks are cast in prime-time programs can be used as an index of network tolerance levels for relevance. Advertisers spurned Nat King Cole in a musical series tried out in 1957. Harry Belafonte's special with Petula Clark in 1959 caused sponsor difficulties because the white singer went so far as to touch the black. Bill Cosby, cautiously cast as the tennis-playing sidekick of an international agent in *I Spy*, proved acceptable in 1965. The next year, Greg Morris played an only slightly inferior member of a trio of international spies in *Mission Impossible*. A turning point came in 1968 with Diahann Carroll as *Julia*, the first black lead in a situation comedy since the maidservant role of Ethel Waters in *Beulah* (1950) and the ill-fated attempt to transfer Amos 'n' Andy from radio to television with a black cast in 1951. In 1969 Clarence Williams III played the black member of a trio of young investigators in *Mod Squad*. In the same year Flip Wilson launched a highly successful comedy series, Lloyd Haynes starred as a black schoolteacher in *Room 222*, and Leslie Uggams replaced the Smothers Brothers Comedy Hour.

Comparing this chronology with the sequence of real-life events in the civil rights movement shows how belatedly television entertainment turned "relevant." The women's liberation movement and other such social innovations offer similar contrasts between the timing of real-life events and television's efforts to climb aboard the current bandwagon.

10.8 News and public affairs

News and public affairs programming has likewise been accused of lagging behind social developments, but it has also been credited with playing a positive role at the forefront of change. Ben H. Bagdikian, for example, analyzes the impact of television on the 1960s civil rights movement:

Long before the courts ordered the end of denial of television time to black [political] candidates, television had made a powerful impact on the racial perceptions of the black and white population. This early impact and its escape from usual social controls arose from the relative richness of television compared with print and audio. (1971: 19)

Radio had long before established broadcasting's bona fides in the field of news and public affairs (§9.4). Edward R. Murrow, a towering figure in the history of broadcast public affairs programming, bridged the radio and televi-

sion eras. See *It Now*, the distinguished television news documentary series he produced with Fred Friendly from 1951 to 1958, set many precedents and tackled the most controversial issues of the time.

As an on-the-air personality, as a producer, and as a man, Murrow had unusual qualities that won respect and admiration not only from the public and his colleagues but also from the leading public personalities of his time. In 1961, after 25 years with CBS, he retired from commercial broadcasting to accept an appointment from President John Kennedy as director of the United States Information Agency. It meant going from an annual salary of around \$200,000 to one of \$21,000 (Kendrick, 1969: 457). Although this second career lasted a little less than three years before he had to retire, soon to die of lung cancer, Murrow had almost as powerful an impact on the government agency as he had on commercial broadcasting.

Murrow experimented for two years with *See It Now* before hitting on a documentary style significantly different from the older tradition of film. The late Fred Freed, a Murrow colleague and himself a distinguished producer of documentaries, recalls the innovative character of a 1953 *See It Now* program, "Christmas in Korea":

It tried to show what was behind the news, beneath the surface, what it was like to be out there in the line in Korea at Christmas time. It was a radio documentary with pictures, not a film. It was journalism, not art. That turned out to be crucial. It settled the way we would make news documentaries for television for the next twenty years. They would be in the hands of journalists. The important decisions would be journalistic. Ideas would come first. (1972: 56)

Of all Murrow's programs, the best known is the one that signaled the beginning of the end of Senator Joseph McCarthy's demagogic career. Actually, Murrow produced a series of McCarthy exposés, but the direct confrontation came in the program of March 9, 1954. It made no slashing attack. McCarthy, an outrageous opportunist, kept his opponents off balance by his complete disregard for consistency or the rules of logic. Murrow and Friendly had to do little more than splice together scenes from the senator's own appearances, allowing him to expose his methods in his own words. Of course, they also had to have the courage to put the program on the air. Alexander Kendrick, Murrow's biographer, writes that the McCarthy program "demonstrated the unique power Murrow held, not only as the leading practitioner of the broadcasting art, but through it as a public figure in his own right." (1969: 35).

McCarthy accepted the offer of a rebuttal program in which he called Murrow "the leader and the cleverest of the jackal pack which is always found at the throat of anyone who dares to expose individual Communists and traitors" (quoted in Friendly, 1967: 55). No one can say precisely what part the Murrow broadcast played in McCarthy's downfall, which occurred shortly thereafter; but its effect on the morale of the country and on the status of television was beyond question.

When screened today the early *See It Now* documentaries still project some of their original fervor, although the style seems strangely stiff and formal. The Murrow-Friendly team inherited the 35-mm tradition of theatrical newsreels. Tradition frowned on hand-held cameras, pan shots, fuzzy focus, distorting angles, and bad lighting. Synchronous sound shooting involved bulky equipment that limited mobility and made the filming process obtrusive. Professionalization of 16-mm gear, remote synchronization of sound and picture (eliminating the umbilical cord between camera and recorder), and miniaturization of equipment have since permitted an entirely different physical approach to film making (Freed, 1972: 57).

Documentary style changed along with these technological developments, which enabled the camera and microphone to become more subjective, less intrusive in the scene being filmed. They made possible, for instance, *An American Family* (1973). Seven months of filming the intimate life of a real family was edited down from 300 hours of film to a 12-part series of one-hour episodes for public television. The subjects, soon learning to accept the relatively unobtrusive presence of camera, microphone, and lights as normal, unfolded their lives in an unprecedented way. Margaret Mead called the result not a documentary but a new form of communication, “as significant as the invention of drama or the novel” (1973: 21).

Another example is the series of Frederick Wiseman documentaries about public institutions. In *Juvenile Court* (1973), as in previous documentaries on such institutions as hospitals, police departments, and high schools, he lets the camera see what it sees with minimal interference. He has, said a reviewer, “almost incredible ability not to provoke self-consciousness with his camera, a major problem in many ‘cinéma vérité’ projects” (O’Connor, 1973).

This newer style differs from Murrow’s in substance as well as form. The current trend is subjective where Murrow was objective. “The sharp, shrewd editing of film that enabled a Murrow-Friendly program to make point after point was replaced by a kind of cinéma vérité that substituted impressions for points. The dissecting table became a psychoanalyst’s couch. . . . The new wave offers the viewer a sensory experience rather than balanced judgment” (Kendrick, 1969: 28).

At its worst the newer style encourages fuzzy thinking, matched by equally fuzzy technique. Robert Stein, commenting on what he calls “action painting the news,” referred to the technique as “the kind of earnest incompetence that equates bad technical quality with honesty and considers passing up a cliché to be a creative act” (1972: 200). At its best, however, the cinéma vérité approach deals with reality in a uniquely perceptive way. Probably no one who has seen Wiseman’s memorable *Juvenile Court*, for example, has come away from the experience without having acquired new insights.

Live coverage of actuality remains television’s unique dimension. The most memorable high points of television programming — the peaks of excellence that rise up out of the surrounding wasteland, as some would have it — are

nearly all of this type, whether Olympic games or congressional hearings, the first steps on the moon or the pageantry of great events of state. Without exception, the most popular individual programs have all had this quality of immediacy and unpredictability.

Of such programs, television's coverage of the assassination and funeral of President John F. Kennedy in 1963 will always stand out as an unforgettable example. Even those most prone to dismiss commercial television with contempt agreed that on that fateful occasion television lived up to its potentialities fully, with dignity and with extraordinary skill. "During those four fantastic, shocking days, television was as integral a part of the nation's life as food or sleep. . . . The greatest escapist medium ever devised made escape impossible" (*Newsweek*, 1963: 52). As proof that television had not yet been reduced to a mere mechanical pipeline for syndicated films, the networks pooled their resources to cover the funeral, setting up 41 cameras in 22 Washington locations, and produced an unparalleled living document.

10.9 From "educational" to "public" broadcasting

We left educational, noncommercial broadcasting in §9.8 at the point where it had been given a lift when the fm radio channels were reserved for its exclusive use. This served as a precedent for the much more radical step of reserving television channels. After a dramatic struggle in the "freeze" hearings (see Powell, 1962), the FCC approved the educators' petition. The *Sixth Report and Order* ended the freeze and reserved 242 channels (80 vhf and 162 uhf) exclusively for noncommercial use (see §10.2). Unfortunately, in most of the largest markets all available vhf channels had already been granted to commercial applicants prior to the freeze. Lack of vhf access to audiences in New York, Los Angeles, and Washington, D.C., hampered efforts to gain public recognition of the new service. Educational interests finally bought out commercial vhf stations in key markets. In 1961 New York's WNET, for example, paid a commercial operator over \$6 million for a vhf channel allocated to Newark, N.J.⁷

Only one educational station managed to get on the air within the first year — KUHT-University of Houston, which opened in May 1953. Massive grants from the Ford Foundation, help from commercial stations happy to keep rival commercial vhf stations off the air in their markets,⁸ and fund drives for general

⁷ Total commercial channel allocations licensed to educational interests: 4 vhf and 4 uhf television, 15 fm radio, and 25 am radio.

⁸ In the first years after the FCC reserved the educational channels, it was assumed they would not be long withheld from commercial use if not activated by noncommercial interests. This uncertainty put great pressure on those concerned with the educational channels to act quickly. It also encouraged commercial stations located in large markets with vhf educational channels to help activate them, thus forestalling the possibility that they might be reclassified as commercial channels. CBS has been one of the most generous of the commercial donors — not necessarily because of the motivation mentioned above. On two separate occasions the network gave \$1 million to public television stations in markets of its owned-and-operated stations and to the Corporation for Public Broadcasting.

public support were just barely enough to keep ETV afloat, even though the rate of station growth remained high (see exhibit 9.1). It became evident that in the long run the noncommercial service would have to rely heavily on federal support — a novel proposition in the United States, though taken for granted in most other countries of the world.

In 1965–1966 state and local tax funds already made up almost 60 percent of the stations' income (CCET, 1967: 28). Direct federal contributions at that time amounted to only about 12 percent, representing part of the matching funds provided by the Educational Television Facilities Act of 1962. This legislation furnished the first direct federal aid to noncommercial broadcasting, although it had previously received indirect federal funds through a variety of educational assistance programs. The ETV Facilities Act helped in the activation of 92 new stations and the expansion of 69 existing stations.

Despite remarkable progress, considering the odds, the course of educational television during the 1960s seemed dangerously parallel to that of educational radio — curving downward from a peak of high promise and fervent enthusiasm toward a plateau of mediocrity and neglect. Certainly, as a viable alternative service to commercial television the noncommercial service still had a very long way to go.

The needed thrust to raise the noncommercial service to a new and higher level came in 1967, with the report of the Carnegie Commission on Educational Television (CCET, 1967). Made up of top-level representatives from higher education, the media, business, politics, and the arts, the commission proposed that Congress establish a corporation for public broadcasting. The Carnegie Commission coined the term *public broadcasting* to dissociate itself from what it regarded as the “somber and static image” projected by the educational television service of that time. It also wanted a term that would differentiate between instructional television, intended for the classroom, and a general service intended for the public at large.⁹ After considering a number of alternative ways of financing the proposed corporation, the commission settled on recommending a federally imposed manufacturers' excise tax on the sale of new television receivers.

President Lyndon Johnson, whose family had extensive broadcasting interests (see §21.5), supported the legislation, and within the year, Congress passed the Public Broadcasting Act of 1967 (47 USC 396–398). The act created the Corporation for Public Broadcasting as a nongovernment entity and authorized interim funding of \$9 million for its initial operations. Congress also extended for three years the ETV Facilities Act of 1962, this time making educational radio as well as television stations eligible to receive federal grants to match local funding.

Congress followed the Carnegie Commission's recommendations in general

⁹ Officially, public broadcasting remains “noncommercial educational broadcasting” in the Communications Act and FCC Rules and Regulations.

but introduced a number of significant changes of its own. Most important, Congress failed to adopt any long-term method of secure financing for the system, leaving it subject to the vagaries of annual congressional appropriations. Where the commission had recommended that the president appoint half the CPB board and the board itself the other half, Congress gave all appointive power to the president. These two provisions left the CPB virtually at the mercy of any president who chose to interfere with its autonomy, a condition that arose during the Nixon administration.

10.10 Public Broadcasting Service (PBS)

The Corporation for Public Broadcasting is a nongovernmental statutory body that facilitates the development of noncommercial stations: it helps to build stations, to provide programs and network facilities, to conduct research and training, and to operate program libraries. CPB may not itself operate stations, run a network, or produce programs; instead, it makes grants to stations, to production organizations, and to a network operational arm, the Public Broadcasting Service — a private, nonprofit organization representing the country's public television stations.

PBS combines some of the functions of networking with some of the functions of station representation. Relationships between PBS and the other main elements of the system — the stations themselves as program users, some of the stations as major program producers, the National Association of Educational Broadcasters as representative of traditional noncommercial interests, and CPB itself as the umbrella organization and source of federal funds — underwent constant change as the new system struggled to establish its identity and to develop a *modus operandi*.

PBS obtains the programs it feeds over the network facilities from three main sources: major production-oriented stations within its own membership, especially designed supplier organizations like the Children's Television Workshop (*Sesame Street* and others) and the National Public Affairs Center for Television in Washington, and other outside suppliers.

In its organizational structure, public broadcasting differs markedly from commercial broadcasting. Affiliates sign contracts with PBS, agreeing to pay varying amounts of dues according to each affiliate's overall budget and market size. Under the "program cooperative" plan introduced in 1974 (described in §10.11), PBS offers affiliates a proposed list of programs, but it will supply a program to the network only if it is going to be carried by sufficient stations to defray costs. It might be said that the network schedule of programs is nominated by PBS and elected by the affiliates. Rather than being paid by the network for their time, as with the commercial model, public television stations pay the network for the programs.

However, public broadcasting stations schedule more local programs and more live material than do commercial stations. In fiscal 1971, for example,

PBS supplied only 39 percent of the stations' programming. Public broadcasting stations do not aim all their programming at the general audience but rather devote a substantial percentage of their time (34 percent in fiscal 1972) to broadcasting instructional materials designed exclusively for schools (Lee & Pedone, 1974a: 30, 26).

Among the contributing producer-stations, WGBH-Boston, WNET-New York, and KQED-San Francisco stand out. Each has a long history of creative innovation in the public broadcasting field. WGBH introduced Julia Child's *The French Chef*, the first nationally recognized educational television series. WNET represents a fusion of the original educational network organization, NET (dating back to the days when it merely bicycled films and video tapes from one affiliate to another), with New York's public television station. Similarly, the corporation that operates the District of Columbia public television station, WETA, also operates the National Public Affairs Center for Television. NPACT acts for the network in supplying PBS with timely national news and public affairs programming, with direct financial support from CPB and the Ford Foundation.

Public broadcasting's most celebrated series, *Sesame Street*, was made possible through an independent nonprofit corporation, the Children's Television Workshop. The corporation in 1972–1973 earned half its annual budget of nearly \$18 million from its program royalties (including substantial overseas sales) and from the sale of articles franchised to use the program's name and characters. The other half came from the U.S. Office of Education, CPB, and other sources of grants (CTW, 1973).

Sesame Street was launched in 1969 and quickly revolutionized the image of public television. "If CTW never made another contribution to public broadcasting, it would be remembered as the organization that brought the first flood of audience and recognition to public television" (Millard, 1971: 35). For the first time, the general public began to get a conception of public television's potentialities. Also for the first time, the entire technical resources of the medium had been mobilized and focused on a children's program. Never before had such a series had the full benefit of all the practical advice scientific learning theory and experimentation could offer.¹⁰

Among independent sources of programming tapped by public broadcasting, the British Broadcasting Corporation made the most significant contributions, starting with *The Forsyte Saga* in 1969.¹¹ Another BBC product, *Civilisation*, followed during PBS's first full-scale season of network operations, 1970–1971. A co-production of BBC and Time-Life Films, this series of illustrated, on-the-

¹⁰ *Sesame Street* was probably the most meticulously planned and researched series in television history. CTW spent over three years in preparation before the first episode went on the air in 1969. Immediately, new research began to test the effects of the program and to feed back information on which to base future improvements in production (see Polsky, 1974).

¹¹ Although the BBC operates noncommercially at home it earns revenue from the syndication of its materials abroad.

scene lectures by Kenneth Clark set a new standard for expository documentary treatment and has since been much imitated.

The 1970–1971 PBS lineup also included the second season of *Sesame Street*, the Frederick Wiseman documentary *Hospital, The Advocates*, and William F. Buckley’s *Firing Line*. After its years of obscurity as “educational television,” the noncommercial service began to win national recognition as “public television” and to be accepted as a genuine alternative to commercial broadcasting. Commentators began using the term *fourth network*, emphasizing the idea that a truly pluralistic system was emerging in the United States, as it had elsewhere. Strange as it may seem, however, not everyone applauded this development. Stranger still, its opponents came not from the commercial broadcasters, who might be expected to become alarmed if public broadcasting made substantial inroads into its audiences; the opposition came from within public broadcasting itself.

10.11 Fourth network or cottage industry?

In the struggle to achieve first noncommercial channel reservations and then formalized federal support, the constituency of noncommercial television had been much enlarged and diversified. Traditional educational radio leaders, who had kept the faith over the many lean years, found themselves jostled aside by the newly saved — the national educational establishment, politicians, the Washington bureaucracy, and activist citizen groups.

Out of this new matrix of forces emerged conflicting views of the nature of the noncommercial service. One group took “educational television” to imply a broadly inclusive cultural and information service; another construed it more narrowly as a new and improved audio-visual device whose primary importance would be to schools. Some favored a strong national network and a concern for audience building; others stressed localism and settled for limited audiences. Some wanted to stress high culture and intellectually stimulating programs; others wanted to emphasize programs of interest and value to ethnic minorities and the poor. As the man who drafted the Carnegie Commission report put it five years later, “It was hardly a system we were seeking to nurture at all, but rather a variety of broadcasting arrangements bearing a common name and yet widely differing in structure, financing, concept of role and degree of independence” (Cater, 1972: 10).

The organizational basis of the stations tended to reinforce these divisions. Licensees fall into three nearly equal groups, each having widely differing interests, constituencies, and social environments: state/municipal school systems, 30 percent; universities, 35 percent; community foundations, 35 percent (Lee & Pedone, 1974a: 5).¹²

¹² This breakdown is in terms of licensees rather than individual stations. The school group has the most stations because it includes some individual licensees that control state networks.

The role of the public broadcasting network organization proved a central source of disagreement. The Carnegie Commission had stressed the vital importance of having interconnection but at the same time had emphasized that it should not lead to a centralization of programming on the commercial network model. Public broadcasting was to differ from commercial broadcasting in having “a strong component of local and regional programming.” It would “provide the opportunity and the means for local choice to be exercised upon the programs made available from central programming sources” (CCET, 1967: 33). The commission pictured the stations as picking and choosing among the offerings coming down the network line, recording them, and then making up their own uniquely localized broadcast schedules out of this and other material.

In its anxiety to keep public television from emulating the centralized mass entertainment industry of commercial networks, the Carnegie Commission seems to have underestimated the positive role that a strong national network organization could play in shaping an effective program service that combines both local and national elements. The commission failed to appreciate the practical problems of asking the national network to provide a smorgasbord of programming from which affiliates would pick and choose at will.

In any event, opponents of a strong PBS seized upon the Carnegie Commission’s localism doctrine as justification for balkanizing public television. They ignored the fact that the commission had also made the point that “there must be a system-wide process of exerting upward pressure on standards of taste and performance” (CCET, 1967: 36).

Left to work out their problems among themselves and given enough federal support to lift the system out of the atmosphere of endemic fiscal emergency in which it had operated, public broadcasting interests would doubtless have worked out these conflicts within a reasonably short time. Their disagreements were exacerbated, however, by the injection of national politics into the family quarrel. Direct political intervention began in 1971. Prior to that, according to a memo from the CPB director of television activities to station managers, “CPB could honestly say that our relations with government had been free of political influences in the affairs of public broadcasting.”

In that year, however, the president’s spokesman, the director of the Office of Telecommunications Policy, Clay Whitehead, addressed the annual conference of the National Association of Educational Broadcasters, taxing them with trying to build up a strong national public broadcasting network. He reminded them of the Carnegie Commission’s stress on local autonomy, warning them that “permanent financing will always be somewhere off in the distant future” if they did not mend their ways (1971: 9). As if confirming this warning, the next year the president vetoed a two-year CPB financing bill that had been passed overwhelmingly by both the House and the Senate. The reason he gave for the veto was that “an organization originally intended to serve local stations

is becoming instead the center of power and the focal point of the entire public broadcasting system" (Nixon, 1972).¹³

The real reason was the development of public broadcasting as a national source of programming concerned with public affairs. In the administration's view, CPB had no business supporting this type of programming, which it said was already taken care of by commercial networks. Correctly diagnosing public broadcasting's main strength as lying in its clout as a national network operation, the administration struck at PBS.

This attack threw educational broadcasters, already deeply divided among themselves, into even more confusion. The next year (1972), the first president of CPB, John W. Macy, resigned, complaining of an "all-out attack on public TV's video journalism in 1971." He told the press that "PBS efforts at program review were resented by producers; producers were inclined from time to time to test the outer reaches of advocacy journalism. CPB board members were sensitive to the heat and apprehensive about consequent setbacks at annual budget time in the Administration" (quoted in Krebs, 31 Jan. 1973).

The administration thereupon attempted to gain control of CPB. This effort led to the resignation of the CPB board chairman, who refused to obey orders he considered contrary to the law (Krebs, 19 April 1973). Congress had emphatically forbidden political interference with the corporation. The law states that public television's progress depended on "freedom and initiative on both the local and national levels," that the CPB would be a private corporation to ensure "maximum protection . . . from extraneous interference and control," that it would "not be an agency or establishment of the United States Government" (47 USC 396, a, b, e).

Public broadcasting remained in disarray for three years following the 1971 attack. For example, in 1972 the CPB went over the head of its own network organization, PBS, to offer stations 21 hours of the Apollo 17 space flight.¹⁴ Commercial broadcasting had lost interest in the Apollo flights, but the administration was anxious to get maximum coverage. A PBS official described this maneuver as amounting to "a government agency sponsoring a program for possible propaganda purposes over facilities of a Government-funded public TV medium that, by act of Congress, is supposed to be insulated from government interference in program content" (quoted in Krebs, 11 Nov. 1972).

In 1974 the public broadcasting network as an effective network programming organization was "officially demolished" (Brown, 13 Feb. 1974). Instead

¹³ The news and public affairs aspects of public broadcasting had been vigorously pushed by Fred Friendly, the former CBS news head, who had become the Ford Foundation's advisor on public television after he retired from commercial broadcasting. The foundation's role as the major nongovernment supporter of public television lent great weight to Friendly's viewpoint. Some of the station managers, however, resented his influence, strongly disagreeing with his emphasis on high-powered, nationally oriented, network public affairs programming.

¹⁴ It should be recalled that although CPB set up PBS as its operational network arm, the actual membership of the PBS governing board comprises representatives of the stations.

of offering the affiliates an organized schedule of network programs for the 1974–1975 season, PBS conducted a kind of program auction. CPB had doled out program money to the station licensees rather than directly to PBS. The licensees passed it on to PBS in the form of bids for programs. Those programs receiving the most support became the network's schedule. A computer had to be used to find out which programs had "won." After several rounds of bids, the top choice turned out to be *Japanese Film Festival*, apparently because it was one of the least expensive offerings. The "mandatory" children's shows followed, then *Washington Week*, *Firing Line*, and *Book Beat* (*Broadcasting*, 22 July 1974).

Some station managers welcomed the "program cooperative," as the new system was called, regarding it as a much-needed "democratization" of the public broadcasting network service (see Gunn, 1974). In addition to giving each station freedom of choice (within the limits of the program "nominations"), it also stimulated more intensive efforts to obtain funding by means of underwriting grants from industry and foundations. Underwriting screen credits became conspicuous, especially when in addition to a list of underwriters of the original network production the local station added its own list of contributors to "acquisitions costs." The probable cost in reduced effectiveness of the public broadcasting network as such, however, was high (see §16.7).

Apparently mollified by this conspicuous disavowal of "fourth network" ambitions, the president relented. Public broadcasting had won a small breathing space of promised fiscal support but at the price of weakened prospects for growth as an effective alternative service. It seemed probable that given a different political climate in Washington, PBS would eventually re-emerge as a meaningful network, but a genuinely pluralistic system had been delayed for several years.

Cable Television

Cable offers countless Americans a chance to speak for themselves and among themselves in their own way, and a chance to share with one another their experiences, their opinions, their frustrations, and their hopes. . . . Cable could combine the shared experience of national television with a type of active participation in the political and social process that was common in the days before urbanization eroded the opportunity for personal involvement in events that affected the community. (Cabinet Committee on Cable Communications, 1974: 14)

11.1 Parasitism and the television set

Commercial broadcasting has motivated nearly every family in the country to invest in television receivers and their maintenance, creating a unique economic situation: all these billions of dollars' worth of home equipment became potentially available for nonbroadcast uses. If a way could be found to supply a salable commodity that could be displayed on the home television screen, it would be possible to take advantage of that huge investment in home equipment at no further cost. The major capital investment has already been made by the general public, and that expensive piece of equipment, the television receiver, sits there passively in the living room, capable of displaying not only broadcast programs but anything else that may be fed to it in the appropriate electronic form.

Such alternative services can be regarded as "parasitic" in that they take advantage of a situation created by commercial television without contributing to its profitability. Whatever its faults, televised mass entertainment must at least be credited with having created the almost universal demand for sets and therefore the market potential for nonbroadcast uses of those same sets.

The question becomes one of cost-benefit ratios: how much will people pay to obtain additional benefits from owning television receivers? Having already invested several hundred dollars, an owner might be willing to pay a few more dollars a month for significant extra services. This proved to be the case with community antenna television (CATV) in its original form. Set owners in

underserved markets welcomed additional monthly fees in order to get all three networks rather than only one or two or to get a major independent or public television station in addition to network stations.

In the case of CATV the motivation for the extra payment (an average of about \$60 a year) remained the same as that for the initial investment in a receiver: to see the broadcast television programs *already available* in other markets. Would audiences be equally willing to make additional investments for other uses of their sets? To play back video cassettes? To receive locally produced closed-circuit programs? To play electronic games? To view recent feature films or live sports events not available on broadcast television? Here the answer seems less clear-cut. Different types of motivation come into play, and it is uncertain that set owners will find such additional nonbroadcast benefits worth the additional costs. This is the dilemma for cable television and for all other schemes to capitalize on the public's investment in television receivers.

11.2 Development of CATV

Community antenna television was inconspicuously introduced soon after television itself began as a mass medium. One of the first, if not the first, systems began operation in 1950 at Lansford, Pennsylvania. It picked up three stations not otherwise receivable in the hilly community and delivered the signals to subscribers via coaxial cables, using amplifiers between the headend and the drop-off points. It thus met the basic criteria that distinguish CATV from other types of systems that use a common antenna, such as apartment house master antenna systems: it used intermediate amplifiers, fed more than one signal simultaneously, and was sold on a subscription basis. An FCC study revealed the basic dimensions of CATV as of 1972, when the average number of subscribers per system was 1,358. Basing its measurements on a sample of systems, the FCC reported the following averages: length in street miles, 36; subscribers per mile, 43; penetration (proportion of potential homes actually served), 60 percent. Around these averages, individual systems varied widely. For example, the longest system length was over 400 miles, the shortest only 2 miles. Half the systems served less than a thousand subscribers, but some had over 20,000 (all data from FCC, 1973).

During its first decade CATV remained primarily a local concern. At first the only regulation was by municipal governments, which had to be consulted in order to get permission to run cables over public property. With time, a three-tier system of control developed — municipal, state, and federal. Municipalities generally issue franchises to cable companies, giving them exclusive rights for a limited period of time to install and operate cable systems. Larger communities franchise several companies by dividing their areas into zones. New York, for example, divided Manhattan Island at about 80th Street, awarding different franchises to the northern and southern halves of the borough. The

municipalities receive a fee from each franchisee, usually about 5 percent of the franchise's gross income.

State governments are gradually beginning either to set up regulatory bodies or to make CATV regulation a duty of an existing body governing public utilities. The FCC introduced its first cable rules in 1956, but detailed regulations did not come until 1972 (47 CFR, Parts 76, 78). After obtaining a franchise, a cable company must submit its plans to the FCC and obtain a Certificate of Compliance, showing that its system conforms to regulations. The FCC had been charging CATV companies an annual service fee of 30 cents per subscriber, but in 1974 a Supreme Court decision invalidated this blanket fee and directed the FCC to devise a payment schedule that would reflect the benefit each individual system received from FCC regulation (415 *US* 336, 1974).

After their initial success at answering the existing demand for access to television broadcast programming, cable operators began to cast about for ways to augment this service in order to make subscriptions more salable. After all, once the franchised system makes the capital expenditures for installing the cable, new services can be added at relatively little cost.

Augmentation takes several forms. One form simply broadens the range of broadcast services on the cable by importing signals via microwave relays from stations more distant than the ones in the immediate vicinity. Another form, called *local origination*, supplies closed-circuit nonbroadcast materials at no extra cost. A third form is that of extra-cost "box office" types of syndicated programs, usually feature films and major sports events.

The proven workability of all these forms of augmentation, at least on a preliminary basis, stimulated still more entrepreneurial interest. The initial success of CATV had occurred mostly in small communities that supported only small systems, as the previously cited data suggest. When entrepreneurs began to look for ways of using the underlying CATV concept on a massive scale, the obvious next step was to invade the large cities, where very large concentrations of potential subscribers could be found. Big-city television viewers experience some direct-reception difficulties because of electrical interference and the tendency of large buildings to screen out television signals or to cause "ghosts." In the main, though, city dwellers already receive a full complement of broadcast services. The primary motivation for subscribing, lack of access to stations, no longer works for them. To recruit city subscribers cable operators must use especially attractive augmentation.

A *New Yorker* described in a newspaper article the advantages of big-city cable as he saw it. Before cable, he wrote,

watching television in our apartment in Manhattan's West 70's was a bit like going sightseeing in a heavy fog. . . . The improvement in reception alone is worth every penny of the cost. . . . The new cable converter sitting next to your set has a dial that can be clicked from 2 through 13 and from the letters A through N. . . . At present,

admittedly a lot of these channels are either dark or only partly in use, but for most New Yorkers a switch to cable means an immediate doubling of viewing options. (Berkvist, 1972)

The writer goes on to extol the old movies and the pro basketball games that the cable system originates at no charge as well as the home-grown programs available on two public access channels (see §11.5).

One of the major problems urban cable operators encounter, however, is that such initial euphoria quickly wears off, causing far greater turnover in subscribers than efficient business operations normally tolerate. Some of the reasons were suggested in a letter to the editor following the praise from the new subscriber. The old-timer pointed out that cable technical quality is unpredictable and that viewers soon find their “enthusiasm for cable TV beginning to wane and turning to utter boredom, due to repetitive programming” (Cohen, 1972).

Moves to augment the basic original CATV function and to invade the urban market brought with them complex new legal, economic, and social problems, some of which we will now examine.

11.3 Impact of CATV on broadcasting: Carriage rules

As long as CATV acted as a neutral redelivery system in small towns, filling in shadow areas, beefing up fringes, and overcoming local interference, television stations welcomed cable. Some stations found themselves being relayed by 30 or 40 different cable systems and reaching substantially larger audiences than before. By 1957, however, broadcasters had begun to wonder if their initial welcome to CATV had not opened the door to a dangerous predator rather than merely a benign parasite.

The growing practice of importing signals from distant stations tended to obliterate the fixed market boundaries previously imposed by the inherent limits of over-the-air signals. For example, if for some reason a cable system failed to carry the programs of a local television network affiliate and instead imported those same programs from an affiliate in a distant market (a process called *leapfrogging*), the local station’s audience would decline. Even without such duplication, importing distant signals divides the available audience into smaller fractions for each local station.

Even more threatening to broadcast television is pay television, or subscription television. This type of augmentation threatens not only audience size but also availability of program materials. If pay television interests obtained sufficient subscribers they could afford to outbid broadcasters for the best of the limited amount of first-class mass appeal program materials available. This process, called *siphoning*, would draw off the most popular talent, the best feature films, and the rights to major sports events, eventually leaving broadcasting bereft of network-level programs.

Cable systems also draw off advertising revenue that would otherwise help support broadcasting. So far the cable market remains small, in the aggregate under \$4 million — less than 5 percent of broadcasting's total advertising revenue. But local cable systems united into national cable networks by means of satellite relay interconnection could seriously undermine broadcasting's earning power as an advertising medium.

The FCC's 1972 rules opened the way to controlled urban cable development by doing away with a 1965 prohibition against importing distant signals into the top 100 television markets. The new rules set up a complex system of controls designed to protect broadcast television from destructive competition and at the same time to give cable television an opportunity for growth. (A discussion of the legal aspects of the rules is given in §18.13.) They restrict CATV systems most severely in the small markets and become more permissive as market size increases. This policy reflects the need on the one hand to protect small, economically weak television stations from damaging cable competition and on the other hand to give urban cable systems additional services with which to attract subscribers.

The FCC classified CATV areas of operation into four categories: (1) the 50 top-ranking television markets,¹ (2) the next 50 television markets, (3) the remaining small television markets, and (4) areas where no television stations operate. Carriage rules divide broadcast stations into two basic classes: those whose signals a given CATV system *must* carry at the request of the affected stations and those whose signals it *may* carry if it so chooses. The mandatory signals are, of course, those already available over the air within the CATV system's franchise area. The optional signals are those from additional stations that the CATV system may wish to import from more distant markets in order to enrich its programming options.

The 1972 rules take into account the two CATV threats that most concern broadcasters — siphoning and leapfrogging. The general import of the anti-siphoning rules is a guarantee that broadcasting will continue to have the first refusal on network and syndicated program rights that it has customarily had in the past. They also seek to encourage cable and pay television to develop programs not traditionally available in quantity to broadcasting. At the same time, the FCC prevented broadcasters from using dog-in-the-manger tactics by “warehousing” programs. For example, films otherwise barred from cable can be released to cable if, after a bona fide attempt has been made to sell them to broadcasters, the latter refuse to buy. Leapfrogging, or “leaping over” a local station to import programs from a distant station, is prohibited if the same programs can be obtained from the local station.

¹ Television markets divide the United States into about 200 geographic coverage areas ranked by the broadcasting industry according to the number of sets in each area. (For a discussion of television market definition see §13.2.) Usually, more than one CATV system serves a single television market.

One novel problem posed by CATV lies outside the FCC's jurisdiction — copyright. Broadcasters pay for the use of copyrighted materials in the form of music licensing fees (§9.3), scriptwriters' fees, and so on. The following question then arises: Does the broadcaster's payment entitle use of copyrighted works only within the normal coverage area of the station or network? CATV systems extend coverage to areas not normally reached by usable direct broadcast signals, and they do so for profit. So should CATV systems therefore be expected to pay extra royalties on copyrighted works? The courts have held that they should not (392 US 390, 1968), but for some time Congress has been considering new copyright legislation; if the law should pass, cable systems will probably be made liable for additional royalty payments (see §18.13). The increased costs of operation could have far-reaching effects on the economic viability of cable systems.

11.4 CATV origination

Closed-circuit programs that a cable system makes available to its subscribers without additional fees are spoken of as *origination materials*. Most such materials are fed from automatic devices that display information on the screen: moving tapes, revolving panels, slide sequences, and the like. Many of the materials come from syndicated sources and consist of news, weather, stock market, and sports information; others include advertising, music, and emergency signals. In mid-1973 automatic originations were offered by over 1,600 systems, or about 56 percent of all the systems in operation (*Television Factbook*, 1974: 84a).

Some 600 systems furnished nonautomatic programs, including live or taped local studio and remote programs, syndicated films and tapes, advertising messages, and programs fed over cable networks. In a number of cases local colleges and universities handled local production for cable systems, in addition to providing educational origination materials. A 1973 local origination directory indicates that most systems had only the simplest studio facilities, usually a single black-and-white camera and a ½-inch video tape recorder (NCTA, 1973).

Locally produced programs take in such staples as community news, bingo games, high school and college sports events, amateur hours, and political speeches. Urban systems, because of their need to provide added incentives to subscribers, originate more ambitious programming. For example, one of New York's franchisees, Teleprompter Manhattan, arranged for special live satellite telecasts from China during President Nixon's visit there in 1972.

An FCC rule of 1969 required the larger CATV systems to maintain at least one origination channel and to schedule at least some nonautomatic programming. The commission never enforced this rule, however, and rescinded it formally in 1974.

11.5 Access channels

Cable systems must also give outsiders the opportunity to reach their subscribers. This is done through *access channels*. In principle, access is an important feature of cable because it capitalizes on the system's unique ability to operate on many different channels; many more people can be given access to cable than to broadcasting. At the same time it permits the delivery of services designed for audiences too small or too specialized to warrant separate broadcasting services.

The 1972 FCC rules required cable companies in the top 100 markets to make access channels available to all on a gratis, first-come first-served basis. The companies must provide production facilities but may charge a fee for their use. Three access channels must be supplied: one for use by the general public, one for educational use, and one for use by local government. It is important to note that CATV operators have no control over the program material on these channels. This requirement opens up some of the most interesting possibilities for cable, although the idea was so new and the mechanics of implementing it so uncertain that it was slow to develop.

Use of public access cable was pioneered in New York's borough of Manhattan, where two major cable companies, Teleprompter and Manhattan Sterling (the latter controlled by Time Inc.) share the island. The city's franchise contracts require two public access channels, whereas the FCC requires only one. The New York access channels began operation in mid-1971.

After a slow start, the access channels began to distribute programs in rapidly increasing numbers. In the first two years of operation, the two cable systems logged over 3,000 hours of access programming, though repeats made up about four-fifths of the time (Othmer, 1973: 5). The energizing force that activated extensive use of the channels came from a group of foundation-supported "facilitating" organizations, notably Alternative Media Center, Open Channel, and Global Village. These and other organizations supplied the initial impetus, some of the facilities, the know-how, and the enthusiasm to get people involved in taking advantage of the access channels.

Encouragement and program materials also came from a pre-existing source, the "alternate media," or underground television movement. A number of organizations such as Videofreex that had already had valuable experience in using minimum equipment resources to explore new forms of expression provided some of the best of the early public access programs (Arlen, 1972: 29). The two cable companies helped, but they were too engrossed in the more fundamental problem of economic survival to provide the kind of leadership they should ideally have given to this special facet of their operations.

The emergence of Portapak recorders — ½-inch video tape machines selling for under \$2,000 — at about this time spurred on the movement. After an hour or so of briefing, complete novices can take a Portapak on location and, with a little luck, capture usable images on tape.

A history of public access in Manhattan by the Fund for the City of New York describes the technical quality of the access programs as varying “from excellent to abysmal.” The report goes on to say, “Some programs are so flawed they are literally painful to watch — the picture is muddy, lines constantly flash across the screen, snow dominates. Others cannot be distinguished from network productions” (Othmer, 1973: 4).

Contrary to what many predicted, the programs did not all come from the lunatic fringe, though their frankness and explicitness often set them miles apart from broadcast television. According to the New York Fund report,

The shows run the gamut from serious but often dull discussions of drug addiction, being old in New York, or transcendental meditation through Baptist revival meetings, programs in sign language for deaf people, flying lessons, and Gay Activists Alliance demonstrations to a graphic description of a transsexual operation, a tape produced by a video synthesizer, or a lady in Pennsylvania describing how she grows radishes. (Othmer, 1973: 4)

The report concludes that “watching public access is a near mystical experience.”

New York’s pioneering with public access gave interesting evidence of the viability of the underlying concept but left two nagging questions: Who will pay? Who will watch? The facilitating organizations act as pump primers, not as permanent sources of free production assistance. The New York Fund survey said that only about 5 percent of the cable subscribers were regular viewers of the access channels (Othmer, 1973: 33). To be sure, public access channels aim to serve small groups rather than the mass audience, but how small can the consumer group become before the cost of access becomes unjustifiably high even for a mystical experience?

New York City itself proved less than eager to activate the dedicated channel reserved for local government use. In 1973 the city finally scheduled a 13-week experimental series, *A for Art*, with support from both the state and the municipality. The series, intended as a pilot experiment, referred to itself as “the first cooperative cable-TV venture involving the city and state, designed as a model for the rest of the country.”

Educational uses of cable, on the other hand, have been widespread throughout the country. A 1973 survey by the National Cable Television Association reported that 65 colleges and universities used cable for educational programs and training, some very extensively. These uses involved not only dedicated educational access channels but also the CATV systems’ origination channels and leased channels (Hanley, 1973).

Any cable systems in the top 100 markets must have the capacity for at least 20 channels, on the assumption that new channel uses will emerge with time. Channels dedicated to the uses described — public access, educational, and government — have first priority. After a cable company meets these specific

needs, it may lease time either on those same channels or on additional channels designed specifically for leasing. Another rule that anticipates future developments requires systems in the larger markets to have the potentiality for return signals from their subscribers' terminals to the system's headend or other destinations (exhibit 11.1).

11.6 Subscription television

CATV's rapid growth temporarily distracted attention from another, more glamorous and highly touted supplement to conventional broadcasting, subscription television (STV), also called pay television or box office television. CATV as originally conceived merely made existing television programs more accessible. STV supplements broadcast programs with entirely different programs available only to STV subscribers.

In theory, the subscription system opens up breathtaking financial vistas. It proposes, in a sense, to benefit from the principle of ticketed admission to theaters and arenas without having to invest in buildings or to make and circulate release prints. In buying and maintaining television sets at home, the public in effect equips the STV operator with free theaters, projectors, and release prints. In the version of STV that uses broadcast stations rather than cable as the disseminating medium, even the delivery cost would be minimal inasmuch as the transmitters would operate much of the time as normal, advertising-supported broadcast stations. These economies could make even minority programming, on a national scale, highly profitable.

Consider a hypothetical projection: assume a nationwide STV network, an audience potential of 50 million homes, a program offered at \$1.00 per home, and a mere 1 percent of the potential families choosing to subscribe to that particular program. This would be an audience of 500,000 families — hopelessly small for a conventional national network, advertising-supported program. Yet STV would gross half a million dollars from that one program. At no time would the STV program have to appeal to more than a very small minority of the total national audience. This potentiality of STV to satisfy minority tastes with high-quality programs has strongly attracted those critics of advertising-supported broadcasting who deplore the latter's built-in compulsion to always seek the largest possible audience (see for example Coase, 1966).

Unfortunately, the validity of these assumptions about STV cannot be fully tested except on a nationwide — or at least a broad regional — scale. Only very wide distribution of STV offerings could make locally small minority audiences potentially large enough in the aggregate to underwrite the high costs of program production and rights, while at the same time keeping the “per ticket” cost well below the price charged at a theater or sports arena. All experimental STV installations, however, have been confined to small areas.

They had to aim for majority audiences in order to obtain enough subscribers; otherwise, they would have had to set the subscription price too high.

Subscription experiments conducted during the 1950s and 1960s failed to produce convincing results. Cable STV systems tested in the 1950s did not survive. Subscription Television, Inc., an ambitious California project led by imaginative former NBC president, Sylvester Weaver, seemed on the way to a broad-scale test, but in 1964 the California voters, responsive to the fears of the motion picture industry, adopted a state law against all forms of subscription television. The California Supreme Court later voided the act as contrary to the guarantee of free speech, but the sponsors did not revive the project (64 Cal 2d 235, 1966).

Of the dozen STV over-the-air systems that were planned, only one actively survived the vicissitudes of FCC delays, congressional interference, and theater interests' propaganda. Zenith's "Phonevision" goes back to laboratory experiments during the earliest days of television. Zenith announced its proposed over-the-air system as early as 1947, but not until 1962 did the FCC allow practical experiments to begin. In that year, WHCT, a uhf station in Hartford, Connecticut, began offering a subscription service under a Zenith franchise. The Hartford experiment ran until 1969 when Zenith discontinued it because the way finally seemed cleared legally for STV to move out of the experimental stage.

By that time, though, cable television had moved to the forefront of development planning and appeared to offer a more likely avenue for subscription services than the over-the-air route. By 1975 about 80 cable systems had begun to offer subscription television, and it was widely regarded as the most promising new direction for CATV. A half dozen major STV companies competed in the cable aspect of the field, although Zenith still hoped also to activate over-the-air pay television.

A 1974 study by the Stanford Research Institute predicted rapid growth for both cable and over-the-air subscription television, the latter mainly in the top 50 markets. The study foresaw little impact on conventional television (Brown, 17 April 1974). Broadcasting interests remained skeptical.

Competing subscription television companies offer varying methods of program delivery and billing. To take one example, Home Box Office (controlled by Time Inc.) in effect sells a network syndication service to CATV system operators. It was introduced in Wilkes-Barre, Pennsylvania, in 1972 and has attracted a number of other customers both in Pennsylvania and in nearby states. Whereas some subscription companies lease channels from cable companies, Home Box Office sells its services as a package to the CATV companies to put on their own origination channels. Besides the subscription programs themselves, the package includes assistance in supplying the hardware, in marketing, and in promoting the service.

Home Box Office distributes its nightly programs to cable companies over a

common carrier relay network, after the fashion of broadcast networks. The cable systems in turn deliver the programs to their subscribers over origination channels. Only subscribers who have rented a terminal adapter tuned to the subscription channel frequency can pick up the Home Box Office service; they pay a flat monthly fee (originally \$6.00), in addition to their regular CATV fee, for the entire subscription service and can watch as much or as little of it as they choose. A printed monthly program schedule lets customers know what the subscription channel is offering — usually professional sports events and recent feature films.

Charging a flat fee for the entire service costs the promoters much less in bookkeeping expenses than does the alternative system of charging on a per-program basis. (For an example of one of several possible methods of per-program billing, see §4.7.) On the other hand, the flat-fee system discards an important potential advantage of subscription television — its ability to serve small audiences selectively with specialized material. The flat-fee system entails a general-purpose, mass appeal type of programming. The per-program method of payment allows for the interplay of supply and demand. Small groups of customers wanting some unusual type of program may be willing to pay a very high fee to get that service; less motivated customers can be attracted in larger numbers at lower fees to programming of broader appeal.

Per-program billing of subscription television holds strong interest for those concerned with the major high-cost “box office” arts that cannot support themselves by traditional means. The Metropolitan Opera regularly sells out but still cannot meet expenses. Extending the paying audience beyond the auditorium by means of subscription cable might be the answer, especially if national networks of subscription cable systems were developed (see Adler & Baer, 1974).

11.7 Promises, promises . . .

What we have described so far amounts to only the tip of the cable iceberg, at least in terms of promise. Communication policy planners foresee a convergence of technologies that will produce revolutionary changes in our modes of communication. The Carnegie Commission on Educational Television remarked that technological development

makes more visible each day the intimate relationships that link television as a vehicle of information and entertainment with libraries, archives, data processing and data transmission, social development . . . and social change. The historian of the future may look back upon these latter decades of the twentieth century as the years of a profound revolution in the art and the uses of communication. (1967: 41)

In 1967 two members of the Rand Corporation “think tank” wrote a paper called “A Proposal for Wired City Television” exploring the problem of obtain-

ing more diversified television program services (Barnett and Greenberg, 1967). They examined and rejected as inadequate a half dozen of the conventional proposed solutions, such as the domestic use of satellites, fuller exploitation of uhf, over-the-air subscription television, and public broadcasting. All conventional solutions suffered, they believed, from a common weakness: the low ceiling on the number of television stations imposed by the combined limitations of the electromagnetic spectrum and economic incentive. They concluded that a broadband cable distribution system, analogous to but more sophisticated than the then-existing CATV systems, could be an answer. They called their proposed system *wired city television*.

The wired city concept envisions a network of cable connections between homes and switching centers. It would require no technology not already familiar to CATV operations; it would merely broaden already existing services. Integrating other existing devices would be novel but not technologically difficult. Facsimile, for example, could open up the possibility of receiving printouts of mail, documents, magazines and newspapers, photographs, maps, and books via the home receiver. Two-way communication would make possible remote surveillance and alarm systems, a variety of business transactions, and home instruction with direct feedback between student and teacher. Interconnection with computer systems could allow almost endless possibilities for data storage, retrieval, analysis, and other kinds of manipulation.

Science fiction types of proposals for imaginative new communications devices have been common for a long time. In the past, though, such proposals tended to be long on technological glamor but short on social utility and economic viability. The wired city concept struck a responsive chord because it seemed to promise a balance of technological innovation, identifiable utilitarian needs, and economic advantage.

Outside the home, we already find many analogous examples of specialized applications of communications technology: industries have wire access to remotely located shared-time computers; students use dial-access stations in learning centers to get at banks of learning material; offices communicate with each other by typewriter over telex circuits; libraries store printed material on microfilm; television stations routinely use facsimile pictures of meteorological conditions transmitted from weather satellites. Why not combine such scattered, uncoordinated bits and pieces of communications technology into an overall rational system for getting maximum benefits from all resources for all citizens? This is the challenge of the wired city concept.

The Electronic Industries Association carried the wired city concept further under the rubric "broadband communications network" in a brief filed with the FCC in 1969 (EIA, 1969). The EIA proposal stressed the important secondary benefits that could accrue from substituting the movement of information over cable networks for the movement of people and documents over road networks. The network would enable "pseudotravel," a logical extension of such existing

substitutes for travel as the conference telephone call (by which a small number of individuals separated from each other by perhaps thousands of miles can nevertheless confer as a group) and closed-circuit television, which similarly brings people together for intercommunication without actually transporting them.

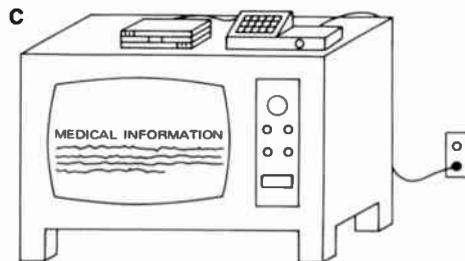
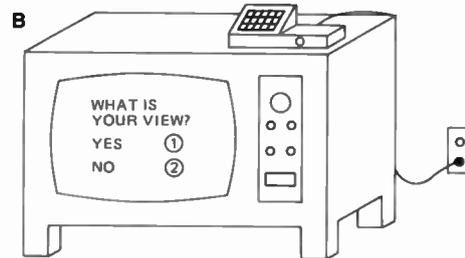
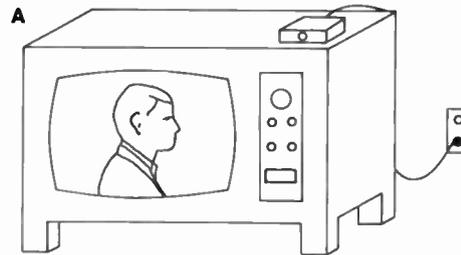
An analysis of mail, for example, shows that 40 percent of the letters consists of simple business transactions that could easily be consummated without transferring documents from one place to another (EIA, 1969). Many other forms of physical travel could be eliminated by pseudotravel over a broadband network (Harkness, 1973). Pseudotravel could be used for most banking transactions, for shopping, polling, meter reading. In fact, on examination the physical transfer of documents and human bodies has no necessary connection with the transfer of most kinds of information. Elimination of all this wasteful physical movement would reduce traffic congestion, cut down on accidents and air pollution, and save immense amounts of money. Most important, it would liberate modern urban residents from the physical and psychic wear of unnecessary routine travel, leaving them that much more time to enjoy meaningful travel for purposes of education and recreation.

The opening up of such vistas has stimulated an outpouring of research, speculation, prediction, and planning. The federal government and also a number of private organizations have invested in a series of brainstorming sessions, feasibility studies, and cross-disciplinary seminars. The National Academy of Engineering, for instance, set up a panel on urban communications that suggests not one but four urban communications networks: an expanded telephone network that could handle data and pictures as well as voice; an improved cable television system, with two-way capability and 30 or more channels; another 30-channel network connecting health, educational, and other municipal institutions; and finally a network to "represent the city's sensory system" that would deal with weather, traffic, emergency vehicles, and the like (NAE, 1971; Goldmark, 1972).

As another example, the Markle Foundation funded an elaborate study by the Mitre Corporation for the design of a sophisticated urban cable system, using Washington, D.C., as the model city. The design envisions a full two-way public network plus four point-to-point networks. The latter would interconnect specific federal, municipal, commercial, and higher educational institutions. The study describes the role of interactive terminals in subscriber homes (exhibit 11.1) as follows:

1. Interactive television is individualized. It responds "instantly" to the demands of each viewer, permitting him to receive detailed information economically and privately.
2. It is computerized, offering search and calculation of information that might otherwise be difficult to obtain.
3. It provides unlimited points of entry and delivery of information (similar to the

Exhibit 11.1
Types of cable subscriber terminals



A. Subscriber terminal on receiving set symbolizing any of a variety of tuners or selectors and (in the case of some subscription television systems) decoders.

B. Terminal symbolizing any of a variety of devices enabling the subscriber to send signals back to the headend or other destinations.

C. Terminal symbolizing devices that enable calling up desired information for receiver display, including single "freeze" frames.

Source: William F. Mason et al., *Urban Cable Systems: Summary*, Mitre Corporation, McLean, Virginia, 1972: 28.

advantages of the telephone and the mail); but, in addition, it offers controlled storage, access, and unparalleled speed and convenience of retrieval.

4. It is multimedia, providing sight, sound, and computer assistance all within one system. (Mason et al., 1972: 31)

In the context of our subject, it is noteworthy that in futuristic broadband communication network plans, broadcast television recedes far into the background. The original motivation for subscribing to a cable system becomes secondary. It remains to be seen whether this ordering of priorities will work in practice. The physical possibility of a technological improvement, even when

combined with its possible social desirability, does not guarantee that a majority of the population will buy it.

All futuristic cable plans depend no less than present low-level CATV realities on the mass consumer's willingness to pay for the service. It seems quite possible that the consumer already paying a monthly fee for mass entertainment will not be willing to add substantially to that fee in order to get other services via cable. A small but perhaps significant case in point might be the picturephone. In 1970 AT&T introduced this video telephone service experimentally in three cities; after four years the company abandoned the experiment. Nearly everyone wants a telephone, but hardly anyone, it appeared, wants a telephone with pictures enough to pay extra for it.

The optimistic promises of futuristic broadband network plans differ sharply from the actual initial experiences of the much less sophisticated systems actually in place in the early 1970s. By 1974 only about 30 percent of Manhattan households had subscribed to either of the two systems there, in contrast to an average penetration of about 60 percent in nonurban areas. Subscriber resistance and rapid turnover were compounded by such practical problems as landlords refusing to allow cable installation, piracy of the service, and a high level of vandalism (Brown, 9 March 1974). Costs of cable installation in some parts of the city amounted to several times the average \$6,000-per-street-mile cost in nonurban areas. Teleprompter, one of the two franchisees in Manhattan and the largest multiple system operator in the country, suffered severe financial setbacks in 1973 and began surrendering unactivated franchises in other cities that it had won at great cost.

Although perhaps temporary, in the long run these setbacks do suggest that realization of the more ambitious broadband communication network schemes may be farther off than at first imagined. They suggest too that one cannot lightly discard the engine that provided the motivating force for the first successes of CATV in rural areas — the powerful lure of mass entertainment of the type delivered by conventional broadcasting networks.

PART THREE

**Economics
of Broadcasting**

Financial and Administrative Organization

12.1 Investment, revenue, and income

By ordinary economic yardsticks, commercial broadcasting hardly qualifies as a giant industry. Exhibit 12.1 indicates its modest size in terms of national income relative to other selected industries. But as a communication medium broadcasting has social importance out of proportion to its economic importance. Its full significance even in economic terms must also take into account the secondary economic activities broadcasting creates or supports: manufacturing, sales, and servicing of receivers and equipment; electric power consumption; trade and consumer publications; advertising, talent, market research, legal and engineering services. The annual cost of repairing radio and television receivers alone amounts to as much as the entire earnings of the broadcasting industry.¹ Talent agents and managers, program production and distribution firms, commercial producers, film-processing laboratories, consultants, news services, public relations and promotional services, station brokers, national representatives, schools — all these depend in whole or in part on the existence of broadcasting.

Television has caused a shift in broadcasting toward larger economic entities. In the 1940s the entire outlay for setting up a small radio station need not have exceeded the cost of a single color television camera in the 1970s. The construction cost of even the average radio station just after World War II was well below \$100,000 (FCC, 1947: 44, 49). Television made such sums seem inconsequential. Exhibit 12.2 indicates that in 1972 the average capital cost for a vhf television station exceeded \$2.3 million or about 15 times the average for a radio station.² The market value of favorably located television stations

¹ One estimate put the public's aggregate investment in equipment at \$9.5 billion versus the broadcasters' investment at under \$1 billion (Levin, 1971: 44). Another estimate put the public's share even higher: 96 percent of total investment (House CIFIC, 1963: 58).

² All broadcast financial data not otherwise credited in chapters 12–16 are for fiscal 1972 and come from the FCC's 39th Annual Report (1974).

Exhibit 12.1
Trend in national income, selected industries

Industry	Income (millions)		% growth ^a
	1961	1971	
Automobile	\$7,595	\$19,453	156
Telephone and telegraph	7,738	16,452	113
Amusement and recreation services	1,789	3,515	96
Broadcasting	902	1,763	95
Printing and publishing	6,755	12,436	84
Tobacco manufactures	1,055	1,771	68
Motion pictures	993	1,564	57

^a No allowance made for decline in value of the U.S. dollar.

Source: Survey of Current Business 52-7 (July 1972): 20-21.

Exhibit 12.2
Stations' investment in tangible broadcast property

Service	Number of stations	Original cost (millions)	Average cost per station
Vhf television	475	\$1,103	\$2,322,873
Uhf television	173	220	1,270,161
Am & am/fm radio	4,249	831	195,665
Fm-only radio	843	93	110,676

Source: Fiscal 1972 data in FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 1974: 238, 249, 253.

exceeds by many times their capital costs. In 1949 the first television station to be sold went for a third of a million dollars; in 1964 a Pittsburgh vhf station brought \$20.5 million, an amount said to have been over five times the value of its tangible assets.

Broadcasting properties often figured in the trend toward conglomerate mergers in the 1960s. The increasing identification of broadcasting with the country's major corporate power structure (a characteristic present from the beginning, as shown in chapter 7) had significant economic implications for the nature of the service: restriction of ownership to fewer potential investors and a tendency toward corporate rather than individual ownership; altered managerial outlook with larger stakes involved; emphasis on large market investments and a consequent concentration in areas of dense population; more and more syndication to provide programs capable of drawing larger and larger audiences.

Radio proved adaptable to severe market limitations. Indeed, most am stations are located outside metropolitan areas. But television offers no equivalent for 250-watt Class II or Class IV "coffee-pot" or "underground" fm stations.

Exhibit 12.3
Broadcast income

Category	Radio		Television		Total (millions)	% of industry total
	No.	Amount (millions)	No.	Amount (millions)		
National networks	7 ^a	\$ 3.9	3	\$110.9	\$114.8	16
Network O&O stations	20	9.0	15	102.5	111.5	16
All other stations	4,512	134.5	648	338.8	473.3	68
Total income		\$147.4		\$552.2	\$699.6	100

^a Taking ABC's 3 networks separately and also including 1 fm network.

Source: Fiscal 1972 data from FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 1974: 223, 245.

Exhibit 12.4
Ratio of broadcast station income to tangible investment

Service	Income ^a (millions)	Depreciated investment (millions)	Ratio
Radio stations	\$143.5	\$480.0	0.30
Television stations	441.3	621.4	0.71

^a Before federal taxes.

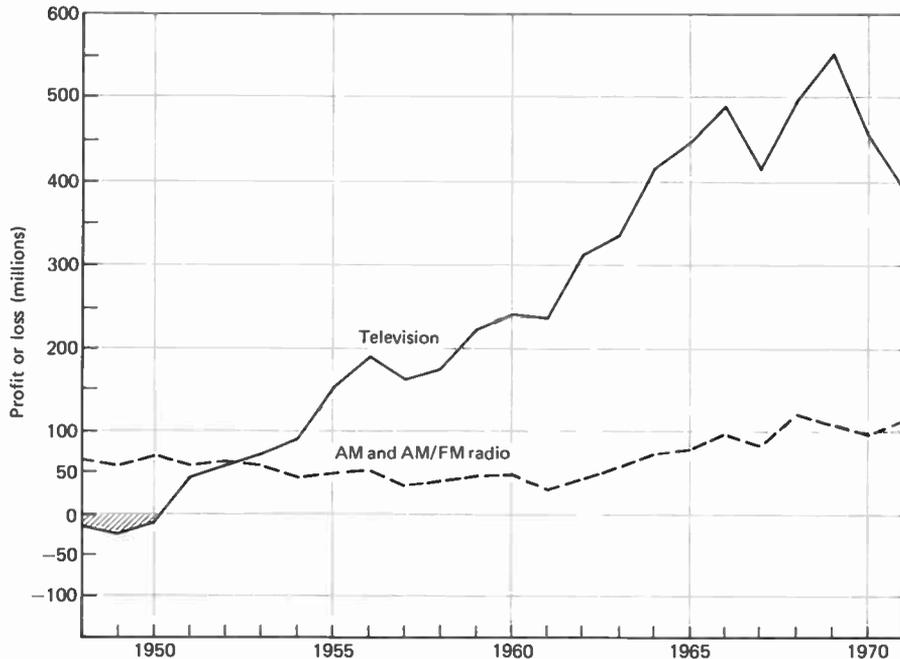
Source: Fiscal 1972 data in FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 1974: 238, 249, 253.

Market size affects every aspect of the television enterprise: the larger the market, the higher the salaries, the larger the staffs, the longer the program day, the greater the number of network programs carried, the more remote programs originated — and, of course, the more profitable the station.

Exhibit 12.3 depicts industry income, indicating the importance of network owned-and-operated (O&O) stations to the networks' economic position: the relatively few O&O stations (15 television and 20 am/fm radio) realized 16 percent of the entire industry income, bringing the network organizations' total share to over 32 percent. The remaining 4,512 stations divided about two-thirds of the industry's aggregate income. Taken as a whole, this represented a healthy profit, as shown in exhibit 12.4: in one year radio earned back 30 percent of its depreciated capital investment, and television earned back 71 percent. In some years earnings have even surpassed capital investment.

Exhibit 12.5 shows the spectacular growth of television earnings, from a loss in 1950 to more than radio in 1953 and an almost unbroken advance thereafter. This rise depressed radio's earnings for a decade, but in 1962 they too began a slow upward movement. It must be borne in mind, though, that radio earnings were being divided among ever-increasing numbers of stations, whereas television's station growth was much slower (see exhibit 9.1).

Exhibit 12.5
Trend in broadcast earnings* since 1958



* Earnings = revenue minus expenses.

Source: *Television Factbook No. 43*, Television Digest, Inc., Washington, D.C., 1974: 61a, 71a.

These industry-wide totals and averages conceal the fact that many individual stations lose money. For fiscal 1972 over 14 percent of the reporting vhf television stations and over 56 percent of the reporting uhf stations claimed losses. In the same year 28 percent of the am and am/fm stations and 62 percent of the fm-only stations reported losses.³ In short, the oft-quoted saying that the profitability of broadcasting equates a station license with “a license to steal” applies only to the more fortunate licensees — those with popular and wide-reaching channels in large markets.

12.2 Operating expenses

The FCC’s standard reporting formula requires commercial stations to separate their expenses into four categories: general and administrative, technical, sell-

³ These figures are somewhat inflated because the FCC reporting system permits stations to claim allowances for depreciation and payments to owners as “losses.” Most of the “losing” stations earned depreciation expenses, and over half made payments to owners (see FCC, *Annual Report*, 1974: 283, 252).

Exhibit 12.6
Distribution of station operating expenses

Class of expense	Average per station			
	Radio ^a		Television ^b	
	Amount	% of total	Amount	% of total
Selected program items				
Salaries & talent fees	\$ 53,036	21	\$ 345,911	16
Rental & amortization of film & tape	206	*	296,564	14
Records & transcriptions	1,188	*	1,997	*
Outside news services	5,097	22	23,198	1
Music license fees	7,671	33	57,539	33
Other program & performance rights	2,970	1	33,633	2
Other program expenses	8,849	3	154,922	7
Program total	\$ 79,017	31	\$ 913,764	43
Selling	52,546	20	268,104	13
Technical	24,176	9	287,915	13
General & administrative	102,071	40	655,472	31
Total, all classes	\$257,810	100	\$2,125,255	100

^a Based on 4,271 reporting am and jointly reporting am/fm stations.

^b Based on 690 reporting television stations.

* Less than 1 percent.

Source: Fiscal 1972 data in FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 1974: 225, 247.

ing, and program. These classes of expenses reflect the functional departmentalization of basic operations.

Exhibit 12.6 shows that on a national average, radio stations spend the most on general and administrative expenses, whereas television stations spend the most on programs. Operating a television station costs on the average nearly nine times as much as operating a radio station. Analyses reveal that as program costs tend to increase with size of market, general and administrative costs tend to decrease. This trend is even more marked in television than in radio. Among the specific program expenses reported by the FCC and shown in exhibit 12.6, salaries and talent fees represent the largest category. Music license fees cost more for both radio and television stations than do news services.

Networks, of course, devote a much higher proportion of their operating expenses to programs than do stations. Exhibit 12.7 indicates that about three-quarters of radio network expenses and nearly nine-tenths of television network expenses go toward programs. The comparisons between radio and television of exhibit 12.7 point up the differences between networking in the two media: radio networks devote over 50 percent of their expenses to news and public affairs programs, whereas television networks devote only 5 percent to that class of program. Relative to overall expenses, the radio networks must spend nearly three times as much as television on network interconnection.

Exhibit 12.7
Distribution of network operating expenses

Class of Expense	Radio % of total ^a	Television % of total ^b
Selected program items		
Amortization of programs obtained from others	*	49
Network interconnection	17	6
Performance & program rights (other than music)	*	5
News & public affairs programs	55	5
Music license fees	*	*
Records & transcriptions	*	*
Total program & technical ^c	73	88
Selling	16	3
General & administrative	11	9

^a Based on total expense of \$41,966,000 in fiscal 1972.

^b Based on total expense of \$1,160,425,000 in fiscal 1972.

^c Program and technical for television not separately reported.

* Smaller than 1 percent.

Source: Fiscal 1972 data in FCC, 39th Annual Report Government Printing Office, Washington, D.C., 1974: 226, 248.

Symptomatically, selling costs radio networks more than five times as much as it does television networks — relative, of course, to their total operating expenses.

12.3 Economics of television networking

More than any other single factor, networks made possible the growth of broadcasting in America into a virtually universal national medium almost overnight. Network affiliation remains the sine qua non of television station profitability except in the few megapolitan markets.⁴

Networks perform three main functions for their affiliates: they provide programs, arrange and pay for interconnection facilities for program distribution, and sell affiliates' time in the national market. In return, an affiliate gives 20 hours a week or thereabouts (contracts vary) to its network, at no charge, and receives only about 30 percent of its regular rate for the remaining hours used by the network (see Noll et al., 1973: 61).

Network affiliates, however, receive only a small fraction of their revenue as compensation for the sale of their time to network advertisers. In fiscal 1972 the television networks passed on about 13 percent of their gross sales revenue to their affiliates. Looking at it from another point of view, whereas national

⁴ In fiscal 1972, 87 percent of the vhf and 55 percent of the uhf network-affiliated stations reported operating at a profit, whereas only 67 percent of the independent vhf and 21 percent of the independent uhf stations reported a profit. Of course, the stations with the best facilities and locations will, in the nature of things, be the most sought-after candidates for affiliation.

advertisers spent 43 percent of their broadcast advertising dollar on networks, stations earned only 10 percent of their aggregate revenue from network advertising (see exhibit 15.4).⁵

Since they derive so little revenue from the relationship, why do television stations find network affiliation essential to their economic well-being? Basically, it is because only network programming can maximize circulation: audiences alone enable stations to sell local and national spot (non-network) advertising, their major sources of revenue. In addition, of course, network program time frees the affiliated station's program staff to concentrate its energies on producing only a limited number of local programs and buying rights to only a limited number of syndicated programs to fill out the broadcast schedule. On the average, affiliates program only about 40 percent of their own time.

By contrast, to acquire the rights to the limited amount of available syndicated program materials, the independent television station must compete not only with other non-network stations but also with the networks and their affiliates. Moreover, it must work under the grueling pressure of local responsibility for programming every minute of the broadcast day.

The FCC encourages independent production of non-network syndicated television programming by package producers to promote program diversity, to prevent undue network dominance of the programming field, and to expand the resources available to independent stations (§12.4). But the fact remains that the network system of syndication (regardless of who actually produces the individual items in the network's schedule) has unique features that other systems of syndication cannot match. These features, in addition to those already mentioned, include the structuring of programming into consistent and attractive patterns,⁶ the cultivation of a distinct institutional personality, the timeliness of interconnected distribution, the opportunities for promotion and planned audience building, and the incorporation into the schedule of prestige programming items either at a loss or at a reduced profit.

On the last point it is instructive to compare the cost-efficiency ratio of entertainment with nonentertainment programming. Exhibit 12.8 shows that the cost per rating point of network public affairs programming is approximately three times that of the popular entertainment formats. Independent syndicators do not operate under license; they have no economic incentive to produce anything but the most popular and hence most salable programs. Although they too are subject to similar economic incentives, networks, as

⁵ The importance of network revenue varies inversely with market size. In the top 10 markets, which can support successful independent television stations as well as network affiliates, the average network revenue amounted to less than 2 percent of the total revenue; in the smallest markets, conversely, it amounted to over 23 percent (NAB, 1973c).

⁶ The head of programming for CBS once said that half a network program director's job is coming up with new shows: "The other half, some would say the other 90 percent, is knowing how to design a weekly schedule, in knowing where to put shows to attract the maximum audiences" (Thompson, 1970: 53).

Exhibit 12.8**Average prime-time television network program costs by type and rating**

Program type	Number on air	Average cost per half-hour	Average rating	Cost per rating point
Comedy	36	\$67,100	16.9	\$ 3,970
Variety	13	69,000	16.6	4,157
Westerns	12	69,300	17.2	4,029
Feature films	4	75,600	16.3	4,638
Public affairs	2	78,500	6.4	12,265

Source: Data in John A. Dimling et al., *Identification and Analysis of the Alternatives for Achieving Greater Television Program Diversity in the United States*. Report No. 226 prepared for the President's Task Force on Communication Policy. Spindletop Research, Inc., Lexington, Ky., 1968: III-10.

station licensees and as integral parts of the broadcasting industry, must respond to FCC regulation and to public opinion. In consequence, networks devote 5 percent of their television expenditures to news and public affairs programs. This may or may not represent a sufficient amount, but it is at least 5 percent more than independent producers would be likely to spend in the absence of FCC compulsions.

Thus the shaping of network broadcasting does not depend exclusively on the supply and demand imperatives of the marketplace, insofar as the FCC regulates network-affiliate relationships and certain business practices of the networks (see §18.11). In the first place, multiple-ownership rules permit networks to own very few of their affiliates. In practice, owned-and-operated stations amount to only 15 for the major television networks and 20 (am/fm) for the radio networks. But the O&O stations play a larger economic role than their number suggests. In fiscal 1972, for example, the 15 television O&O stations realized 23 percent of all television station earnings, whereas the remaining 675 stations had to share 77 percent (exhibit 12.3). Put another way, O&O stations averaged about \$1.5 million in income apiece, whereas the rest of the stations averaged only about half a million.

The president of CBS told a congressional committee that "without some owned and operated stations the network is just not a profitable piece of business" (House CIFIC, 1952: 310). This may be an exaggeration in purely economic terms: in fiscal 1972 networks earned 16 percent of total industry income, surpassing the combined income of O&O stations by only a small fraction of 1 percent. But network station ownership also is important in assuring the networks of local voices in the major markets and in conferring legal status on networks vis-à-vis the FCC.⁷

Most affiliates, then, have only contractual relationships with their net-

⁷ The FCC is not legally empowered to license networks as such (§18.11). Networks do not supervise O&Os directly from headquarters but give them a certain amount of local autonomy. Occasionally an O&O station will even refuse to accept a program from its own network (§16.5).

works.⁸ Originally, the radio networks sought absolute control over access to their affiliates' best time periods by means of *option-time* clauses in affiliation contracts. The FCC first weakened this type of control in radio, then eliminated it altogether in television (§18.11). The economic value of their services to affiliates became the glue holding networks together. Television affiliates desperately need network programming to survive, and networks desperately need compliant affiliates to survive. Wholesale refusal of television affiliates to accept network offerings could spell ruin for a network, just as nonrenewal of a network contract could spell ruin for an affiliate. The fulcrum of this delicate power balance is the process of *clearance*. Barred by law from obligating affiliates to carry their programs, networks must rely on voluntary clearance of time by affiliates. Some of the practical effects of this dependency on clearance are explored in §16.5.

12.4 Prime-time access

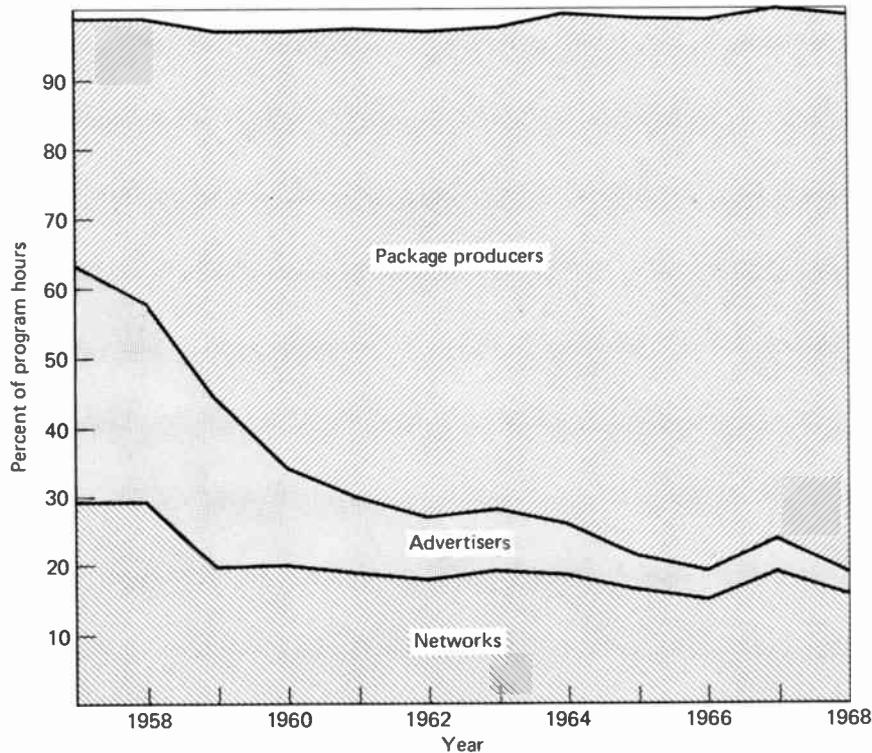
It will be recalled that in the early days of radio, advertising agencies took the programming initiative and became the chief source of network entertainment programs (§7.12). When television arrived the networks moved to recapture control of production. And although they produced some shows themselves, especially in the early years, they came to rely primarily on independent producing companies.⁹ Exhibit 12.9 depicts the trend during the 1960s. By acquiring joint rights over programs bought from the outside, the networks could exercise production control and also benefit from later off-network syndication. Indeed, each network set up a special subsidiary company to syndicate its own programming (see §10.6).

The FCC regarded the networks' control over both their own programming and most of that made available for non-network use as unduly restrictive. Independent producers could hardly bargain on equal terms with the networks when their only access to audiences large enough to support high-cost productions was through those same networks. Moreover, the networks themselves also competed as producers with outside program suppliers. In effect, the market was narrowed down to three buyers — the three major networks. The FCC noted, for example, that by the late 1960s affiliates carried less than two hours of prime-time non-network programming per week — and even that small amount of time was filled mostly with old network programs long since released for syndication. First-run syndicated material (non-network programs from independent producers) had practically disappeared from the market. In 1957 network evening hours had been one-third occupied by independently

⁸ Network contracts must be filed with the FCC and are open to public inspection at the Broadcast Bureau in Washington (47 CFR 0.455, b, 3).

⁹ The networks have always retained direct control over news and public affairs program production.

Exhibit 12.9
Trend in sources of television network prime-time programming, 1957-1968



Based on all series regularly scheduled, 6:00-11:00 P.M. The small residual percentage at the top of the graph represents combinations of sources.

Source: Data in Arthur D. Little, Inc., *Television Program Production, Procurement, Distribution and Scheduling*, Arthur D. Little, Inc., Cambridge, Mass., 1969: 1.

produced and controlled programs, but by 1968 they occupied only 4 percent of the schedule (35 FR 7417, 1970).

In 1970, following extensive hearings on rules first proposed in 1965, the FCC adopted what came to be called the "prime-time access rule," actually a package of regulations designed to encourage the production of top-quality programs by non-network production companies (47 CFR 73.658, k). The FCC forbade the networks to acquire subsidiary syndication rights in programs bought from outside producers and to continue to operate subsidiary syndication companies (§10.6). Most important, effective as of the fall of 1971, networks in the top 50 markets were forbidden to program more than three hours of the 7:00-11:00 P.M. period. (Previously, they had programmed three and

one-half hours.) The practical effect of this rule was to open up the 7:30–8:00 half-hour (the time period the networks agreed to forego) in *all* markets. Anticipating that affiliates might take the easy way out in filling this time, the commission also ruled that after a grace period, the non-network half-hour might not be filled with off-network programs or with repeats of recently telecast feature films.¹⁰

These rules, among the most controversial ever issued by the FCC, were intended not (as many suppose) to force stations to produce more local programs; rather the FCC intended, as we have said, to create a new market for independent non-network suppliers of high-quality programs. Prime time alone offers the potentiality of large enough audiences to justify the cost of such programs.

In its first four years, the prime-time access rule had a variety of effects but seemingly not the desired one. Several years would be required for the desired effects to evolve, of course, but the trend in other directions seemed consistent. Exhibit 12.10 indicates, for example, that drama — the most costly and difficult program type to produce successfully — declined drastically in access time during the first four years of the rule. Game shows, the cheapest and easiest of the formats, increased from 11 percent to nearly 66 percent. The major non-network producers claim that the decline in the purchase of drama and comedy ascribable to prime-time access cost the non-network production companies \$75 million over the four-year period (*Broadcasting*, 23 Sept. 1974). Other apparent side effects were an increase in commercial minutes during the access period (because local standards are more permissive than network), a decrease in network documentary production, and an increase in the audiences of non-network stations during the access-time period.

Despite the failure of the prime-time rule to stimulate fresh, more diversified programming, the rule nevertheless won support from some segments of industry. Naturally enough, game show and nature/travelogue producers were pleased to find their market dramatically expanded. For the networks the reduction of programming load came at a welcome moment — just after the cigarette advertising ban of 1972 and just when the state of the economy began to threaten advertising budgets. NBC turned from being a strong opponent in 1970 to a strong supporter in 1974.

Nevertheless, criticism of the prime-time access rule was widespread and virulent. A *TV Guide* editorial described it as “a picture-perfect bureaucratic boondoggle, wrapped in red tape and failure” (*TV Guide*, 22 Sept. 1973). But after hearing testimony from all parties at length, the FCC in 1974 relaxed the rule only slightly, although the implementation of the proposed modification was held up by a court suit.

¹⁰ The commission was fairly liberal in granting waivers for reruns classifiable as nonentertainment programming. None of the prime-time access rules apply to public broadcasting.

Exhibit 12.10
Effect of prime-time access rule

Program type	% of time devoted to program type				
	Pre-rule 1970–1971	Post-rule			
		1971–1972	1972–1973	1973–1974	1974–1975
Drama	46.3	27.7	16.5	11.6	4.9
Comedy	21.7	18.8	1.7	6.6	0.4
Game	11.1	22.8	48.6	54.8	65.6
Variety	17.2	17.5	18.4	14.0	12.0
Nature/Travel	2.3	6.3	7.1	10.6	11.2
Cartoon	—	0.2	4.3	1.8	0.3
Miscellaneous	1.3	6.7	3.4	0.6	5.5

Source: Columbia Pictures Television et al., "Programming Resulting from the Prime Time Access Rule," comments submitted to the FCC in re Docket No. 19622, 1974.

The chief reason for the failure of the prime-time access rule to bring about more effective program diversification appears to be the inexorable workings of the syndication principle — given that networking itself is a form of syndication (see §9.3). Under the restrictions imposed on network programming, three half-hour periods an evening during the access-time period became available for non-network programming. The affiliates went their separate ways, fragmenting the market by making scores of different purchases. None of the syndicated programs could acquire enough customers and enough stability to justify an investment in top-quality production and talent.

A secondary reason for the disappointing outcome of the prime-time access rule was a sort of "Gresham's law" effect of competition. Deprived of network prestige during access time, affiliates for the first time found themselves often losing out in the ratings race with competing independent stations. The latter were free to schedule off-network and repeat movies that the FCC rule forbade the affiliates to carry. This reversal of roles forced affiliates to abandon attempts at local or experimental programming during access time in favor of the more competitive syndicated material.

12.5 Station organization

The range of differences among broadcast stations is so enormous that few generalizations apply universally. At one extreme are the immensely powerful groups of major stations such as the network O&O outlets and Westinghouse's Group W; at the other extreme are the minimally equipped "mom and pop" radio stations that are barely surviving.

An idea of the variety of possible organizational structures can be obtained from two booklets published by the NAB that depict sample organization charts for radio and television stations respectively (1968 and 1969a). The 49 radio charts and the 39 television charts show as many different organizational plans.

There is, of course, an underlying similarity, reflecting the essential functions all commercial stations have to perform. The FCC's breakdown of operational expenses, as noted earlier, defines the four principal functions as programming, technical, sales, and general/administrative. But an analysis of the sample charts suggests five other basic functional roles. Though logically subsumable under the first four, operationally the following functions generally receive special recognition: production, news and public affairs, business management (as distinguished from sales), publicity and promotion, and finally traffic.

General and administrative functions This term covers top management and all the housekeeping and back-up or support services that provide the physical plant and the essential working environment for the operational departments. Specialties within this function can include accounting and bookkeeping, building maintenance and cleaning, purchasing, personnel, secretarial services, insurance, and legal counsel.

Business management Larger operations may group together — often in a separate business management department — all their supportive business functions (as distinguished from executive management and the operational business functions connected with sales).

Sales In many cases specialized sections of the sales department deal separately with local and national sales (for the differences see §§15.4 and 15.7). The larger stations may provide merchandising and sales promotion services. Sales matters require detailed record keeping in connection with scheduling and billing (see traffic, p. 220).

Programming Programming can best be understood in terms of strategy, production in terms of tactics. The programming function involves decisions about which programs to schedule at which times, with due consideration to budgetary resources, production limitations, sales requirements, and legal constraints. These are strategic decisions, in the sense that they deal with the larger-scale and longer-term plans for attracting and holding audiences. In the larger stations special types of programming — women's programs, sports, music, community affairs, agriculture, and the like — may be departmentalized.

Production Putting the programming decisions into practice can be regarded as tactical operations — the practical realization on the air of strategic programming decisions. Production includes, in addition to overall coordination of operations, such special roles as continuity writing, production direction, talent, art and graphics, film and film editing.

News and public affairs Although news and public affairs are aspects of programming, the news director usually has a high degree of autonomy and

direct access to top management. Licensee editorials, sports, and remote broadcasts sometimes come under this heading.

Promotion and public relations Promotion can be almost as important as programming itself since even the best programs cannot survive unless audiences know about them. The public relations function has grown in importance in recent years because of the "new consumerism" (see §22.6). It has made licensees increasingly sensitive to community issues and to their obligation to serve minority audiences.

Technical function Engineering is usually divided into transmitter and studio operations. Maintenance assumes a specialized role in large installations. Specialized technical sections may also handle such assignments as remote broadcasts and videotape machine operations.

Traffic A broadcasting station must handle an enormous number of small details on a daily basis. The traffic function entails processing and recording these data: scheduling facilities, personnel, and program items (including commercials); starting and stopping commercials in accordance with contracts; preparing and completing program logs, as required by law (see §18.3). Some stations treat traffic as a function of selling, others as a function of programming, and still others as a separate operation in its own right.

12.6 Employment

Many more people are engaged in printing and publishing, banking, or real estate (for example) than in the direct aspects of broadcasting. Exhibit 12.11 indicates that the networks and stations combined have only a little over 100,000 full-time employees. The average radio station has only 11 employees, the average television station 64. Computerization of bookkeeping, billing, logging, and traffic operations, along with formula programming, syndication, and automated production operations all tend to keep staffs small and to remove the most creative functions from the local level (see Abrams, 1969 and 1974).

According to a *Broadcasting Yearbook* survey, 73 percent of the am radio stations employ 15 people or less, and 68 percent of the fm stations employ 10 or less (*Broadcasting Yearbook*, 1974: 50). National Association of Broadcasters surveys indicate a direct relationship between staff size and market size, the smallest markets having a median radio employment of 4 per radio station, the largest markets a median of 67. The medians for television were 24 in the smallest markets, 149 in the largest (NAB, 1973a: 79; 1973c: 51).

Analysis of the NAB organizational charts (§12.5) discloses that the sales department ranks highest in the order of frequency with which it appears as one of the primary units (i.e. charted as immediately below the top-

Exhibit 12.11
Broadcasting employment

Service	Full-time employees	Average per station or network
Television networks (3)	10,465	3,488
Television stations (663)	42,393 ^a	64
Radio networks (7)	876	125
Radio stations (5,094)	56,982 ^b	11
Total	110,716	

^a An additional 6,068 full-time employees worked for noncommercial television stations (Lee and Pedone, 1974b: 17).

^b An additional 896 full-time employees worked for noncommercial CPB-supported radio stations (Lee and Pedone, 1974a: 11).

Source: December 1972 data from FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 1974: 238, 249, 253.

management level). The next three ranking departments in order of frequency are technical, program, and news respectively. This rank order is the same for both radio and television stations.

It has often been observed that the primary road to advancement in both station and network hierarchies is through the sales department. Perhaps not so frequently realized is the primacy of news in station organization. Every station requires personnel with some knowledge of news even though many stations cannot afford news specialists. News experience often opens an avenue to other positions. A 1971 trade journal survey indicated, for example, that well over half the television program directors questioned had had previous experience in some aspect of radio news; over half had also had previous experience in writing for television (Jaffe, 1971; see also *Broadcasting*, 20 Aug. 1973; Fuller, 1975).

Aside from the fundamental importance of news as a universal programming ingredient, it also offers the best opportunities for local production experience. Outside of news, there are few opportunities for creative local production work. Les Brown has realistically described the station-level television production scene:

The typical station is not physically prepared to produce more than a few routine newscasts a day, a few unpretentious public affairs shows for the weekends, and perhaps a daily children's show interlaced with stock cartoons . . . or an interview show for women. There is no such thing any more as a staff writer, except in the news department; the resident directors are usually involved with cuing up commercials within the local movies; the production staff busies itself with commercials for local automobile dealers or department stores; and the director of programming is little more than a film buyer. Having toured numerous stations throughout the country in markets of all sizes, I have been impressed only with the size of their sales and clerical staffs. (Brown, 1971: 178)

The decline of local production reflects, of course, the trend toward syndication. This shows that most of the opportunities for creative work in the fields of writing, performing, and directing, as well as such specialties as set design, are at the major production centers in Los Angeles and New York. There, unionization of both employees and contract labor is complete, whereas at the local level only announcers and technicians are likely to be unionized — and even then only in the larger markets.

The first successful strike against a radio station may have been the one organized in 1926 against a CBS owned-and-operated station in St. Louis by the International Brotherhood of Electrical Workers, a technicians' union founded in the late nineteenth century by telephone linemen (Koenig, 1970: 22). The IBEW later obtained a network contract with CBS. In 1953, NBC technicians formed a separate association of their own that ultimately became the National Association of Broadcast Engineers and Technicians, the first purely broadcasting union. Later the word "Engineers" was changed to "Employees" to broaden the union's scope. Competition between NABET and IBEW has caused many disputes. A third technical union, an old rival of IBEW, entered the television scene from the motion picture industry, the International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada (IATSE).

The only other unions formed exclusively for broadcast employees are the American Federation of Television and Radio Artists, organized for radio in 1937, and the black National Association of Television and Radio Announcers. The Screen Actors Guild fought AFTRA for control of talent used in video recording, but AFTRA won the dispute on the grounds that video recording is more analogous to live television than to film.¹¹ Other major unionized creative groups include the American Guild of Variety Artists, the Directors' Guild of America, and the Writers' Guild of America.

12.7 Economics of noncommercial broadcasting

As far back as the early 1930s, some advocates of noncommercial broadcasting had proposed that the new communications act should provide for nonprofit rather than noncommercial stations, entitling them to sell enough time to defray operating costs. The nonprofit proposal came up again during strategy meetings before the 1951 FCC hearings that resulted in reserving channels for educational television. Some educational broadcasters, remembering their years of economic frustration as educational radio station managers, advocated nonprofit rather than noncommercial channels, but educational interests realis-

¹¹ Differences between SAG and AFTRA pay scales are said to be one of the reasons that video tape is used so little in syndication.

tically concluded that their only hope for reserved channels lay in complete dissociation from commercialization.¹²

Volunteer sources of funds helped get noncommercial television stations started but proved inadequate either to meet all current costs or to offer long-term fiscal security. These sources included foundation grants (the major component), gifts from business firms (including both cash and equipment from commercial stations), viewer subscriptions, annual public fund drives, underwritten programs, and production contracts.

The noncommercial character of public broadcasting stations does not prevent certain limited uses of advertising, such as crediting a commercial source for underwriting the costs of production or selling goods by auction and crediting donors (usually businessmen). Nor does it ban noncommercial stations from contracting with school systems to receive payment for telecasting over-the-air classroom instruction. Some stations even derive income from the commercial sale of production services, although in cities where commercial production agencies and facilities already exist this practice sometimes causes resentment (see *Broadcasting*, 8 April 1974).

Some of public television's finest programs have been made possible by underwriting grants from business corporations that use such exposure as a form of high-level institutional advertising (see Forkan, 1970). Underwriting can take the form of grants either toward the original production costs or procurement or toward defraying a station's fee to PBS for local release of an ongoing national program series. FCC rules allow identifying the source of underwriting, by name only, either at the opening and closing of an underwritten program, or at hourly intervals in especially long programs (47 CFR 73.621, e). In 1973 Exxon Corporation gave WNET-New York \$1 million to produce a nationally distributed series on the American theater. Up to that date, this was the largest such grant for programs in a single season. Mobil Company began underwriting public television programs in 1971 and by 1974 had spent on the order of \$5 million, including its co-underwriting of *Masterpiece Theatre*.

Among a number of foundations supporting public broadcasting, the Ford Foundation stands out as both the biggest and the most influential contributor. By the time of the foundation's 1974 announcement of the phaseout of its association with public television, it had spent or committed \$150 million. Its aid dates back to 1951, when the Fund for Adult Education (financed by the Ford Foundation but an independent entity) helped the first stations get on — and stay on — the air. (For the influence of the Fund for Adult Education on public broadcasting policy, see §16.7.)

¹² In the hearings, two institutions, the University of Missouri and Bob Jones University, held out for nonprofit commercial status. The FCC replied that it viewed the goal of reserved channels as "establishment of a genuinely educational type of service" and that this goal "would not be furthered by permitting educational institutions to operate in substantially the same manner as commercial applicants" (17 FR 3911, 1952).

Exhibit 12.12
Trends in public television station financial support

Source of Funds	% of total income	
	1965-1966	1971-1972
Tax sources		
State (nonuniversity)	27	24
Local	19	13
University	11	12
Federal (other than CPB)	12	9
Total tax sources	69	58
Nontax sources		
Foundations	14	12
Subscribers	5	} 20
Business gifts	3	
Underwriters	2	
Other	6	
Total nontax sources	31	32
Mixed sources (CPB, etc.)	—	10

Sources: 1965-1966: Carnegie Commission on Educational Television, *Public Television: A Program for Action*, Harper & Row, New York, 1967: 243 (percentages rounded); 1971-1972: S. Young Lee & Ronald J. Pedone, *Summary Statistics of Public TV Licensees*, 1972, Corporation for Public Broadcasting, Washington, D.C., 1974: 9 (percentages rounded).

Though massive, foundation support was always intended for pump priming rather than for permanent operational funding. Exhibit 12.12 shows that despite valiant efforts by public broadcast station managers to raise funds from the general public and to earn part of their own revenue, tax money has always been the main source of support. The exhibit compares conditions as the Carnegie Commission found them, before the Corporation for Public Broadcasting came into being, with conditions after four years of CPB operation. If "mixed sources" are added to tax sources (since CPB and other such bodies derive most of their funds from tax sources), the total tax support remained about the same, nearly 70 percent. Foundation support decreased slightly, but withdrawal of new Ford Foundation grants after 1974-1975 was bound to sharply decrease the foundation share in the future.

The future of public broadcasting depends on two developments: increased federal support and the devising of some method for insulating that support from day-to-day partisan politics. Exhibit 12.12 shows that the level of direct federal support has remained quite low (indirect federal subsidization also comes via the public educational system inputs). We have already discussed the problem of political insulation (see §10.9).

By any comparison, public television at its present level of financing remains too weak to be a fully adequate alternative to commercial television. For example, whereas the average annual fiscal 1972 operational costs per station

in the commercial sector amounted to over \$2 million, in the public sector they amounted to only a third as much. Whereas the mean number of full-time commercial employees per commercial station was 64, the number per non-commercial station was about a third as many. Whereas commercial stations maximize the service obtained from capital investment by staying on the air from 16 to 24 hours per day, noncommercial station equipment lies idle half the time. The mean number of broadcast hours per week for public television was 76, of which less than 60 percent was aimed at the general public (the rest being classroom instruction). Commercial broadcasting spends something like four times as much per hour on programming as does noncommercial broadcasting.

It might be argued that such comparisons juxtapose apples and oranges; public broadcasting is, for example, relieved of one entire category of expenses — selling. But is it? The fact is that public television management probably spends more time than commercial management in the desperate effort to bring in sufficient revenue to keep in operation. In any event, selling expenses represent a relatively small fraction of total commercial station expenses (see exhibit 12.6). Public stations need not match commercial station budgets dollar for dollar, but they do need to be in the same ball park if public broadcasting is to play its destined role in the development of a genuinely pluralistic broadcasting system.

Audience Measurement

Audience measurement research seeks answers to questions about audience size and composition and about such behavioral responses as brand name recollection and purchasing decisions. In this chapter we deal with the practical problems involved in finding answers to these questions. The general field of communications research and theory is treated in chapter 23.

13.1 Need for audience measurement

Users of all mass media regard scientifically based research as an essential management tool, but it has a particularly important function in broadcasting. The intangibility of the broadcast product makes research data the only means of measuring consumption. Broadcasting's special need for research and the special difficulty of obtaining satisfactory consumption data help account both for the industry's dependence on ratings and for the deficiencies in the rating system. Despite drawbacks and problems, however, research is so essential that stations, networks, agencies, and advertisers all spend millions of dollars annually on it, and on it they base decisions involving the expenditure of many more millions.

Volunteer letters from radio listeners were the first form of audience information. Listeners eagerly sent in comments and reports of reception in the early days, when radio was still a novelty. After the novelty had worn off, stations began offering gifts and prizes to stimulate listeners to write. And although broadcasters still use audience mail to some extent to demonstrate program pull and to construct mail maps indicative of station coverage, they recognize that writers-in are unlikely to give them a reliable index of the general audience. Letters are therefore not regarded as a reliable tool for most research purposes.

In 1946 the broadcasting industry attempted to set up a service somewhat like the Audit Bureau of Circulation, which since 1914 has produced impartially audited and universally accepted reports on the paid circulation of print media. However, broadcasting offers no simple, clear-cut basis of measurement

such as the sale of countable entities like newspapers or magazines. A publication is a single physical object, even though it contains a variety of items that attract varying degrees of reader attention. Broadcasting content cannot be treated in such readily quantifiable terms. It spreads out over time and evaporates as fast as it is "published." In consequence, no single universally accepted way of measuring broadcast consumption has evolved. Instead, several research companies using rival research methods compete in the audience measurement field.

13.2 Concepts of "market"

Commercially motivated research must define audiences in commercial terms. Therefore the term "market" takes on a special meaning in broadcasting. In its more general sense it refers to the marketplace as a whole. Federally sponsored surveys using uniform methods produce great quantities of underlying market data. The chief source is the Department of Commerce, in particular its Bureau of the Census, but virtually every government office and agency makes its own contribution to the statistical flood. Trade associations, advertisers, and commercial research agencies also act as tributaries.

Most market research builds, therefore, on a platform of information already available for the asking. Even before starting to gather original data, the researcher can learn about such population characteristics as geographical distribution, occupation, income, age, education, race, and sex and also about such economic indicators as retail sales volume, auto registrations, house ownership, power consumption, and agricultural and manufacturing production. Spared the task of collecting essential background information each time he undertakes a project, the market researcher can concentrate most of his efforts on acquiring the specific new information a client wants.

An advertising medium uses the term "market" in the special sense of a trading area defined by its own system of distribution or coverage. Because of the peculiar nature of electromagnetic radiation, problems of market definition in broadcasting become especially important. For example, whereas a river or some other natural geographical feature separating two cities might well form a reasonably precise market boundary for local newspaper distribution, radio waves ignore both geographical and political boundaries.

A striking illustration of such differences in market boundaries was made by a Rand Corporation study of news media in Kalamazoo and Grand Rapids, two Michigan towns located 50 miles apart (Bagdikian, 1971: 152). Each town has its own newspaper, each paper generating over 80 percent of its circulation within its home county. But both towns belong to the single television market of Kalamazoo-Grand Rapids. Television stations in that hyphenated market serve 24 counties, radio stations still more counties.

The television industry relies chiefly on a system of county-by-county market delineation that was introduced in 1966 and updated each year thereafter by the American Research Bureau (now known as Arbitron), a commercial ratings research firm. For the 1973–1974 season, the Arbitron system divided the United States into 209 markets called “areas of dominant influence,” or ADIs. Each of the 3,141 counties in the United States belongs to one, and only one, ADI. The markets are ranked according to number of television households, from No. 1 (New York, with 6,184,000 television households) to No. 209 (Pembina, North Dakota, with 6,600). When the FCC refers to the top 50 or the top 100 markets in the CATV rules (§11.3) or to the top 50 in the prime-time rule, it is referring to ADIs.¹

Exhibit 13.1 shows the way in which the country has been divided into ADIs. In densely populated areas an ADI consists of only three or four counties, whereas the Salt Lake City ADI, for example, includes not only the whole of Utah but parts of Idaho and Wyoming as well. Satellite stations and community antenna systems vastly extend the normal limits of the Salt Lake City stations’ range to make possible such a large ADI.

The basic market datum of broadcasting is the number of receivers in working order. The ratio between total households and the number equipped with receivers in a market gives a relative measure called *penetration*, or *saturation*. So many households in the United States have radio and television sets that for most practical purposes the potential broadcast audience can be considered virtually identical with the population itself. Specific markets vary, though, especially in television and in fm radio saturation. In 1973 estimated television saturation by county varied from a low of 81 percent of households (e.g. in Apache County, Arizona) to a high of 99 percent (e.g. Fairfax County, Virginia). These are truly remarkable statistics; they show that broadcast receivers, despite their short history, have become the most universal of all modern household artifacts.

13.3 Coverage area and circulation area

A station’s coverage area defines the limit of its audience potential.² Officially, the FCC recognizes two hypothetical coverage areas defined as Grade A and Grade B contours (47 CFR 73.683). These are predicted intensity patterns:

¹ The list of ADIs can be found in *Broadcasting Yearbook*, *Television Factbook*, and other trade reference publications. Another major national television rating firm, A. C. Nielsen, uses a similar breakdown but calls the markets “designated market areas.” Market research also uses the Bureau of Census concept of “standard metropolitan statistical area,” generally defined as a cluster of counties including one or more cities of at least 50,000 inhabitants. The 1970 bureau enumeration included 263 SMSAs.

² Audience research terms used in this chapter conform to definitions in the National Association of Broadcasters’ *Standard Definitions of Broadcast Research Terms* (1973).

within the Grade A contour, satisfactory service is projected for 70 percent of the receiving locations 90 percent of the time; within the Grade B contour such service is projected at 50 percent of the receiving locations.³ Since the FCC contours are hypothetical, the industry supplements them with pragmatic measurements based on surveys of tested receivability. In any event, coverage refers to the physical presence of a receivable signal and not necessarily to its actual reception.

To denote a general estimate of reception, the industry uses the term *circulation area*. This concept, borrowed from newspaper practice, defines the area within which a station is actually received at a certain arbitrary level of frequency. It is somewhat impractical to deal in terms of curvilinear shapes of actual signal strength contours, so rating firms report circulation in terms of counties. A county qualifies as part of a station's circulation area if, for example, at least 5 percent of the households in the county tune to the station at least once a week. Circulation information gives a generalized measure of a station's pulling power but reveals nothing about the audience reached by any particular program.

Thus coverage data give a generalized measure of a station's physical reach, whereas circulation data give a generalized measure of a station's audience reach. The NAB makes the distinction in shorthand terms by calling coverage a "can-receive" measurement and circulation a "do-receive" measurement.

Coverage and circulation measurements may seem almost too vague and theoretical to have much value. But they are useful in providing a basis for computing rates for station and network time sales. They also give advertising agency time buyers essential comparative information. Among several stations or networks available for a given advertising campaign, which ones can probably best cover the target audience? If the product is aimed at urban rather than rural dwellers, for example, there is no point in buying extensive coverage in rural areas.

Coverage and circulation data also help decision making in the planning stage of advertising campaigns. After decisions have been made, after the outlets have been selected and the broadcasts started, the next question is: "How much of the potential circulation was actually reached?" This matter is crucial because the single readily manipulable variable in the equation is programming (including, of course, commercials). Coverage and circulation remain fairly stable; programming is dynamic. One program or format is a hit, another is a bomb. Today's brilliant success becomes tomorrow's trite failure. This is the realm of the controversial program ratings that dominate commercial broadcasting.

³ Maps showing these contours are reproduced in the station directory section of *Television Factbook*.

13.4 Program rating concepts

A program rating is an estimate of relative audience size — “relative” because it is based on a percentage.⁴ Ratings can be viewed as estimates of relative popularity in the sense that people tune to one program in preference to other competing programs available at the same time (as well as in preference to doing something other than watching or listening). A rating percentage is calculated on the basis of total *potential audience*, i.e. all the sets or people with access to sets in the area measured. Practically speaking, no program reaches its total potential.⁵

Program ratings are calculated in several ways, depending on the time dimension employed. An *instantaneous* rating reports an estimate of audience size at one particular moment; an *average* rating reports an estimate of the audience size when the audiences for such moments are averaged, without duplication, over a fixed period of time, such as 30 minutes; a *cumulative* rating, referred to as a *cume*, gives an estimate of audience size based on the sum of the audience members, without duplication, for two or more periods of time.

Repetition is a central feature of broadcast advertising strategy. A rating based on an individual program or a single week of programs does not reflect cumulative reach over a longer period of time during which the same commercials recur. Researchers usually use four weeks as the basis for calculating a cume. A four-week cume estimates the unduplicated audience reached during the four weeks. An individual who tuned each week to a particular weekly program would be counted as one, even though he tuned in four times; on the other hand, four *different* individuals, each of whom tuned in to only one of the four weekly programs, would be counted as four.

The “revolving door” type of radio format illustrates the importance of the cume measurement. For example, KYW-Philadelphia, an all-news radio station, usually ranks below the leading five stations in average quarter-hour audience but also usually ranks first or second in cumulative audience. This is because of the high turnover in audience members inherent in the revolving door format; people tune in long enough to listen to weather, road conditions, and news reports, then tune out; a formula music station, on the other hand, tends to keep the same audience tuned in hour after hour.

The sum of all program ratings for a given time period provides an estimate

⁴ In expressing a rating, the percent symbol % is dropped, as is the decimal point for the first two places in the original calculation. For example, if the base number (e.g. the total television households) divided into the number of households tuned to a given program yields 0.065, then 6.5 percent of the households were tuned to that program; hence that program's rating is 6.5.

⁵ The average annual rating for prime-time regularly scheduled television entertainment shows is 17, for daytime shows 7.5 (BBD&O, 1974: 14). Nielsen's all-time top sponsored single-network program rating was 46.6 for the “Bob Hope Christmas Show” in 1970 (Nielsen Newscast, 1974: 6).

of the total audience for all stations in the market during that period. This statistic is alternatively called a HUT (“households using television”) rating or a HUR (“households using radio”) rating.⁶ HUT and HUR ratings are the bases of deriving *share-of-audience* ratings. The numerical base of these ratings is the actual rather than total potential audience. Program ratings never add up to 100 because at no time is every household or every individual tuned in. Share ratings, on the other hand, do add up to 100 because they represent portions of the actual tuned-in audience.⁷ Exhibit 13.2 graphically describes the main types of rating measurements.

It is important to realize that a rating is not a simple, uniform measurement. In order to interpret the meaning of a rating in any given context, at least five questions must be asked about how it was derived: (1) What criterion was used for counting an audience unit as part of this particular audience? (2) What was counted as an audience unit — a whole household or an individual, and if an individual, were any age limits imposed? (3) For what broadcasting entity was the audience measured — a station, a network, a group of stations, a program, a group of programs? (4) Were audience members outside of homes counted as well as those in homes? (5) What time base was used — instantaneous, average, or cumulative?

13.5 Measurement from samples

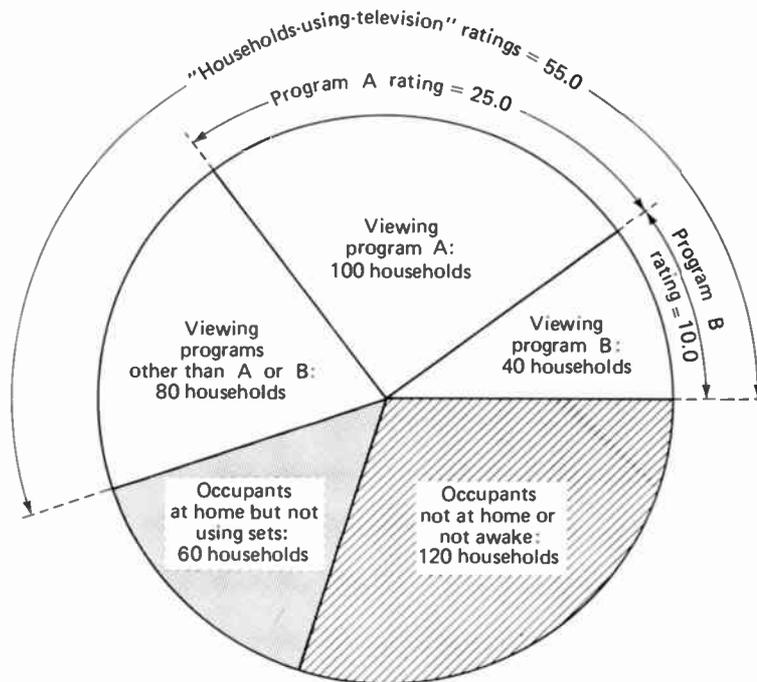
The purpose of ratings is to measure highly volatile behavior patterns. Broadcast audiences fluctuate constantly — from minute to minute, from day to day, from season to season, and from place to place. Imagine a time-lapse film of the speeded-up comings and goings of the members of any family in their home television viewing area or areas. This is the kind of complex activity ratings try to measure. Obviously, it would be impossible to tabulate all the comings and goings of millions of people tuning millions of sets to thousands of stations scattered throughout the country — and mostly in privacy, where behavior cannot normally be observed. Simplification is essential to any kind of empirical measurement.

Sampling audience behavior One simplification is to ignore the varying levels of attention and types of motivation that characterize listening/viewing. Researchers cannot take the time to probe into such variables; they must use a very simple, uniform, clear-cut item of behavior to test whether or not a person

⁶ Note the difference between HUT (the number of households using television) and HUT rating (the percentage of households using television). This distinction applies to most other rating terms. Before multiple-set households reached significant numbers, HUT and HUR were expressed as “sets in use.”

⁷ In practice, share ratings may add to slightly under or over 100 because of variations in methods of enumeration (see NAB, 1973b: 26).

Exhibit 13.2
Rating concepts



Sample: 400 television households
 Universe: All television households in the market

The pie is a hypothetical probability sample of 400 television households, drawn from the 100,000 television households in the market being surveyed. Note that the rating is derived from a percentage based on the *total* sample (400), not just that part of the sample viewing programs at the time (220).

In the example the universe (100 percent of the population being measured) is defined as all television households in the market. The universe could also be defined in other ways — for example, as *all households* in the market; this would lower the ratings (assuming that fewer than 100 percent of the households are television households).

The rating of 25 for program A can be projected to the total population by the following formula: $0.25 \times 100,000 = 25,000$ households.

The sum of all program ratings at the time provides the HUT rating of 55. This can be projected to the total population to obtain the HUT *number* in the same way program A's rating was projected, i.e. $0.55 \times 100,000 = 55,000$ households.

The share-of-audience rating is based on a universe defined as all households actually using receivers at the time of broadcast. There are 220 such households in the sample. Program A's share rating is therefore $100 \div 220 = 0.454$, expressed as a share rating of 45.4.

To find A's share *number* multiply the HUT by its share rating, i.e. $0.454 \times 55,000 = 24,970$ households. This is the same (except for a slight difference owing to rounding) as the 25,000 derived by projecting A's program rating.

should be counted as a member of an audience. The test reduces itself essentially to a matter of set tuning: is (or was) the set turned off or on? If on, to what station?

This simple set-use test does not include a good deal we would like to know about an audience member. It does not even tell us for sure that the person actually was an audience member since a receiver could be turned on in an empty room. People sometimes leave their sets on to deter burglars or entertain dogs. Even with people present, we do not learn how much attention they paid to the program; whether the individual listener/viewer's attitude was favorable, indifferent, or hostile; whether the program was chosen after considering all the alternative programs or merely left on because the dial happened to be set on that channel or station; whether some members of the family imposed their program choice on the rest.

Sampling time A second simplification used in audience research takes advantage of the repetitiousness of programming patterns. Most television programs (specials excepted) occur in series that are scheduled in daily or weekly cycles. The relative popularity of individual programs in a series tends to remain stable, for audiences develop habitual listening and viewing patterns and program loyalties. To measure audiences for every program every day of the week and every week of the year would require much unnecessary labor. Rating research therefore depends on samples of program time — a test every few weeks is adequate for most purposes. The more stable parameters, such as circulation, may be measured at even longer intervals.

Sampling people The third and most controversial type of simplification used in audience research reduces the audience itself to the dimensions of a small sample. Of all the research procedures, audience sampling causes the most skepticism. To the lay observer, it seems a denial of plain common sense to claim that a tiny sample of a few hundred could serve as an even remotely adequate basis for ascertaining the program preferences of some 200 million people.

Theory and practice of sampling In the most commonly used type of sampling, the chief theoretical requirement is that each and every member of the entire population under study must have an equal chance of being selected as a member of the sample. Simple as this requirement may seem, in practice it is difficult, often literally impossible, to fulfill.

To start with, to sample a large population, only rarely is it possible to get a complete "frame," or population list. There must be something to sample from — names in a membership list, a telephone directory, or some other such systematic enumeration of members of the population (or something that stands for them, such as home addresses).

Assuming first a reasonably complete frame from which to select sample

members and second a random selection of the sample members, the next problem is to make contact with the designated individuals. In sampling large populations, the researcher seldom succeeds in actually reaching every designated sample member. Some are on vacation, sick, or even dead. Many are available but unwilling to cooperate. When asked if they would be willing to keep viewing diaries, for example, half or more of the people designated in sample designs usually either refuse outright or cannot cooperate because of language difficulty. Of those who agree to keep diaries, some fail to do so; others misunderstand the instructions and their diaries have to be discarded. Thus the researcher bases measurements on a faulty sample, one not true to the original sample design. This discrepancy may or may not matter, depending on whether or not those missed tend to differ significantly in their listening/viewing habits from those reached.

Nevertheless, investigators in every branch of inquiry routinely use sampling as a measurement technique. Most social surveys of the full population of the United States successfully use samples of 2,000 to 5,000 individuals. Innumerable measurement situations other than broadcasting occur in which a complete census would be impossible. Moreover, the incidental errors that occur in handling many million bits of information can make a complete census less accurate than a well-conducted sample survey.

In many situations, either sampling must be used or rational judgment must give way to guesswork. If, as former NBC president Sylvester Weaver once remarked, audience research is “just one step from the entrails of the chicken,” even one step in the direction of objectivity is preferable to sheer superstition.

13.6 A sampling demonstration

The Committee on Nationwide Television Audience Measurements demonstrated to a congressional investigating committee the feasibility of using small samples for the specific purpose of obtaining broadcast rating measurements. CONTAM drew a large series of samples from a television audience whose actual program preferences were already known. The “population” consisted of completed viewing diaries from over 56,000 homes. The diaries had been collected by the American Research Bureau, a commercial research firm, in the course of a national survey of television station circulation. Thus the actual rating of each program by that particular population had already been established.

For the demonstration, CONTAM selected 10 programs of varying types and levels of popularity, then estimated the rating of each program by drawing samples of varying sizes. Sample sizes of 25, 50, 100, 250, 500, 1,000, 1,500, and 2,500 diaries were used. One hundred samples of each size were chosen. This process required 800 samples (groups, that is, not just individuals) for each of the 10 programs, or a grand total of 8,000 samples, involving a random

selection of over 5 million sampling units! Of course, the selected diaries (the sampling units) were returned to the pool after each sample had been tabulated so that the population remained identical for the drawing of each sample.

Exhibit 13.3 shows some of the results for 1 program. (Results for the other 9 programs were similar.) The distribution of estimated values above and below the true rating follows the pattern predicted by statistical theory. The smallest-size sample shown in the figure is 50 — much smaller than samples normally used in actual rating surveys. Rating estimates based on samples of so small a size varied considerably from the true rating of 37 — as far off as 18 on the low side and 56 on the high side. Even so, only 4 of the 100 samples erred to this extreme. Indeed, 63 of the 100 estimates fell within 5 rating points of the true figure. Thus even a sample of admittedly inadequate size yields estimates that in the majority of cases come reasonably close to the truth.

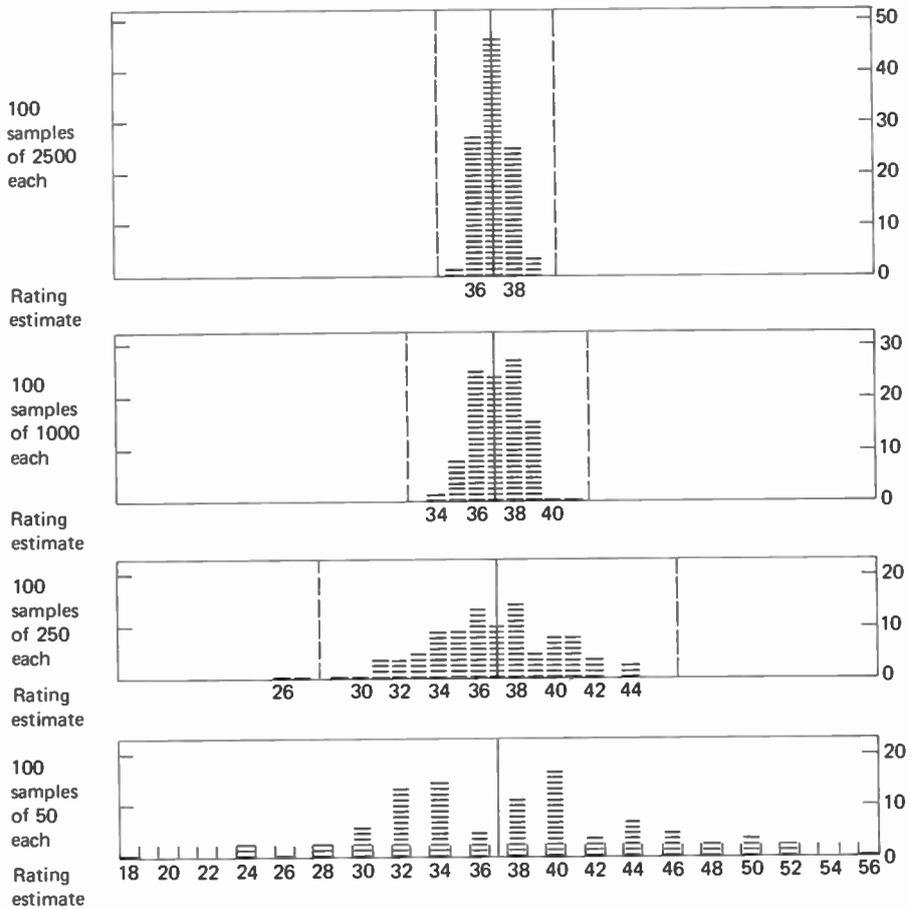
Increasing the sample size to 250 produced a marked improvement in reliability. Now the estimates began to cluster tightly around the true figure, with fewer extreme misses. At the next level, all the samples of 1,000 members fell within 3 rating points of the true figure. A further increase in sample size did not yield a proportionate increase in reliability. Samples of 2,500, though 2.5 times larger, did not produce estimates 2.5 times more accurate than samples of 1,000. Clearly, a point of diminishing returns sets in after which larger samples produce such small gains in reliability that they become too costly to be worthwhile.

This demonstration with actual audience data is evidence that with proper sampling procedures, relatively small samples can be used to estimate program ratings with reasonable accuracy. Of course, “proper sampling procedures” are no problem with a static population of diaries, which can be manipulated at will. Real-life populations are far less stable and accessible, and real-life field work introduces all sorts of human errors not encountered in such a demonstration.

The CONTAM demonstration shows why no sample-based rating is anything more than an *estimate*, no matter how careful the procedure or how large the sample. A sample-based estimate permits no stronger a statement than that the obtained figure is only *probably* correct and only correct *within certain limits*. Notice that the statistician uses not one but two escape clauses: not only must we accept that the estimated value may fall above or below the true value by a certain amount, but even this assurance is given to us only as a probability, not a certainty.

The degree of certainty we can have that a rating does not deviate from its true value by more than a specified amount can be determined mathematically. Using the example in exhibit 13.3 of rating estimates based on samples of 1,000, with a true value of 37, probability theory predicts that within a 95-percent level of confidence (i.e. 95 chances out of 100), the estimates will differ from the true rating value by *no more than* 3.1 rating points. In other words, at

Exhibit 13.3
Effect of sample size on accuracy of rating estimates



The actual rating was 37. Each horizontal bar in the columns represents one complete sample of the designated size.

Read as follows, starting with bottom graph: When 100 samples, each of 50 diaries, were drawn from a population of 56,000 diaries, one sample of 50 yielded an estimated rating for *Dr. Kildare* as low as 18 and one sample of 50 yielded a rating as high as 56; most of the sample estimates, however, were within a few rating points of the correct rating of 37.

Source: Based on CONTAM data in House Committee on Interstate and Foreign Commerce, Special Subcommittee on Investigations, *Broadcast Ratings: The Methodology, Accuracy, and Use of Ratings in Broadcasting*, Hearings, Government Printing Office, Washington, D.C., 1965: 1,848.

least 95 percent of the time samples of 1,000 should produce estimates falling within a range 40.1 to 33.9 when the true value is 37 (i.e. 37 plus or minus 3.1). In the CONTAM demonstration (exhibit 13.3) 98 percent of the 100 estimates fall within these limits.⁸

13.7 Collecting rating data

About 50 companies deal in various aspects of audience measurement research (nonrating audience research is discussed in §13.10). Two, Arbitron and Nielsen, can be considered the major rating firms in that they regularly supply both national and local rating services. Local television reports (i.e. market-by-market reports) are published from three to eight times a year, depending on the size of the market. Network television reports are released weekly except for four or five “black” weeks per year.⁹ Overnight television network reports are based on samples from a few major cities. An almost unlimited variety of tailor-made reports can be obtained on order, both from the major full-service rating firms and from the specialty houses.

Commercial rating firms rely on four principal data gathering techniques: telephone interviews, in-person interviews, listener/viewer diaries, and receiver metering. Each method has its advantages and disadvantages, each its rival practitioners.

Telephone interviews Here the chief method is called the *coincidental telephone method*. The name signifies that two events coincide — a question about viewing/listening now and the respondent’s immediate reply. Coincidental telephone surveys thus minimize respondent memory errors. Such surveys can be organized and conducted at a moderate cost, but the administrative difficulties of making reliable coincidental telephone surveys were underestimated in the past (see §13.10). Because only a small amount of information is elicited from each sample member (usually what station or program is on at the moment and how many people of what age groups and sex are present), coincidental telephone surveys require large samples.

The telephone is also used to some extent for collecting recalled information, especially concerning viewing/listening during late night and early morning hours when it is inconvenient to conduct interviews even by telephone.

A possible drawback of telephone surveys is that telephone directories omit a substantial part of the population: not everyone has a telephone, and not every telephone is listed. “Random digit dialing” was developed to overcome the latter problem. It was found that a sample of telephone numbers could simply

⁸ A table of probable deviation limits for samples of varying sizes can be found in the National Association of Broadcasters publication, *A Broadcast Research Primer* (1966: 19).

⁹ One network stratagem is to schedule prestigious but not necessarily popular programs during black weeks, when the absence of rating reports keeps average rating scores from being depressed.

be made up by adding randomly selected four-digit numbers to known exchange numbers (see §13.10).

In-person interviews Recall errors can be partly reduced by using an *aided recall* (also called *roster recall*) door-to-door interview technique. With this method the respondent is shown a list of stations and programs as a memory jogger to help recall past listening or viewing. Person-to-person communication elicits more detailed background information, by both observation and questioning, than is feasible with other data gathering techniques.

Researchers often choose sample members for door-to-door surveys by imposing a grid pattern over a map of the survey area that designates interview locations on the basis of randomly selected grid coordinates. In recent years, though, in-person fulfilling of such sample designs has been increasingly deterred by the sheer physical danger faced by interviewers in some neighborhoods and by the defensive reaction of householders when strangers appear at the door. Nevertheless, one of the rating companies, The Pulse, Inc., still uses in-person interviews for local rating reports.

Diaries Exhibit 13.4 shows an example of the type of week-long diary format that Arbitron asks radio listeners to fill out. The company uses a similar format for its television surveys. If it could be assumed that every diary keeper filled out the form faithfully and promptly, this method would give a better picture of audience flow and composition than either telephone or in-person interviews. But in practice, diary keeping is, of course, somewhat less than ideal. Arbitron, the chief rating service that uses diaries, reports that it gets 85 percent of the designated sample homes to accept diaries but that only 52 percent return usable reports (ARB, 1974: 42).

Arbitron supplies both radio and television rating services, local as well as national. Television sample sizes vary according to market, from a maximum of 2,400 respondents in the top 4 markets to a minimum of 550 respondents in markets below the 75th. The sample design relies on telephone directories as a frame (source of sampling units), on the premise that nonlisted telephones create no significant distortions in its results (ARB, 1973). The frequency of individual market program rating reports varies with the size of the market. In addition, Arbitron makes three annual "sweeps" of the whole country, collecting circulation data from every county.

Meters Nielsen, the name of the company that uses meters to gather rating data, has become so well known that ratings are popularly called *Nielsens*.¹⁰ A. C. Nielsen bases national network ratings on reports from fewer than 1,200 metered homes, a limit imposed by the extraordinary expense of installing and

¹⁰ Broadcasting research is only one facet of the A. C. Nielsen Company's activities. It is the world's largest market research company, with estimated total research sales of \$118 million annually, about half of which comes from foreign operations (Honomichl, 1974).

Exhibit 13.4
 Instruction page from radio listener diary

HOW TO FILL IN THE ARBITRON DIARY

Please carry the Arbitron diary with you wherever you go during the seven days of the survey. Then, each time you listen to a radio —

- ① Please fill in the time you start listening and the time you stop. Be sure to indicate whether the time is AM (morning) or PM (afternoon and evening). Whenever you change stations, please fill in a new line.
- ② Check (✓) only when you are listening on the FM dial. If you are listening on the AM dial, leave the column blank.
- ③ Fill in the "call letters" of the station you are listening to. If you don't know the call letters, fill in the name of the program — or the dial setting.
- ④ Check (✓) to show whether you are listening at-home or away-from-home.
- ⑤ If you don't listen to a radio on a certain day, check (✓) the circle at the bottom of the page for that day.

HERE'S WHAT A SAMPLE PAGE MIGHT LOOK LIKE —

TIME		WHEN LISTENING TO FM, CHECK HERE (✓)	STATION FILL IN STATION "CALL LETTERS" (IF YOU DON'T KNOW THEM, FILL IN PROGRAM NAME OR DIAL SETTING)	PLACE	
(Indicate AM or PM) FROM —	TO —			AT HOME	AWAY-FROM-HOME (INCLUDING IN A CAR)
6:40 AM	7:30 AM	② ✓	③ WWTM	④ ✓	
10:10 AM	11:30 AM		PIERCE SHOW		✓
4:45 PM	5:20 PM		WREF		✓
6:30 PM	8:30 PM		WWAC	✓	
10:50 PM	11:10 PM	✓	101.1 on the dial	✓	

⑤ PLEASE CHECK HERE IF YOU DID NOT LISTEN TO A RADIO TODAY.

IMPORTANT — Many stations broadcast on both AM and FM. For this Arbitron survey, it is important to correctly identify whether you are listening on AM or FM (even though the station may use the same call letters and broadcast the same thing over the air).

To keep your Arbitron diary from getting mixed up with any others in your home — please fill in your initials (or first name) here

The booklet contains a separate diary page for each day of the week.

Source: Reproduced with permission of Arbitron, Beltsville, Md., 1973. © 1973 ARB (American Research Bureau), Inc.

maintaining the meters. Also because of the expense of setting up a sample home for metering, the sample is relatively permanent, only a fifth of the members being replaced each year.

The fact that Nielsen's data differ only marginally from data gathered by other methods indicates that the company successfully protects its sample from manipulation. Still, though, people cannot help being intrigued by the idea that a mere handful of Nielsen meter homes can make substantial differences in national network ratings. A Los Angeles newspaper writer claimed to have penetrated the closely guarded secrecy of the Nielsen sample. At least one of the sample members the reporter interviewed said that he consciously guided his own viewing in an effort to influence ratings (Adler, 1974).

The Nielsen meter, trade-named the Audimeter, has undergone several generations of development. The original black boxes recorded set tuning on film cartridges that had to be mailed in each week. The latest Audimeters feed tuning information from all sets in a home to an information storage component inside the house. On cue from the Nielsen computer base, the stored information at the individual home is delivered to the computer via a special telephone wire network. (Compare this method with the CATV response system described in §4.8.) This system enables the daily processing of data for national prime-time ratings, a procedure that used to require two weeks.

The main weakness of the meter system, aside from the hazard of its being based on a small, relatively long-term sample, is that it tells nothing about audience composition — in fact does not tell whether anyone is paying attention to an “on” receiver at all.¹¹ To compensate, Nielsen also uses a smaller panel of about 500 diary homes in conjunction with its Audimeters (though in different households). These homes supply audience composition information for the national ratings. Another type of meter, called the Recordimeter, not only keeps a record of set tuning in the diary homes but also reminds the log keepers of their duties — both visually and aurally — at half-hour intervals while the set is on. Nielsen bases its local ratings entirely on diaries because the meter costs for complete samplings in the approximately 200 local markets would be prohibitive.

Nielsen reports that it gets 50 percent acceptance of diary placements in accordance with sample design, compared with 70 percent acceptance of meter installations. A Nielsen Audimeter householder receives a \$25 payment upon installation of the meter (or meters, since an Audimeter must be attached to every set in the home), a \$2 payment each month, and half the cost of receiver upkeep.

Rating reports have evolved into a complex publishing industry. Exhibit 13.5

¹¹ According to the story of a one-time Nielsen Audimeter service man, the company has a technique for signaling an alert if a set remains on for a suspiciously long period. In at least one instance, he claimed, this alert led to the discovery that the set-owner was dead (Black, 1973).

Exhibit 13.5
Excerpts from local television rating report

WEEKLY PROGRAMMING													4 WEEK TIME PERIOD AVERAGES																		
DAY AND TIME		ADJ TV HD				ADJ TV HD				NETWO				TOTAL SURVEY AREA IN THOUSANDS																	
		RATES				TV HD				TV HD				TV HD				HOUSEHOLDS				POPULATION				CHILDREN					
		W	T	F	S	W	T	F	S	W	T	F	S	TV	TOTAL	TOTAL	POP-	SEXES				RACE				AGE					
STATION	PROGRAM	W	T	F	S	W	T	F	S	W	T	F	S	TV	TOTAL	TOTAL	POP-	TOTAL	10-10	10-24	25-34	35-49	TOTAL	10-10	10-24	25-49	50-64	65-74	75-99	TOTAL	0-11
THE SOB? - 4:30P																															
WITH SCHWESSET		2	4	7	15	7	24	9	9	0	29	19	28	19	28	19	19	14	7	4	6	4	9	9	4	2	7	2	1	2	2
WCTI TATTLERALS		6	3	11	7	7	24	7	10	18	36	16	24	17	11	12	7	4	6	3	5	3	2	2	1	5	2	2	1	2	
WCTI GILLIGMS IS		3	0	10	9	0	2	0	0	18	36	18	37	12	14	9	4	3	2	7	9	4	1	7	1	10	13	7	10		
MUT/PWT/TOT		28	21	30	30	29	31	32	20	93	89	68	68	8	33	18	11	15	9	17	13	10	17	13	10	6	10	22	16	22	
4:30P - 5:00P																															
WITH BEWITCHED		6	9	12	13	10	33	10	9	10	37	24	37	19	15	13	9	5	7	6	6	6	9	2	5	13	11	5	13		
WCTI LUCY SHOW		6	3	10	6	7	23	11	11	11	41	18	36	10	13	12	7	6	4	4	9	2	2	1	7	9	0	7	9		
WCTI GOMER PUKE		2	4	7	6	5	17	8	7	9	19	12	38	16	17	7	7	6	4	4	6	9	7	6	2	5	6	6	6		
MUT/PWT/TOT		25	22	36	37	38	33	33	27	94	101	93	45	33	23	19	17	14	20	15	13	9	17	13	9	17	31	23	23		
5:30P - 6:30P																															
WITH HLD HLD WEST		7	10	10	15	11	34	18	12	13	63	26	64	29	27	13	9	7	6	16	16	13	6	9	17	13	0	17			
WCTI HLD HLD WEST		7	6	9	8	7	22	10	12	9	30	20	46	20	25	17	11	7	9	12	9	8	4	10	7	4	7	4			
WCTI HLD HLD WEST		4	4	10	4	9	16	9	7	9	17	13	27	16	15	10	9	9	6	6	4	2	2	2	4	7	9	7	4		
MUT/PWT/TOT		31	27	37	35	32	60	61	31	66	112	74	67	48	20	28	21	17	24	24	12	23	31	23	31	22	13	22			
6:30P - 6:59P																															
WITH HLD HLD WEST		7	10	10	15	11	34	18	12	13	63	26	64	29	27	13	9	7	6	16	16	13	6	9	17	13	0	17			
WCTI HLD HLD WEST		7	6	9	8	7	22	10	12	9	30	20	46	20	25	17	11	7	9	12	9	8	4	10	7	4	7	4			
WCTI HLD HLD WEST		4	4	10	4	9	16	9	7	9	17	13	27	16	15	10	9	9	6	6	4	2	2	2	4	7	9	7	4		
MUT/PWT/TOT		31	27	37	35	32	60	61	31	66	112	74	67	48	20	28	21	17	24	24	12	23	31	23	31	22	13	22			
6:59P - 7:30P																															
WCTI TOTAL HHS 12		3	3	0	0	5	14	5	9	16	13	28	16	9	0	6	9	6	4	9	6	4	9	6	2	6	2	2	2	2	
MUT/PWT/TOT		31	27	37	35	32	60	61	31	66	112	74	67	48	20	28	21	17	24	24	12	23	31	23	31	22	13	22			
6:59P - 6:30P																															

PROGRAM AUDIENCES

TIME		STATION		TOTAL SURVEY AREA IN THOUSANDS																											
				VELOCITIES				ADJ TV HD				NETWO				TOTAL SURVEY AREA IN THOUSANDS															
				W	T	F	S	W	T	F	S	W	T	F	S	TV	TOTAL	TOTAL	POP-	SEXES				RACE				AGE			
DAY	PROGRAM	W	T	F	S	W	T	F	S	W	T	F	S	TV <td>TOTAL<td>TOTAL<td>POP- <td>TOTAL</td><td>10-10</td><td>10-24</td><td>25-34</td><td>35-49</td> <td>TOTAL</td><td>10-10</td><td>10-24</td><td>25-49</td><td>50-64</td><td>65-74</td><td>75-99</td><td>TOTAL</td><td>0-11</td> </td></td></td>	TOTAL <td>TOTAL<td>POP- <td>TOTAL</td><td>10-10</td><td>10-24</td><td>25-34</td><td>35-49</td> <td>TOTAL</td><td>10-10</td><td>10-24</td><td>25-49</td><td>50-64</td><td>65-74</td><td>75-99</td><td>TOTAL</td><td>0-11</td> </td></td>	TOTAL <td>POP- <td>TOTAL</td><td>10-10</td><td>10-24</td><td>25-34</td><td>35-49</td> <td>TOTAL</td><td>10-10</td><td>10-24</td><td>25-49</td><td>50-64</td><td>65-74</td><td>75-99</td><td>TOTAL</td><td>0-11</td> </td>	POP- <td>TOTAL</td> <td>10-10</td> <td>10-24</td> <td>25-34</td> <td>35-49</td> <td>TOTAL</td> <td>10-10</td> <td>10-24</td> <td>25-49</td> <td>50-64</td> <td>65-74</td> <td>75-99</td> <td>TOTAL</td> <td>0-11</td>	TOTAL	10-10	10-24	25-34	35-49	TOTAL	10-10	10-24	25-49	50-64	65-74	75-99	TOTAL	0-11
7:30P WCTI																															
MON MAKE A DEAL		4	0	20	41	21	94	98	100	82	33	90	26	10	26	11	39	32	17	10	12	9	4	12	9	4	12	9	4	12	
TUE *TELL TRUTH		4	0	15	20	52	30	76	95	15	38	16	7	22	11	21	27	11	6	7	9	3	3	8	3	8	3	3	8		
WED *TELL TRUTH		4	0	22	41	20	94	98	100	82	33	90	26	10	26	11	39	32	17	10	12	9	4	12	9	4	12	9	4	12	
THU *TELL TRUTH		4	0	21	40	20	95	94	113	64	31	90	19	10	20	13	38	30	19	12	12	9	6	15	9	6	15	9	6	15	
FRI *TELL TRUTH		4	0	15	34	26	94	38	72	82	19	30	15	0	19	6	38	24	6	6	4	2	4	2	4	2	4	2			
SUN *TELL TRUTH		4	16	14	26	17	32	35	97	66	39	37	23	13	27	15	28	20	10	12	10	13	0	10	13	0	10	13			
AVG *TELL TRUTH		32	10	28	24	54	46	93	76	25	44	10	9	24	12	35	32	15	9	7	4	6	7	4	6	4	6	4			
MON *GOLDBORD		4	0	5	10	7	14	11	29	17	14	0	7	5	5	9	8	9	0	6	4	3	1	9	5	3	1	9			
TUE DUSTYS TRAIL		4	0	7	15	7	10	16	49	22	23	0	4	6	9	9	7	14	13	9	0	0	4	14	11	11	11				
WED PRICE RIGHT		4	0	11	20	15	20	27	74	40	37	26	20	14	19	19	22	22	16	17	0	11	7	15	10	18	18				
THU POLICE SURVEY		3	0	6	15	10	10	10	40	27	28	14	11	0	9	7	12	13	13	10	0	9	2	13	9	9	9				
FRI *DEATH VALLEY		1	2	6	11	11	21	14	27	17	14	0	5	3	4	3	9	9	3	3	0	1	2	1	2	1	2	1			
SUN *DZIES GZLS		4	0	5	11	9	12	12	33	10	10	0	7	4	9	7	11	10	0	3	7	7	4	7	4	7	4				
AVG *DEATH VALLEY		4	10	7	14	10	17	11	38	20	16	11	6	6	15	14	9	6	6	6	4	2	5	2	5	2	5	2			
6:00P WITH																															
MON *AGICTON		3	12	15	27	11	20	35	69	63	53	31	25	20	10	13	27	37	27	22	14	11	4	15	11	4	15				
TUE *MOVIE 7		2	24	6	16	12	29	24	92	67	14	26	14	11	17	9	23	21	12	6	0	2	1	3	2	1	3				
WED *MOVIE 7		3	12	16	27	17	31	30	92	66	46	32	24	16	19	14	24	31	24	14	15	10	4	12	6	4	12				
THU *FLIP WILSON		2	0	10	16	5	0	38	97	67	16	27	15	0	21	12	24	20	11	4	10	0	4	7	3	4	7				
AVG *MOVIE 7		1	12	11	19	9	17	33	71	91	62	26	16	12	10	9	29	27	18	9	12	9	12	9	6	6	6				

Estimated television households in market: total survey area = 534,700; ADI = 231,500; metro area = 78,600. Of 2,021 households accepting diaries, 1,015 returned usable diaries.

Source: Excerpted with permission from Arbitron, *Audience Estimates in the Arbitron Market of Greenville, New Bern, Washington, May 1974*, Arbitron, Beltsville, Md., 1974: 18, 64.

shows an excerpt from the Arbitron television report for the market ranked number 87, a complex of three towns on the North Carolina coast having three television stations. This is one of three reports for the market that Arbitron produces annually. The entire report runs to nearly 90 pages and in addition to ratings for individual programs contains sections on ratings summarized by day part (9 A.M.–noon, noon–4:30 P.M., etc.), network program averages, monthly averages, rating trends over a four-year period, and a great deal of

supplementary information about audience composition, the nature of the market, and the methods used by Arbitron.

13.8 Demographics and CPM

In recent years the trend in the advertising world has been toward concern with the composition of an audience as well as its size. Rating organizations have therefore had to gather and report a great deal of information on what has come to be called *demographics*.¹² The Arbitron rating report excerpted in exhibit 13.5, for example, gives program and share ratings in terms of a score of different age/sex categories.

By targeting specific audiences, advertisers can, of course, increase the efficiency of their commercials. On the other hand, the more precisely an advertiser specifies his target audience, the more expensive it becomes to reach that audience. Relative cost is expressed in terms of cost *per thousand* (CPM, with *M* standing for the Latin term for “thousand”).

CPM serves as an index of an advertising medium’s relative cost in reaching prospective buyers; it is derived by dividing the total cost of a given advertisement by the estimated number (in thousands) of targeted individuals or households it reaches. The audience is counted in thousands simply to make the resulting index number smaller. The CPM for reaching adult males at rates prevailing in 1972, for example, was \$3.60 for a 30-second spot in prime-time network television, \$2.25 for a 60-second spot in the top 100 radio markets during drive time, and \$3.65 for 1,000 black-and-white newspaper lines (BBD&O, 1972: 8).

Although the average CPM for a television network prime-time spot reaching men in general was only \$3.60, the CPM jumped to \$49.00 for single men of 18 to 24 years of age. And whereas the CPM for a daytime radio spot in the top 100 markets for women in general was only \$1.55, the CPM for working professional/manager women was \$26.00. If a proposal were made to reach men 18 to 34 years of age with incomes of \$10,000 and above through daytime network television, the advertising costs would be indeed high — the CPM for that demographic breakout would be \$54.00 (BBD&O, 1972: 8).

The advertiser’s fixation on CPM and demographics has influenced not only programming but also rating services and the strategies of broadcast sales. Programmers must attract audiences with the desired characteristics — generally, upwardly mobile families with the prospect of a long, rising curve of buying power ahead of them. It has been said, for example, that in 1970 demographic considerations influenced CBS to shift its programming philoso-

¹² This term is derived from *demography*, the study of the characteristics of human populations. In broadcast advertising, the demographic characteristics of greatest interest include sex, age, education, occupation, race, income, and area of residence.

phy, forcing the network to discard established high-rated programs that appealed primarily to audiences whose demographics did not match the profiles demanded by advertisers (see Brown, 1971: 241; Thompson, 1970).

Networks are constrained by FCC requirements to occasionally go against the mechanical dictates of rating-generated buying rules. Non-network, or spot, national advertising suffers no such constraint. Sylvester Weaver, former NBC president, told a congressional investigative committee that “spot buying is rating buying, nothing else.” Spot time buyers even ask for guaranteed CPM. If a station’s performance lags behind its previous track record as established by the rating “books,” it is obligated to make good by making a refund, scheduling further spots at no charge, or giving credit against future purchases (Jaffe, 15 Oct. 1973).

A somewhat different aspect of the influence of demographics on programming is the tendency of rating services to underestimate minority audiences. It was reported, for example, that one rating service used in a Mississippi market a sample with only 17 percent black representation, whereas U.S. census figures indicated that in reality 58 percent of that population was black. And in San Francisco, a rating service used a sample 77 percent of whose members were white, whereas the census showed only 57 percent of the population as white (Brown, 19 Feb. 1974).

Advocates for minority groups protest that underestimations persuade advertisers that such groups are too small to represent worthwhile audiences and thus indirectly deprive such groups of program services tailored to their interests; the spokesmen point out the irony that minority groups are especially heavy consumers of broadcast entertainment.

13.9 Abuse and misuse of ratings

During the late 1940s and the early 1950s, several factors combined to place extraordinary stress on the rating system. These were years of broadcast-industry expansion, encouraged by the remarkable profitability of the more favorably placed stations. But despite the economic well-being of the industry as a whole, many stations lost money. The combination of high stakes on the one hand and high losses on the other put managements under pressure to seek larger audiences at the very time when the increased number of stations tended to reduce audiences into ever-smaller fractions. At the network level, ABC-TV adopted an intensely competitive programming strategy that finally brought it within sight of the ratings enjoyed by CBS and NBC (\$10.4).

Meanwhile, radio had been so completely transformed that the older methods of radio audience measurement had become irrelevant. Instead of perhaps 5 or 6 stations, urban radio audiences could by now choose from among 20 to 30. Radio station ratings became minuscule — at best on the order of only 1, 2, or 3 rating points. Multiple-set homes (for both radio and televi-

sion) had become commonplace, and a large proportion of all radio listening took place outside the home. The older methods of radio audience measurement had been based on the concept of radio as a home medium, listened to by the family grouped around a console set in the parlor. These conditions had long since ceased to exist.

Rating pressures were widely believed to have motivated the rigging of quiz programs that caused a scandal in the late 1950s (§16.3). A full-dress congressional investigation in 1963–1964 revealed not only carelessness and ineptitude by research companies but even extensive doctoring of data and outright deception (House CIFIC, 1963–1965). These revelations vindicated some of the criticisms that had originated within the industry as well as outside. Complaints had tended to fall into the three main categories suggested by the title of the congressional committee's report: *Broadcast Ratings: The Methodology, Accuracy, and Use of Ratings in Broadcasting*.

On the score of methodology, the main questions concerned the reliability of audience sampling, the contradictory results issued by competing rating services, and the effects of noncooperation by designated sample members on the representativeness of samples. We have already discussed the theoretical justification of sampling. A committee of the American Statistical Association, employed by the congressional committee to evaluate rating methods, concluded that critics had been placing undue emphasis on sample size and should be more concerned with methodological inadequacies and the lack of basic research on the effects of such factors as noncooperation of sample members and interviewer bias. The statisticians further recommended that rating services make more complete disclosure of their methods and of the significance of their results (Madow, 1961).

Different research organizations can measure the same audiences and get contradictory results, and this has always been a source of much irritation in the industry. Some differences must be expected because sampling produces only estimates; and other apparent discrepancies in results can arise from lack of standardized definitions. But it is hard to explain away discrepancies in the results of the same company. The congressional investigation turned up an extraordinary case of two estimates of audience size for a single program by the same rating service: the audience of only 5 stations was estimated at over 118,000 homes, whereas the national audience of the network's 179 stations that carried the same program was estimated at only 99,000 homes (House CIFIC, 1963–1965: 236).

Noncooperation of sample members, much discussed at the hearings, compromises sample design. It will be recalled from our previous discussion of sampling theory that each member of a population being investigated should have an equal or known chance of being selected as a sample member (§13.5). Rating companies had simply taken it for granted that noncooperators must be like everyone else; hence high rates of noncooperation could make no sig-

nificant difference. They had evaded external appraisal of their methods by not making full and candid disclosures in their reports and by refusing to respond constructively to inquiries.

The Federal Trade Commission issued cease-and-desist orders in 1962, calling on the three major companies to stop misrepresenting the accuracy and reliability of their figures. Among the practices proscribed by the FTC were the use of hearsay information, the failure to account for nonresponding members of samples, the misleading claims about the nature of samples, the improper combining of data from incompatible sources, and the use of arbitrary “adjustments” on research findings (House CIFIC, 1963–1965: 141).

Stations made their own contribution to rating deception by a technique called *hypo-ing*. Knowing in advance the week in which a survey was scheduled in their service area, stations would lay on vigorous audience-building campaigns, using heavy advertising, promotional stunts with contest prizes, or special feature films much above the station’s usual standards. These efforts would produce temporary increases in stations’ audience shares and hence artificially inflated ratings.¹³

Assuming even impeccable research procedures and high statistical reliability of ratings, what then? Many critics object not so much to the ratings themselves as to the way the industry uses them. They see programming judgments reduced to the rule of arithmetic, and even to statistically meaningless differences as small as a fraction of a rating point.

This surrender is periodically dramatized whenever a high-quality, respectably rated program is canceled over the objections of loyal followers and sponsors alike. Fierce television network competition in the limited prime-time hours generally requires that each program capture at least a 30-percent share of the audience. Advertisers could easily be found for a lesser share, but programming strategy is dominated by what is called the “audience flow” concept. Once a large share of the audience has been captured, it must be held at all costs. A temporary drop in audience share caused by a lower-rated program coming between two high-rated programs can never be fully recovered: part of the potential audience for the ensuing high-rated program has been permanently lost to another network or another activity. A classic cancellation case is *The Voice of Firestone*. NBC cancelled this semiclassical music program, after 25 years of prime-time sponsorship, despite vigorous objections both from Firestone and from many fans. Harvey Firestone, Jr. wrote: “The reason given by the network . . . was that [the program] did not have a high rating. The network pointed out that although our program was of outstanding quality, the program preceding us had a higher rating than our show” (House CJ, 1957: 20). Sylvester Weaver, in testimony before the House committee

¹³ This type of abuse opens stations to punitive action by the FTC as well as by the FCC. A new surge of *hypo-ing* was reported in the 1970s; see Jaffe, 22 Jan. 1973.

investigating ratings, cited a *Variety* headline: “GODFREY AND LUCY CLOBBER CULTURE.” The two entertainers had drawn an estimated audience of 38 million whereas a competing ballet performance had drawn only 30 million (House CJ, 1957: 5185). Audiences of even 5 or 6 million would be considered eminently satisfactory for high-quality programs of specialized interest, but they are considered disasters in a sequence of prime-time competitive network programming.

13.10 Methodological studies and innovations

Accreditation Even before the congressional hearings on ratings had been completed, the industry formed the Broadcast Rating Council to set up minimum standards. The council functions as an accrediting agency and deals exclusively with firms engaged in research on audience size and composition. Its auditors spot-check such elements as sample design, field work, computerization accuracy, and form of reporting. Preliminary audits of applicant services invariably showed deficiencies that had to be corrected before accreditation was granted — an indication of the council’s effectiveness — although it must be kept in mind that application for accreditation is voluntary.

Diaries vs. meters The Committee on Nationwide Television Audience Measurements, set up by the National Association of Broadcasters and the networks in 1963, immediately embarked on a program of basic research. We have already described CONTAM’s first study, on the feasibility of using small samples (§13.5). Its second study tackled the question of the significance of differences in rating methods, comparing prime-time ratings reported by Nielsen (meters) with those of the American Research Bureau (diaries). CONTAM hypothesized that major deficiencies in either method would cause significant differences in their results. Since the two methods and their procedures differ so markedly, it seemed unlikely that both would err by the same amount in the same direction. In the CONTAM comparison, the two services coincided in their program rankings 94 percent of the time, a reasonably high level of agreement (House CIFIC, 1963–1965: 1855).

Problems in coincidental telephone methods CONTAM next turned its attention to the oldest way of obtaining systematic rating data, the coincidental telephone method. There had always been some doubt about what assumption to make when no one answers the telephone after a stipulated number of rings. CONTAM set out to learn what it could about the real meaning of “no answers.” At the same time it tested what effect the interviewers might have on results. Interviewers were given special training. One group placed calls under close supervision and monitoring; another group placed calls from their own homes without supervision.

On the first try, interviewers successfully completed 60 percent of their

attempted calls. They tabulated 19 percent as “no answer” after two dialings of eight rings each — about twice the amount of effort normally applied in such surveys. Persistent follow-up for two more days eventually either reached more than 90 percent of the “no answers” or established that although the telephones rang, they were disconnected. About 5 percent of the “no answers” turned out to have been deliberate — people had been home but for a variety of reasons refused to answer the telephone.

Data obtained from this follow-up made a significant difference in the homes-using-television rating: one dialing of five rings produced a rating of 52.5, but two dialings of eight rings each, plus follow-up as needed in the next two days, produced a rating of 57.5. The assumption that “no answer” should be interpreted as “not at home” and hence as “not watching television” apparently leads to systematic underestimation of audience size.

As to the effect of interviewers, a comparison of the results of those who were closely supervised with the results of those who worked on their own revealed significant differences. Previously, interviewer bias had been given little thought in the seemingly simple, highly standardized operation of the coincidental telephone call. The study indicated that to conduct reliable research by the coincidental telephone method requires more time, money, and effort than had previously been supposed (CONTAM, 1969).

Coincidental telephone method vs. meters Further CONTAM studies sought to explain differences observed in results obtained from two major data-gathering techniques — meters and coincidental telephone interviews. Since time of day influences the telephone technique, studies were made of both prime-time and daytime ratings. These researches confirmed the importance of detailed supervision of telephone coincidental interviewers and of extensive follow-up of initial “no answers” so as to reduce the number of assumptions that must be made about them. Carefully conducted telephone coincidental surveys, CONTAM concluded, will not differ significantly from Nielsen meter/diary surveys in all standard measurements, except possibly that of viewers per tuning household. In that measurement diaries may tend to underestimate the numbers of young adults, teenagers, and children (CONTAM, 1971).

Significance of noncooperation All rating research methods have in common the problem of noncooperation — people who according to the sample design should serve as sample members but who refuse to participate or in some way fail to do their part. Another industry study sought out noncooperators who had been identified in an ARB national diary survey involving a designed sample of nearly 200,000. Comparing cooperators with noncooperators indicated that cooperators as a group watched more television, had larger households, were younger, and were better educated (House CIFIC, 1966: 15). The differences were not as marked, however, as some critics had expected.

Significance of unlisted telephones COLTRAM (Committee on Local Television and Radio Audience Measurement) used random digit dialing (§13.7) to generate samples of telephone homes in Atlanta, Chicago, Philadelphia, and Utica, N.Y. The proportion of homes with unlisted telephones appears to be a function of city size: Utica had only 8 percent unlisted, whereas Chicago had 26 percent. According to the COLTRAM study, unlisted households differed significantly as to both HUT and viewers-per-tuned-household levels (Statistical Research, Inc., 1972).

Nielsen, which uses telephone directories in selecting homes in which to place diaries, experimented with random digit dialing. The research indicated 22 percent unlisted numbers in Chicago and 27 percent in Philadelphia, but the company concluded that “the effects of adding unlisted phone households upon [estimates of] audience levels are not major” (Nielsen, 1972: 20).

Radio research methods Radio interests too participated in the drive to improve research. The All-Radio Methodology Study (ARMS), organized in 1963 by the National Association of Broadcasters and the Radio Advertising Bureau, spent nearly a third of a million dollars studying variations on standard data-gathering methods. According to ARMS, the study was “the most comprehensive evaluation of its type ever undertaken in communications research” (ARMS, 1966: 3).

ARMS employed an independent research firm to compare three methods of data collection, along with variants within each method. The researchers first established that the coincidental telephone method is the most accurate yardstick. Part of the preliminary investigation also established that 91 percent of the interviewees correctly identified the radio station they were listening to at the time of the interview. Incorrect identifications were randomly scattered and so did not introduce a bias factor.

Using a coincidental telephone survey in Philadelphia, supplemented by a road traffic survey by means of interviews at stoplights and set use meters installed in cars, the researchers established a reference level of radio use in the area as a standard against which to measure other methods. They then made 11 more surveys, using 11 methodological variants. The results indicated that measurements based on diaries can be too low, too high, or about right, depending on which particular variant of the method is used. Placing diaries in sample homes by means of in-person interviews and picking up the diaries personally (rather than using the telephone and the mails) had a favorable effect on diary-keeping accuracy.

Four variants of the telephone recall method all produced low estimates, but each of two variants of the in-person roster recall method yielded relatively accurate measurements. The evidence of the ARMS study is said to have convinced ARB that it should discontinue multimedia diaries and use separate diaries for each medium.

Network radio research methods Two research projects attempted to make more sophisticated estimates of network radio audiences than had hitherto been available. NBC, in response to the dilemma presented by conflicting data on radio audiences obtained by existing research, undertook a three-year series of studies of a Cumulative Radio Audience Method, paying special attention to the effect of sample noncooperation (NBC, 1966).

NBC used what it called the "augmented coincidental" technique. This required a telephone interview of not just one but every 13-year-old or older member of sample families. Moreover, the researchers followed up "no-answer" cases so as to account for out-of-home listening by recall. Sample members who still could not be reached or interviewed were resurveyed at a later date to obtain noncooperator information.

A second part of the C.R.A.M. project used daily telephone calls to the same sample for seven consecutive days. This "augmented recall" method was adopted as a substitute for the weekly diary because of the high rate of noncooperation experienced in diary placement. Sixty-three percent of the designed telephone sample cooperated in the seven-day coincidental survey, and follow-ups later overcame enough noncooperator resistance to obtain at least some information from 71 percent of the designed sample.

NBC used data on noncooperation to construct a weighting factor for use in estimating the total audience. Cumulative measurements indicated that three-quarters of the adult population used radio in the course of a single day; in the course of a week, the cumulative total surpassed 90 percent. The comparable figures for the combined networks were about 39 percent for a day and about 60 percent for a week.

All four radio networks cooperated in the annual Radio's All-Dimension Audience Research (RADAR) project. It employs a technique similar to the augmented recall of C.R.A.M. Instead of interviewing every family member, however, RADAR first makes an individual listing of all family members associated with the telephone households in the sample, then draws a sample of specific individuals to be interviewed daily for one week. RADAR IX was issued in 1973. The series is recognized as providing "the only overall view of U.S. radio listening on a regular basis" (*Television/Radio Age*, 10 Dec. 1973: 38).

Summary Congressional investigation of ratings cannot, of course, change the industry's order of priorities in making programming judgments. It has, however, precipitated improvements in rating practice. Serious research on methodology has made the industry more aware of the real limitations on rating precision. The rating services now make full disclosure of their methods and levels of reliability in every published report. Confusion and inconsistencies have been reduced by standardization of terms and concepts (see NAB, 1969 and 1973b).

13.11 Nonrating research

The notoriety ratings receive tends to obscure the less conspicuous commercial broadcasting research that is conducted. Among the types of reporting and analysis routinely carried out by commercial firms are monitoring or auditing of programs, together with transcribing, digesting, and analyzing program content; study of such effects as brand-name recall, attitude change, and image building; pretesting new advertising and program material; investigating the unconscious motivations that account for consumer preferences and prejudices.

Indeed, research has been indispensable to modern advertising practice. David Ogilvy, an advertising agency executive, expressed the prevailing attitude.

The most important word in the vocabulary of advertising is TEST. If you pre-test your product with consumers, and pre-test your advertising, you will do well in the market place. . . . Test your promise. Test your media. Test your headlines and your illustrations. Test the size of your advertisements. Test your frequency. Test your level of expenditure. Test your commercials. Never stop testing. (Ogilvy, 1964: 107)

It was not always thus. Frank Stanton came to CBS in 1935 as a result of pioneer market research he did as a doctoral candidate at Ohio State University. "I was just a staff member in the market-research department," Stanton reminisced. "I think there were only two men and a girl in the department. When I left the department — after a span, I would say, of seven or eight years — I think we had more than 100 people in research" (*Broadcasting*, 18 Oct. 1971: 54). Stanton, along with another pioneer in radio research, Paul Lazarsfeld of Columbia University, invented the Stanton-Lazarsfeld Analyzer, a research tool still in use at CBS.¹⁴ Indeed, in recent years, it has been applied to an ever wider range of program analysis problems.

The CBS Program Analysis Unit invites groups of from 12 to 30 people to a special studio to preview program material. Each panel member has two buttons, which record either "like" or "dislike." Reactions are recorded on IBM cards and on visual-display devices (polygraphs). From the latter, the session director gets an immediate picture of each panel member's reactions. After the viewing session, panel members fill out a questionnaire and then discuss their reactions with the session director. Profile charts are made up later to show minute-by-minute composite reactions. CBS uses the technique for testing audience reactions to pilot programs, casting alternatives, news program formats, and the like.

The CBS program analyzer comes into play in the planning stages and seeks

¹⁴ Lazarsfeld and Stanton edited a collection of radio research reports in which early work with the analyzer is described (see Holonquist and Suchman, 1944).

to predict audience reactions to new material. Another firm, Market Evaluations, offers a research service that combines somewhat similar quantitative and qualitative measures of audience reaction *after* programs go on the air. The company uses a representative panel of 2,000 families from which it elicits three reactions about programs: “not familiar,” “familiar,” “a favorite.” By simply dividing the number of “favorite” responses by the number of “familiar” responses, the company derives a ratio it calls “TvQ” (with Q standing for “quotient”). This is regarded as an index of the intensity of favorable reaction. Applied to individuals, the ratio is called “Performer Q.” As an example, in the 1974 Performer Q ratings, Lucille Ball scored 98 in the familiarity scale but 36 in the Q scale; by contrast, Peter Falk scored 85 on familiarity and 52 on the Q scale (Barber, 1974).

13.12 Audience characteristics and tuning behavior

Size stability Paul Klein, former director of NBC research, has been referred to by a knowledgeable observer as “possibly the best brain in broadcasting” (Brown, 1971: 78). In a perceptive article analyzing the television networks’ strategies as the new season approached, Klein pointed out,

The single most important thing to know about the American television audience is its amazingly constant size. At any given moment in prime time most of the week it stays at about 36 million sets, whether the network shows at a given hour are strong, weak, so-so, or one of each. . . . The point of nearly every strategy and tactic a network can devise is to get the largest possible share of that audience in each half-hour. (1971: 20)

Networks gather in about 90 percent of the prime-time television audience, leaving the remaining 10 percent to the independents and the public television stations. This means that network parity would be expressed as share ratings of 30, 30, and 30. Consequently 30 becomes the magic number: each network is constantly maneuvering its scheduling and program offerings to maintain, as far as possible, an evening-long share rating of 30 or above. Any program that consistently fails to maintain its share cannot last very long, unless deliberately carried as a public affairs or cultural loss leader.¹⁵

Klein went on to develop what he calls his “Least Objectionable Program” theory, or LOP. Half tongue-in-cheek and half in earnest, he asserted, “You don’t watch particular programs. You *watch television*. The medium. The tube. You turn on the set because it is there. . . . You view television irrespective of the content of the program being watched” (1971: 20).

Many less light-hearted commentators have come to essentially the same

¹⁵ Note that share ratings are a comparative measure of the way the audience is spread around, not a measure of audience size as such. Program ratings in prime time usually average about 17 (see §13.4).

conclusion (see §24.11, which deals with the psychological gratifications of television program consumption. It is enough to say at this point that Klein's LOP theory does explain the remarkable stability of the collective prime-time network audience. It also explains why seemingly excellent programs fail (because they find themselves up against even better shows), whereas seemingly mediocre programs succeed (because they oppose even worse shows).

Tuning inertia A second feature of audience tuning behavior that is important to programming strategists is inertia. People tend to remain tuned to the same station unless they have a compelling motivation to change. The inertia factor affects audience flow and accounts for the importance of *lead-in* in program structuring. As we noted in §13.9, a low-rated program damages subsequent programs because many of the defecting audience members will not tune back to the first station, regardless of how much they might have liked the succeeding programs.

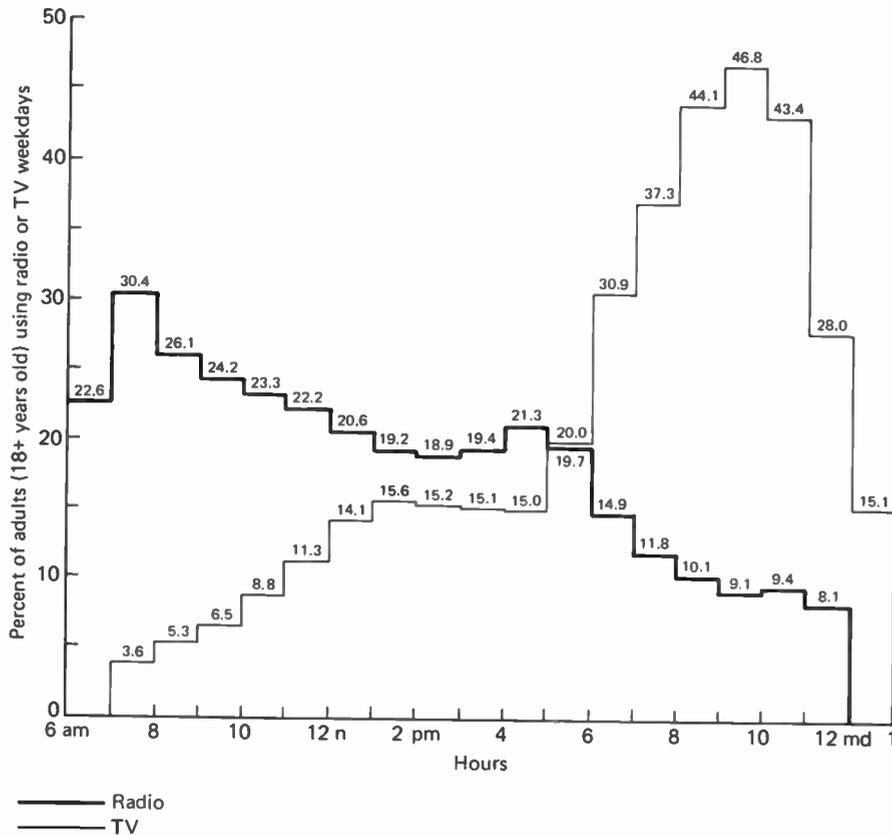
Daily, weekly, and seasonal variations But within the overall stable parameters mentioned by Klein, audience size varies predictably according to time of day, day of week, and season of the year — again, regardless of programming. Exhibit 13.6 shows how broadcast usage levels change throughout the day on weekdays. The television audience builds until those magical evening hours known as prime time. Radio listening follows a flatter curve, with low peaks in the morning and evening drive-time hours. Weekend patterns differ because weekend activities differ from weekday activities.¹⁶

The weather governs seasonal variations: the highest audience levels are reached in winter, when bad weather rules out most outdoor activities; lowest levels occur in summer, when the opposite is true. The average prime-time network entertainment program earns a 19 rating in fall/winter but only 14 in summer (BBD&O, 1974: 14). Programming and rate strategies adapt to these seasonal audience variations.

Hours spent viewing According to a 10-year series of studies, the median number of hours spent by individuals viewing television increased by 24 percent during the 1961–1972 period. The 1972 median was 2 hours and 50 minutes a day and had been stable at about that level for the preceding two years. People in the upper economic levels and the college educated view considerably less than others. Median viewing for the former was 21 percent less and for the latter was 38 percent less than the overall median (Roper Organization, 1973: 5). Aggregate viewing per family amounts to a great deal more, of course — nearly 7 hours a day on the average (*Broadcasting Yearbook*, 1974: 69).

¹⁶ Attention level also varies with time of day, from a low of 60 percent full attention (women, weekdays, 5:00–7:30 P.M.) to a high of 78 percent (men, weekends, 11:00 P.M.–1:00 A.M.) (BBD&O, 1974: 12).

Exhibit 13.6
Television and radio usage



Radio data based on average hour ratings, weekdays. Television data based on average per minute ratings, weekdays.

Sources: Radio based on RADAR X survey data for March 1974 supplied by Radio Advertising Bureau. Television data based on Nielsen Television Index, NTI/INAC Audience Demographics Report, supplied by A. C. Nielsen Co.

Children's viewing Most commentators consider the statistics on children's viewing habits as the most significant audience data we have from the point of view of future social effects. In Japan, where children's viewing develops even more rapidly than in the United States, 12 percent of one-year-olds watch television. By the time they reach four, 100 percent of the Japanese children watch and have already developed preferences for specific programs (data quoted in Schramm, 1973: 175). In the United States, children watch as much as 42 hours a week, almost completely without parental guidance or control. What children perceive in television programs and how they evaluate pro-

Exhibit 13.7**Contrasts in program preferences by program type, sex, and age**

Program type	Average national rating ^a				
	HH	Women	Men	Teens	Children
Prime-time entertainment	17	13	11	9	9
Professional football	17	7	16	8	5
News & documentary specials	10	8	7	4	4
College basketball	10	4	8	5	3
Today (NBC)	5	4	2	1	1
Golf series	5	2	4	3	2

^a Rounded to whole numbers.

Source: Adapted from data in Batten, Barton, Durstine & Osborn, *BBD&O Audience Coverage and Cost Guide*, BBD&O, New York, 1974: 14–17.

grams differ significantly in terms of social class and race (McLeod & O’Keefe, 1972: 135).

Demographic characteristics and viewing When opportunities for viewing are equal, the amount of viewing differs little according to differences in sex, education, race, and economic status (Bower, 1973: 35). Most of the time, of course, opportunities for viewing are not equal. During the course of the day, the viewing patterns for men, women, teen-agers, and children all follow different curves, but all curves build to peaks during the “equal opportunity” prime-time hours.

Demographic characteristics strongly affect program preferences, with sex, age, and education having the most significant impact. For example, the top 10 television programs rank quite differently for men vs. women, young vs. old, and high school graduates vs. college graduates. The highest ratings of all go, of course, to the “bimodal” programs mentioned earlier — those programs that offer simultaneous appeals to more than one demographic subgroup (see §10.7).

Exhibit 13.7 shows examples of how programs with the same rating in terms of households can differ markedly in their appeals to demographic subgroups. The table pairs programs of identical HUT ratings, showing how their appeals differ for women, men, teen-agers, and children.

Economic Role of Advertising

We couldn't make a better pickle; so we made a better pickle package.
(Television advertisement)

14.1 Advertising market

In the United States, advertising is a \$20-billion plus industry, representing in 1970, for example, an expenditure of about \$96 per capita. This level far exceeds the per capita expense for advertising in the other leading industrial countries (exhibit 14.1). Britain spends a quarter as much, France only a fifth as much. The difference is due largely to the varying intensity with which the mass consumer market is cultivated; this in turn hinges on the extent to which buying power has been generalized to the population as a whole.

Advertising plays an essential role in the mechanism of mass distribution and, more arguably, in creating appetites for consumer goods. When people stopped making their own soap and buying handmade shoes from the local cobbler, they lost direct contact with the sources of supply. Advertising bridges the gap. In self-service stores, rather than dealing with a clerk, the shopper consults a mental index of advertising lore and responds to the stimuli of point-of-sale displays and eye-catching packages. Advertising, along with packaging and display, has replaced the more expensive person-to-person sales techniques for most types of brand-name merchandise.

About 300 advertisements per day of all types impinge on the consciousness of the average American.¹ Over 30,000 branded products clamor for attention, and thousands more enter or leave the marketplace each year. It takes constant effort and immense ingenuity to restimulate flagging consumer attention, al-

¹ An estimate of 1,500 exposures per day has been widely quoted (see, for example, Cone, 1969: 9). The advertising agency Batten, Barton, Durstine, & Osborn has challenged this oft-cited figure, tracing it back to an advertising man's speech in 1957. Their own study, conducted in 1970, indicated an average exposure of 305 messages per day for women and 285 for men (*Advertising Age*, 19 Oct. 1970: 1).

Exhibit 14.1
Leading nations in advertising expenditure

Rank	Country	Total expenditure (millions)	Expenditure per capita
1	United States	\$19,600	\$96
2	West Germany	2,700	43
3	Japan	2,100	20
4	Great Britain	1,300	23
5	Canada	1,000	45
6	France	997	19
7	Italy	489	9
8	Australia	456	35
9	Switzerland	428	71
10	Netherlands	410	31

Source: 1970 expenditure data reprinted with permission from *Advertising Age* 21 Nov. 1973: 201. Copyright © 1973 by Crain Communications, Inc.

ready surfeited with advertising messages. A successful campaign to launch a new product or lift an old one to new sales levels confers no security, for brand loyalty toward most products is notoriously shallow and easily diverted.

It would be hard to find an object or an activity that at some time or in some way has not been used as a vehicle for advertising. Besides the major media, listed in exhibit 14.2, innumerable minor media can be called on: matchbook covers, transit posters, skywriting, trade shows and fairs, bumper stickers, lapel buttons, premiums, handbills, shopping bags, blimps, and so on. Exhibit 14.2 indicates that among the major media, outdoor advertising is a good deal more conspicuous than its dollar volume would imply; and probably few people realize that advertisers spend more on direct mail than on radio and magazine advertising combined.

Exhibit 14.3 shows how television overtook one medium after another in volume of advertising sales. First, outdoor advertising fell behind in 1950; then followed magazines and radio in 1954, direct mail in 1964. Only newspapers managed to stay ahead of television, and then only in local advertising. As a national medium, television surpassed newspapers as early as 1955. Magazines are a directly competing medium for national advertising. As radio's sales declined in the face of television competition, magazines were creeping up on radio and had forged ahead of it by 1953. By the 1960s, however, the big general interest magazines that had represented television's chief rival in the national market began to succumb. By 1971 the curve of magazine advertising sales volume once more crossed that of radio, this time on the way down.

The more than \$20 billion annually devoted to U.S. advertising is only 1.08 percent of the country's total sales of goods and services. This percentage is lower than might be expected because companies that spend little or no money

Exhibit 14.2**U.S. expenditures on major advertising media**

Medium	Amount (millions)	% of total
Newspapers	\$ 7,910	30
Television	4,850	18
Direct Mail	3,920	15
Radio	1,790	7
Magazines	1,525	6
Outdoor	335	1
Other	6,220	23
Total	\$26,550	100

Source: Based on 1974 data in "Advertising Volume in the U.S. in 1973 and 1974." *Advertising Age*, 16 Dec. 1974: 23. Copyright © by Crain Communications, Inc.

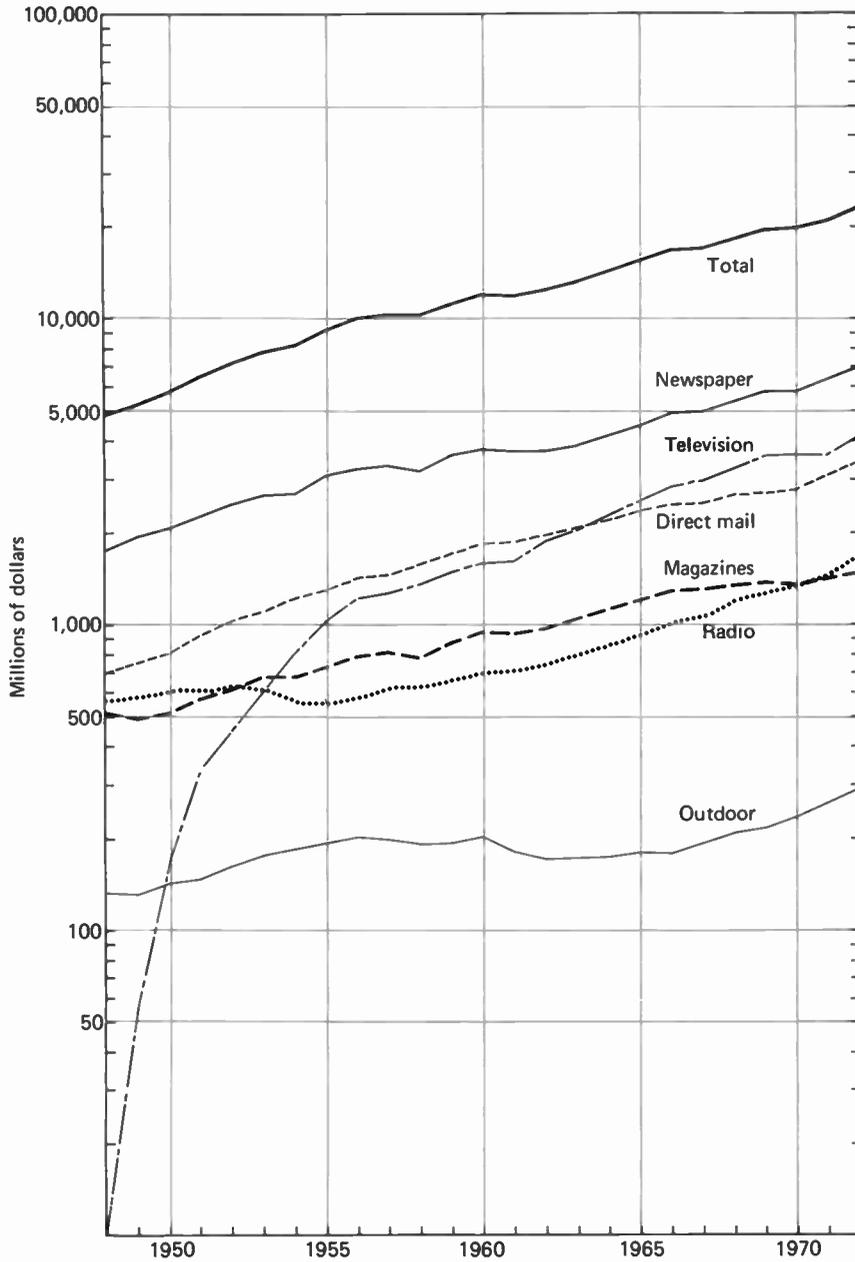
on advertising are included in the total. The following product categories devoted more than four times the average percentage of sales to advertising: soaps, cleaners, and toilet goods, 8.95 percent; drugs, 8.41 percent; motion pictures, 6.02 percent; watches and clocks, 5.27 percent; bottled soft drinks and flavorings, 4.68 percent; tobacco manufactures, 4.47 percent (*Advertising Age*, 30 Sept. 1974). Individual products, especially in the field of cosmetics and patent medicines, often spend a much higher percentage on advertising. In fact some of the patent medicines are known as "a third, a third, a third" products, meaning that their budgets break down into three approximately equal parts: one for production costs, one for advertising, and one for profit (Whiteside, 1969: 57).

14.2 Advertising as subsidy

To advertising's usefulness in facilitating marketing must be added its role in reducing the cost of mass media to the public. Consumers pay only about 30 percent of metropolitan newspaper costs and about 40 percent of general interest magazine production cost; advertising defrays the major part of the expense.

Advertising has a somewhat different role in subsidizing commercial broadcasting. Broadcasters speak of their service as being "free" to the consumer, contrasting it with the cost of cable and subscription television. True, audience members pay no subscription rate or ticket price for programs. However, they do pay a high price for the service by purchasing, maintaining, and operating receivers. Unlike consumers of other media, broadcast consumers make a direct investment in the capital equipment and a direct contribution to the operating costs of the medium itself. It is almost as though the newspaper reader had to own his own printing press or the moviegoer invest in his own theater seat. The consumer's investment in the reception aspect of broadcast facilities is many

Exhibit 14.3
Broadcast advertising growth rate compared with other media



Source: Based on McCann-Erickson data in *Television Factbook*, Television Digest, Inc., Washington, D.C., 1966: 46a; 1974: 74a.

times that of the industry in transmission facilities.² This unique relationship of economic interdependence between producer and consumer in broadcasting must be borne in mind whenever making comparisons among and generalizations about the mass media.³

Indirect subsidy also comes from promotional use of the media. The terms *publicity*, *promotion*, *public relations*, and *advertising*, though usually distinct operationally, in common usage often blend together. Generally, advertising can be distinguished by its brief, pointed form, by the fact that the advertiser normally pays for it directly, and by the explicit identification of the source of payment (Borden, 1947: 17).⁴ Publicity generally seeks to exploit news media. Promotion, according to one dictionary, seeks to “stir up interest in an enterprise”; it might both use advertising and cause publicity. Public relations implies a broader-scale, long-term campaign aimed at building up an institutional or personal image.

A broadcast station uses promotional announcements (called *promos*) to stir up interest in its own forthcoming programs. Since promos involve no payment to an external medium, they are not considered advertisements, although the same announcements published and paid for in a newspaper would be. A news story about a forthcoming program printed by a newspaper would be classed as publicity. Inviting the press to meet the star of the program at a cocktail party would be a promotional activity; resulting news or feature stories in the paper would be publicity.

A significant amount of broadcast programming consists of no more than publicity and promotion. Many shows use as a staple ingredient celebrities or would-be celebrities, who appear to promote their own broadcast programs, nightclub appearances, books, films, causes, or points of view. The medium’s susceptibility to promotional uses also leads to abuses. Unethical performers plant references to commercial products in their programs in exchange for which they themselves, instead of the medium, receive payment (see “plugola” and “payola” in §15.6).

14.3 Effect of advertising on consumption

Popular writers on advertising like to trace it back to the days of the caveman, or at least to Greece and Rome. Trade has no doubt always included at least a minor element of what we now call advertising — if nothing else, the literal crying of one’s wares. But elaborate persuasive advertising was originally

² The public’s investment is at least 10 times that of the industry (see §12.1).

³ Home users of recorded material (sound or picture) must have a playback unit and in that sense also invest in that medium. But they differ fundamentally from investors in broadcast receivers because they also invest in (or themselves create) the program materials, which they can then use repeatedly and at their own discretion; and they do not pay the additional price of submitting to advertising messages.

⁴ Note that a calculated concealment of the source of payment may turn advertising into propaganda. Broadcast advertising must, according to law, identify its source (see §17.8).

associated with mountebanks and patent medicine salesmen — an early image that the modern advertising industry has never been able to completely live down. Mountebanks tend to reappear with slight modifications in every generation.

Advertising as an essential element in the distribution system of a society of mass consumers, however, is something novel in human history. Mass consumption has been made possible by an enormous increase in productivity resulting from technological change and by a corresponding increase in mass buying power resulting from higher income and consumer credit. For the first time in history, most of a population — not just a tiny minority — has enough money for more than just the bare necessities of life. The mass consumer has attained *discretionary* purchasing power. In the aggregate, he has billions of available dollars for free-choice, optional spending. This condition has been variously described by economists as “the economy of abundance” (Potter, 1945), “the affluent society” (Galbraith, 1958), and “the mass consumption society” (Katona, 1964). For those who have never lived in another environment, the chasm that separates their modern affluent society from the rest of mankind is hardly conceivable, but even today most of the world’s population nevertheless continues to live at or below a bare subsistence level.

In the fortunate countries where mass consumption has become possible, even luxury products once the symbols of immense wealth have become commonplace, albeit reduced in scale. Take yachts, for example: the fabulous floating palaces of earlier times have become an anachronism, but less pretentious mass-produced pleasure craft clog every navigable body of water in the United States.

Successful mass merchandising of even a marginal and insignificant product can bring enormous economic rewards. Who would have thought 50 years ago that a good recipe for fried chicken could bring in millions of dollars — not just to the man with the recipe but to literally dozens of people associated with his business? In the 1950s Rosser Reeves invented the hard-sell style of television commercial, featuring animated diagrams of imaginary physiological processes, such as hammers pounding in an aching head. Within 18 months after makers of a headache remedy started using this type of commercial, their sales increased by \$54 million (Whiteside, 1969: 54).

Price has nothing to do with such success stories, for price no longer plays a pivotal role in competitive marketing. For most of the manufacturers in any established field the costs are pretty much the same for such essentials as labor, transportation, raw materials, power, and taxes. Prices tend to become stabilized throughout the field. In any event the affluent consumer, though not unconcerned about price, need not actually be constrained by it when other criteria seem more important. Therefore, as David Lilienthal puts it, competition

more often than not centers on peculiar suitability to the user’s needs (which producers have studied in detail), on engineering design, durability, low operating and maintenance cost, and scores of other similar considerations usually of more

importance to the user's costs than purchase price. Much of the same considerations now apply to consumer goods, in which superior packaging, style, color, flavor, durability, weigh heavily in the mind of the customers. It is here that advertising has served such a useful economic function. (1953: 52)

Beyond the realm of factual exposition, however, advertising also seeks "to exercise some coercive force upon your judgment, to wheedle it, surprise it, overwhelm it, or at least, persuade it" (Radin, 1931: 57). Even communist states now agree that advertising has a legitimate economic function as a means of disseminating information about products and stimulating consumer demand. But they continue to reject the legitimacy of advertising as a means of persuasion.

A nineteenth-century economist, Alfred Marshall, first drew attention to this distinction between factual and persuasive advertising in the context of theoretical economics. Marshall could find no justification for persuasive advertising. A major study of advertising's economic effects reached the conclusion that "it all depends": in some situations advertising did appear wasteful, in others beneficial, though on the whole it appeared to be an economic asset (Borden, 1957). A Canadian economist reviewing the evidence on behalf of his government identified 43 alleged advantages and 33 alleged disadvantages of advertising. He concluded that "there is hardly any other area of economic activity where the gulf between speaking well and speaking ill of an industry is as wide as in the case of advertising" (Firestone, 1967: 21).

In the mass consumption society, advertising seeks not merely to inform and persuade. It has taken on a newer and more controversial role as a generator of consumer desires — a "synthesizer of wants," to use Galbraith's phrase. Mass advertising can stimulate a demand for objects that consumers have never heard of or felt a need for. Mass advertising creates markets overnight where none existed, enabling manufacturers to bring out thousands of new products and new versions of old products each year to keep the economy continually expanding.

Broadcasting proved uniquely adaptable to this role of educating for consumption, of creating new consumer needs, new standards, new tastes. Broadcasting can dramatize marginal differentiations among products. It can enter the home, follow homemakers as they go about their tasks, accompany automobile commuters, provide a constant background for teen-agers as they study and play — and learn to become consumers. Broadcast advertising thus capitalizes on discretionary purchasing power more effectively than any other medium.

14.4 Case against advertising

Assuming that vigorous FCC and FTC action could prevent most of the outright fraud in advertising, would its social benefits outweigh its social costs? A substantial school of critics thinks not. Arnold Toynbee, the most distin-

guished critic of this school, accuses advertising-promoted affluence and materialism of betraying the American ideal. He reminds us that our capacity for consumption is not infinite:

There is a limit, and a narrow one, to the quantity of goods that can be effectively possessed. . . . The true end of Man is not to possess the maximum amount of consumer goods per head. When we are considering the demand for consumer goods, we have to distinguish between three things: our needs, our wants, and the unwanted demand, in excess of our genuine wants, that we allow the advertising trade to bully us into demanding if we are both rich enough and foolish enough to let ourselves be influenced by advertising. (1962: 131, 144)

Toynbee asserts that short of disarmament, elimination of “bogus wants” offers the best source of increased public funds for social improvement.

In this Toynbee echoes economist John Kenneth Galbraith, who has become a leading theoretical opponent of mass advertising. Production, he says, rather than being guided by “spontaneous” consumer wants, “synthesizes” artificial wants for him (1958: 125). A serious consequence of this reversal, in Galbraith’s view, is an overemphasis on producing private consumer goods and services as the key to economic well-being, to the neglect of the essential public services upon which those very private goods make ever more urgent demands.

Advertising operates exclusively . . . on behalf of privately produced goods and services. . . . The engines of mass communication, in their highest state of development, assail the eyes and ears of the community on behalf of more beer but not of more schools. . . . Every corner of the public psyche is canvassed by some of the nation’s most talented citizens to see if the desire for some merchantable product can be cultivated. No similar process operates on behalf of the nonmerchantable services of the state. (1958: 205)

The result, Galbraith tells us, is deterioration of our environment and the condition of public life. Increased consumption of automobiles, for example, creates the need for more highways, more traffic police, more parking space, more antipollution measures, more junk disposal facilities.

Advertising persuades consumers that they need a second or third car, or a more stylish, better-equipped car; but advertising makes no corresponding effort to persuade consumers to vote for the tax measures needed to pay for the additional social services that the increase in vehicles inevitably requires. The result: more traffic congestion; more safety violations; more smog, death and injury; more concrete; more junk blighting the landscape.

In fact, the Advertising Council, a cooperative effort by media and creative advertising personnel, does create just the kind of top-quality free advertising for “nonmerchantable services” that Galbraith advocates. According to the council’s 1974 annual report the value of its contributions amounted to \$525 million in 1972. Galbraith would doubtless argue, however, that an amount equal to less than 3 percent of commercial advertising expenditure hardly constitutes a fair distribution of resources between the two sectors.

David Potter, though fundamentally more sympathetic to advertising than Galbraith, comes to about the same conclusion but by a different route:

Advertising has in its dynamics no motivation to seek the improvement of the individual or to impart qualities of social usefulness, unless conformity to material values may be so characterized. . . . It is this lack of institutional responsibility, this lack of inherent social purpose to balance social power, which, I would argue, is a basic cause for concern about the role of advertising. (1945: 177)

If the gloomier predictions of futurists about the coming era of unabundance come true, advertising may be co-opted for the kind of role Galbraith and Potter would approve. The end of the era of unrestricted material growth would present broadcasting and the other advertising media their greatest challenge: to de-persuade consumers. Advertising would be needed to convince consumers that many of the goods and services advertising had taught them to consider indispensable are in reality superfluous.

14.5 Case for advertising

Allegations of synthesized consumer wants, economic waste, diversion of attention from needful public services to private consumption, and social irresponsibility have been built into a powerful indictment of the economic role of advertising. Defenders of the system generally lack the academic prestige of a Toynbee or a Galbraith, but what they lack in theoretical sophistication they perhaps make up in practical knowledge.

Academic commentators tend to take it for granted that advertising possesses almost unlimited powers of persuasion. Potter, for example, declares that “advertising now compares with such long-standing institutions as the school and the church in the magnitude of its social influence. It dominates the media, it has vast power in the shaping of popular standards, and it is really one of the very limited group of institutions which exercise social control” (1945: 167). Those who work in the media often find themselves wishing it were only so!

The failure of a high percentage of new consumer products introduced annually hardly supports the allegation that industry simply manufactures consumer wants at will. Of course, these failures may reflect lack of skill in synthesizing wants. But the leading example on record certainly cannot be explained on these grounds. This classic case was that of the Edsel automobile, marketed by the Ford Motor Company in 1957 after the most prodigious campaign of promotion, publicity, and advertising ever staged to introduce a new product.

Advertising, together with a vast program of publicity . . . brought three million people into showrooms across the country when the drumbeating was loudest and the car was introduced. There, completely unmoved, they turned thumbs down on it. Why, no one exactly knows. (Cone, 1969: 5)

The Ford company employed top people in each specialized field of public communication and gave them unstinted budgets. Two-page spreads in *Life* kicked off the final consumer campaign. Ed Sullivan was preempted and his prime-time television hour filled with a highly successful musical special featuring Bing Crosby, Frank Sinatra, and Rosemary Clooney. A gala three-day, all-expense-paid press preview for 250 reporters and their spouses ended with 71 reporters driving brand-new Edsels back to their home towns, where they delivered them to local Edsel dealers. Ford paid \$90,000 for the preview.

By the time the Edsel finally went out of production nearly three years later, it had cost Ford and its Edsel dealers some \$400 million. Cone calls it “the greatest tragedy in American manufacturing history.” He points out, “If publicity and advertising could have made any difference, they would have made the new car a success. . . . The buildup for the Edsel was the most intensive in the history of the automobile business” (1969: 251, 255).

Many reasons for the Edsel’s spectacular failure have been advanced, among them the allegation that it illustrates what happens when too much dependence is put on market research (Hayakawa, 1958). However, no explanation fully accounts for the debacle — except the acknowledgment that the public has a mind of its own after all. Despite the most favorable sales climate, despite the most skillful marshaling of all the arts of publicity and persuasion, the Edsel failed to create a want.⁵

The Edsel case is uncommon only because of its dimensions. Failure of new products to catch on is a common marketing experience. Not every advertising campaign succeeds. The transfer of brand loyalty, a well-recognized market phenomenon, indicates that advertising does not always succeed even in maintaining existing wants. Experience suggests that creating and maintaining wants is somewhat more complicated than the simple manipulation of passive consumers by marketeers. Fairfax Cone, after 40 years and billions of dollars worth of practical advertising experience, concluded,

Most of the viewers who fear advertising as an evil force give it too much credit.

About all it can do under the most skillful direction (and by skillful direction I don’t mean either hidden or otherwise undue persuasion) is to exploit a given interest, predilection, disposition, prejudice or bias and bring this to bear on a buying decision. (1969: 8)

In *The Mass Consumption Society*, George Katona suggests that an accurate description of want creation would give the consumer the primary role. “Under what conditions are the ‘persuaders’ successful? Quite simply, when they swim

⁵ Further evidence of advertising’s limitations may possibly be found in the fact that the second year’s Edsel model — with some changes in horsepower and dimensions — began to sell a little better (though still far below the break-even point) without benefit of heavy advertising (Brooks, 1963: 67; see also Berg, 1970). Corfam, a synthetic leather introduced in 1963, has been called “DuPont’s \$100-million Edsel” (Sloane, 1971). Corfam too had the benefit of lavish market research and advertising, but in 1971 DuPont gave up trying to sell it.

with the current. . . . If and when advertising conforms with trends in consumer wants, it exerts some influence" (1964: 61).

Research on the persuasive powers of the communications media (reviewed in chapter 23) bears out this conclusion: the media succeed best when reinforcing existing attitudes; they succeed least when running counter to established opinions, prejudices, and values. As Katona put it, "The influence of advertising, just as of any other mass medium, decreases in proportion to the importance the consumer attaches to the matter" (1964: 58). He points out that in fact consumers do not take seriously the marginal product differentiations that advertising exploits. That explains why consumer loyalty is fickle. Yet people tenaciously resist changing profound beliefs about matters they consider consequential. Such beliefs are as likely to be strengthened as weakened by media attempts at conversion.

The very superficiality of most consumer wants is what troubles Toynbee. He looks at creature comforts from an ascetic, even downright puritanical, point of view. "The major religions agree in denigrating material things," he says, the kinds of things that satisfy "bogus" wants created by advertising. In times past, when the major religious doctrines took shape, the masses of their adherents could not possibly have hoped to possess more than the bare minimum of material things. Understandably, religious leaders denigrated what they could not confer. Any other preachment would have been futile, if not suicidal. Popular religions had to find ways to make the immemorial poverty and deprivation of the mass of mankind easier to bear. Revolutionary economic and social changes (in some parts of the world at least) have removed these ancient barriers to material progress.⁶ Deprivation of the masses is no longer a necessity. Need it still be regarded as a virtue?

A subsistence farmer feels no "spontaneous" wants for such luxuries as a tractor, fertilizer, and improved hybrid seeds; his wife feels no innate urge for piped water, power-milled flour, and detergents. They cannot articulate wants for life-saving drugs. These hypothetical examples are not merely straw men. Consumers in general, even those living in a technologically advanced environment, lack the imagination and specialized knowledge even to conceive of specific new products. Their wants take more generalized forms. They want good health, offspring, comfort, pleasant surroundings, variety, recreation, status, entertainment, personal attractiveness. The consumer cannot be expected to invent the specific products and services that can satisfy these general wants. This innovative role belongs to the producer.

The person responsible for preparing the family's meals may not have

⁶ Symptomatically, certain popular radio and television preachers nowadays assure their listeners that the virtues traditional Christianity saw in poverty and self-denial were all wrong. One of them has achieved a large following with the message "You must get rid of that pie in the sky bye and bye when you die attitude. Let your attitude be: I want my pie now, with ice cream on top!" The root of all evil, he preaches, is not money but rather the lack of money (Morris, 1973: 180).

wanted instant mashed potatoes — the possibility of such a preparation probably never occurred to her or him — but he or she does want the work load lightened, and if instant mashed potatoes help satisfy that want without at the same time frustrating the want for tasty food, who is to grudge it? “Before a new product reaches the market,” as Katona puts it, “before the consumer is told by the producer what is available, wants do not take a form specific enough to serve as a guide for industry” (1964: 56). He reminds us, moreover, that psychological wants can be just as real as physical wants. To strictly equate legitimate psychological wants with necessities like food is to ignore a vital form of human needs.

David Ogilvy quotes the father of the labor movement in England as saying, “The tragedy of the working class is the poverty of their desires.” Ogilvy goes on,

If you don't think people need deodorants, you are at liberty to criticize advertising for having persuaded 87 percent of American women and 66 percent of American men to use them. . . . If you disapprove of social mobility, creature comforts, and foreign travel, you are right to blame advertising for encouraging such wickedness. If you dislike affluent society you are right to blame advertising for inciting the masses to pursue it. If you are this kind of Puritan, I cannot reason with you. (1964: 196)

14.6 Public attitudes toward advertising

Whatever view we may have on the fundamental social and economic issues, advertising continues as a fact of life in advanced economies and has to be dealt with pragmatically. Even many of advertising's best friends will admit that not all is well.

The consumer protection movement (see §22.6) aroused a new sensitivity to the exploitative aspects of advertising and its supposed disregard for social consequences. The new concepts of corrective and counteradvertising (discussed in §20.9) propose using the very power of advertising to undo or prevent some of its abuses.

Government agencies responsible for monitoring advertising have shown a disposition to raise their sights. Advertisers are now required to substantiate claims with hard evidence, and there is even talk of ruling out some of the less defensible techniques of persuasion.

The realization is growing that the ordinary purchaser is overmatched in an arena where advertisers have unrestricted use of all the tools of science to coerce consumption. “Caveat emptor” no longer makes sense. The ancient common-law assumption that condones puffery because everybody expects the seller to put his best foot forward seems naive in the light of modern conditions. The concept of puffery assumes a literate buyer and an understandable product. Broadcasting, however, is available to the preliterate and the illiterate.

It is in a position to exploit those least able to afford exploitation and least able to defend themselves. It advertises products whose inner workings no layman can be expected to understand (see §20.6).

Public opinion surveys convey an impression of growing consumer cynicism and alienation, especially among the better educated. A 1973 study found that only about half of a national sample regarded advertising as generally “believable.” As many as 88 percent supported a proposed law requiring that proof of advertising claims be made available on demand. And a majority supported the principles of both corrective advertising and counteradvertising (Opinion Research Corporation, 1973).

As to public attitudes toward broadcast advertising specifically, the most recent in a series of opinion surveys, conducted on behalf of the industry by the Roper Organization, found that 39 percent of a national sample either disliked “practically all” television commercials or found “most of them” very annoying. The great majority (84 percent) agreed, however, that having commercials on television is “a fair price to pay for being able to watch it” (Roper Organization, 1975: 21). Another trend survey found that in 1960 three-quarters of a sample had considered commercials a fair price to pay; by 1970 agreement had dropped only slightly — to 70 percent (Bower, 1973: 84).

Aside from questions of the ethics of advertising techniques, the sheer quantity of advertising has become a subject of concern to the advertising fraternity itself. Katona sees this rising din as a major threat to the future of advertising.

The problem of too much advertising plagues us today and threatens us to a much larger extent in the future. The economy is growing and with it the number of advertised products and the funds available for advertising. But the amount of time the individual has to read or hear messages remains unchanged. . . . Advertising might do well to lean less heavily on persuasion and testimonials and more on technical information and explanations of the purposes best served by the products it desires to sell. (1964: 296)

Obtrusiveness is especially troublesome in the broadcast media. The eye skips about at will in space media, but the viewer/listener cannot as easily bridge interruptions in the time media. And the industry has been edging the length and frequency of commercials ever upward: the number of all television commercials (network and local) rose 41 percent in the period 1966–1970 (Lee, 1970: 5); the number of prime-time commercials rose 88 percent in the 1963–1972 period (Simko, 1973: 1).

Commercial interruptions have long been one of the most frequently criticized aspects of commercialism in broadcasting. The changeover from the 60-second commercial, long the standard network length, to 30 seconds in the late 1960s produced what has since come to be generally recognized as the problem of “clutter.”

National advertisers and many advertising agencies became alarmed at the trend (see Simko, 1973). One agency threatened to boycott stations that clut-

tered their programs. An agency executive pointed out that viewer drop-off during television commercials had increased during the 1960s, averaging 27 percent by 1970. Despite NAB code limits on program interruptions, he counted 37 separate “messages” in only seven minutes of television viewing (Meyer, 1970). Three years later *TV Guide* commissioned a study of commercial interruptions. A typical daytime hour contained 30 commercials, an average of one every two minutes — and this did not include the many promotional and identification announcements that contribute to the impression of clutter (Doan, 1973).

Nevertheless, the time-buying specialist who allegedly triggered the move to 30-second commercials in a 1967 speech to the Association of National Advertisers in 1972 began talking about a further amoeba-like split into 15-second units. These, he said, would be quite acceptable if the shortened format “effectively and efficiently assists in fulfilling needs as expressed by market function, and as measured by sales” (Vitt, 1967, 1972).

Broadcast Advertising Practice

Advertising practice was, of course, well established in print and other media by the time broadcasting appeared. Broadcasting introduced novel elements, notably the shift in concept from space to time as the advertising container. The existing framework of advertising practice in the print media nevertheless furnished broadcasting with a general model, although the increasing complexity of production in each medium eventually required more and more specialization by advertising practitioners.

15.1 Integration of advertising in program structure

The need to conform to audience habits and to maintain internal coordination obliges programming to be governed by clock time. Practical considerations of audience availability and receptivity dictate the best times of day for a particular type of program and hence a particular type of advertising, depending on local life styles. Coordination of networks with their affiliates and even of operations within a single organization requires adherence to a relatively inflexible clock schedule. Contractual obligations to advertisers also compel predictable time patterns. Critics sometimes complain about this arbitrary chopping of commercial program time into predetermined lengths and the enforced pruning of content to fit. Yet even public broadcasting finds it expedient to schedule programs fairly rigidly according to the clock.

Insofar as advertising does enter into a service, provision must be made for incorporating it systematically into the overall program structure at predictable intervals. Deciding on these intervals creates a degree of tension between the advertising and the programming departments. From the programmer's point of view, advertising disturbs the flow of program material, and research confirms what common sense suggests: advertising interruptions cause a drop in audience attention. But from the seller's point of view, advertising must be placed at points of maximum exposure and highest interest, integrated so cunningly that avoidance is difficult or impossible.

It is policy, then, that must determine the balance struck between these

opposing viewpoints. Some foreign broadcasting systems maintain an absolute demarcation between commercials and other program material, segregating all advertising in special commercial periods analogous to a classified advertisement section or an advertising supplement in newspapers. Other systems permit scattering commercials throughout the day's programming, dropping them in between programs or within programs at natural internal breaks. This method, sometimes called "trafficking" commercials, approximates display advertising in space media. These advertisements are closely associated with nonadvertising matter throughout the publication, but differences in typography (and even the word "advertisement" if the format might mislead the reader into confusing advertising with editorial matter) assure a clear distinction.

American broadcasting follows the still more liberal policy of allowing close association between advertiser and programs. Advertisers may both supply and sponsor programs, and advertising matter may be closely interwoven with program content. To pursue the media distinction to its conclusion, the sneakily integrated commercial that takes the listener/viewer unawares might be equated with a commercial paragraph in the midst of a news story, introduced without a marked change of type style.

The program structure provides natural breaks between the ending of one program or program element and the next, into which commercials may be inserted. In addition, legally required station identification announcements create mandatory breaks at which commercials can be added.¹ The periods during which network affiliates cut away from the network line to insert their IDs also allow them time to insert local commercials between and within network programs.

15.2 Advertising vehicles

Sponsorship Originally, network radio established a tradition of program sponsorship. The sponsoring advertiser assumed responsibility for the preparation and cost of both program material and commercial matter, as well as for time costs. This system, frowned on in most countries because it gives the advertiser direct control over programming, arose because when radio began, the stations and networks lacked the resources to produce effective mass appeal programs.

Norman Brokenshire, describing his experiences as an announcer at WJZ in 1924, said, "If people dropped into the studio and could perform in any way,

¹ Station identification (ID) consists of the announcement of the station's call letters immediately followed by the city of license and must be given hourly "as close to the hour as feasible, at a natural break in program offerings" (47 CFR 73.1201). But since stations are anxious to make their identity known to audiences, they usually schedule IDs more frequently. Rules also require notation of legally required ID announcements in the program log (47 CFR 73.112, a, 4).

we had a program to put on the air; if no one dropped in, we were stuck.” One day, when no one dropped in and Brokenshire’s improvisational resources ran out, he resorted to hanging the microphone out the studio window to broadcast “the sounds of New York” (1954: 53). Facing this kind of situation, the advertising agencies began putting together shows for their clients, and sponsorship became the rule for major advertisers. Thus the vehicles for advertising became the programs themselves, and sponsors benefited from their close identification with popular programs and their stars.

Spot participation At first television followed the radio tradition. Most early programming successes in television were identified with sponsors: *The Texaco Star Theater*, *The Philco Playhouse*, *The Colgate Sports Newsreel*. But in the 1960s increased production costs and the unpredictability of the success of network shows caused a decline in the full sponsorship of television programs. Whereas in 1957, 85 percent of prime-time network programs had no more than two sponsors, by 1967 only 10 percent had that few. In 1957 no program had 15 or more participating advertisers, whereas by 1967, 63 percent had that many (Little, 1969: 21). The new strategy, called *scatter buying*, used spots in several different programs at different times and on different days. Not only did this method avoid overcommitment to a single program, it also enabled advertisers to obtain the desired type of demographic mix to meet their advertising objectives.

Station break spots Sponsorship and spot participation imply that advertising matter will be incorporated within the framework of a program. But the breaks between and within programs — such as interruptions for station IDs — create a third vehicle. A program break also tends to cause a break in audience attention, thereby reducing the impact of these spots compared with those imbedded in the program material. On the other hand, spots at station breaks benefit from their adjacency to high-rated programs.

Shopping guides The NAB television code waives its normal limits on commercial time on a case-by-case basis for programs classified as “women’s service features, shopping guides, fashion shows, and demonstrations.” These may, according to the code, “provide a special service to the public in which certain material normally classified as nonprogram is an informative and necessary part of the program content” (NAB, 1974c: 16).

Pitch advertising The word *pitch* once referred to the place where a street hawker set up a temporary stand. In broadcasting it means an extended, high-pressure sales talk that may run as much as 15 or 30 minutes. Typically, the pitchman advertises a product for sale by mail, often grossly overpriced. The NAB television code opposes pitch advertising on the grounds that it violates the code’s time standards and is “inconsistent with good broadcast practice and generally damages the reputation of the industry” (NAB, 1974c: 18).

Program-length commercials The FCC's rules against deceptively concealing commercials by embedding them in apparently legitimate program material is discussed in §18.14. The practice appears to be widespread in radio. Problems of definition are so difficult that the FCC has found it necessary to issue an explanatory and admonitory notice. For example, the industry posed the case of 15 minutes of listings by a realtor, followed by 45 minutes of uncommercialized program material. Could the two be combined for logging purposes? The total number of commercial minutes for the entire hour is not excessive, but the FCC considered the 15 minutes sold to the realtor as constituting a program-length commercial and therefore inconsistent with the public interest (39 CFR 4047, 1974). Exempted from the ruling are want-ad programs for which the station makes no charge as well as certain commercially oriented religious programs.

Sustaining programs Commercially supported programs do not fill the whole broadcast schedule. Stations and networks maintain some program time on a noncommercial basis as sustaining programs. Certain programs by their very nature cannot be commercialized — coverage of occasions of state, such as presidential addresses, for example. The FCC at one time also looked upon sustaining programs as having an important “balance wheel” function. Commercial motivations tend to narrow the choice of programs likely to be sponsored; sustaining programs, the FCC reasoned, should create opportunities for material less likely to find sponsors, such as programs serving the interests of minorities, nonprofit organizations, and program experimentation (FCC, 1946: 12).

In 1960, after an inquiry into program practices, the commission discontinued consideration of sustaining programs as a significant element in fulfilling public interest requirements, saying, “Sponsorship of public affairs, and other similar programs may very well encourage broadcasters to greater efforts in these vital areas. . . . Sponsorship fosters rather than diminishes the availability of important public affairs and ‘cultural’ programs” (25 FR 7295, 1960).

Public service announcements (PSAs) The sustaining equivalent of commercial announcements, however, remains a well-defined element in programming. The logging rules explicitly provide for PSAs (47 CFR 73.112, Note 3), and stations use them to serve a wide variety of community interest causes. As a protection against exploitation by commercial organizations in disguise, stations usually limit PSAs to organizations officially listed as tax exempt by the Internal Revenue Service.

Promos Stations use announcements that do not earn income to advertise their own forthcoming programs. Called promos, they should not be confused with the commercial promotional announcements described in §15.6.

15.3 Salience of commercial content

Policy determines not only how commercial material is integrated into the program structure, but also the degree of salience it is allowed. An endless struggle goes on between the urge to cram ever more commercial content into the program schedule and the need to avoid alienating audiences with intolerable levels of interruption and commercial clutter. Broadcasters constantly probe the limits of public tolerance for commercial material and have succeeded, over the years, in greatly increasing permissible commercial salience.

The problem arises in part because time is not expandable. If a newspaper's advertising load increases, it can add pages without having to reduce editorial space. A broadcasting station, however, has an absolute maximum of 24 hours per day for both program and advertising content, and in only some of those hours are audiences optimally available. Increasing one type of content necessarily decreases the other.

The feeling of salience comes partly from the style of commercials (their wording and delivery) and partly from timing (their length and placement). Loudness appears to have been the only stylistic element to have been of concern to the FCC. Its study of loud commercials, made in response to complaints, ended without producing any objective standards (see §18.14). Standards for timing, on the other hand, are easily expressible in quantitative terms and have been extensively developed in the NAB codes.²

Announcement length The very word "announcement" implies brevity, and by tacit agreement one minute came to be regarded as the normal (though by no means invariable) maximum length. In general practice, lengths of 10, 20, 30, and 60 seconds are sold. The NAB codes contain no rule as to maximum individual announcement length. But the television code does rule out, by implication, extremely short announcements that could take advantage of *subliminal perception*, defined by the code as any technique that attempts "to convey information to the viewer by transmitting messages below the threshold of normal awareness." In this prohibition the NAB follows an FCC ruling.

The general trend has been toward 30-second announcements. A survey of non-network national television advertising indicated that between 1967 and 1970 30-second spots increased from 1 percent of the total to 46 percent (*Advertising Age*, 2 Nov. 1970). And in 1972 the networks agreed to reduce their basic advertising unit from 60 to 30 seconds.

One of the chief uses of 10-second spots is in trade deals, such as the practice of the broadcaster exchanging commercial mentions for an advertiser's merchandise to be used as prizes in giveaway programs (see §15.6).

Announcement length has significance for salience because the shorter for-

² The references to the NAB codes in this section are based on the 17th edition of the television code (1974) and the 18th edition of the radio code (1974).

ments allow an increase in the number of individual announcements without increasing the number of commercial minutes per hour. This increase in the number of separate items helped produce the “clutter” that became an issue when the 30-second television network announcement became the rule (see §14.6).

Piggyback announcements The NAB code calls piggybacks *multiple product announcements*. They add to the impression of clutter by breaking an ostensible 60-second or 30-second announcement into two parts, each a commercial for a separate product of the same advertiser. As an anticlutter move, the NAB ruled that 30-second piggybacks had to be “integrated so as to appear to the viewer as a single announcement.”

Interruption rate The frequency with which commercials interrupt the flow of program material also affects the impression of salience. The NAB television code limits interruptions to no more than two per half-hour in prime time and four at other times, although there are several exceptions (exhibit 15.1).

Consecutive announcements An alternative abuse to over-frequent interruptions is the piling up of announcements at station breaks or at breaks within programs. The NAB television code limits the commercial pileup to four within programs and three at station breaks. The code makes an exception for a single-sponsor program if the client chooses to reduce interruptions by clustering his spots. However, public service announcements, promotional announcements for the program in question, credits under 30 seconds in length (except in feature films), and short acknowledgments of prize donors are excepted. These exceptions make possible the extraordinarily large number of announcements that lead to the impression of clutter.

Cumulative length A final aspect of timing as a contributor to salience is the cumulative length of commercial material, usually expressed in minutes per hour. The NAB television code standards stipulate 9½ minutes maximum in prime time for network affiliates, 12 minutes for independent stations. In other than prime time the maximum is 16 minutes per hour for each type of station.³ In radio the limits are more generous, allowing 18 minutes per hour at all times.

15.4 Bases of advertising rates

Broadcasting stations sell advertisers the use of time segments on their facilities, of course, but station time has meaning only in terms of audience time. Audience time, in turn, has meaning only in terms of audience attention.

³ This double standard goes back to early radio, when it was thought that advertising belonged to the business hours and should be excluded from the after-work hours (§17.12). It now represents a recognition of the fact that audiences are much bigger in prime time than at other times.

Exhibit 15.1
Summary of NAB television code commercial salience standards

Commercial ^a salience as measured by	Maximum allowed		Special provisions and exceptional cases
	In prime ^b time	In other time	
Cumulative length per time period			"Reasonable use" of names of prize donors, guest identifica- tions, name on set or properties Shopping guides Children's programs ^d
Network affiliates	9½ in 60 ^c	16 in 60	
Independent stations	12 in 60	16 in 60	
Frequency of interruption per program	4 in 60 2 in 30 2 in 15 2 in 10	8 in 60 4 in 30 2 in 15 2 in 10	News, weather, sports, and special events Variety programs (allowed 3 in 30 and 5 in 60 in prime time) Shopping guides Children's programs ^d
Number of consecutive commercial announcements			Shopping guides Single-sponsor programs (if result is fewer interruptions) Ads for multiple products treated as one announcement
Within programs	4	4	
At station breaks	3	3	Ads for multiple products treated as one announcement

^a The Code Authority prefers the term *nonprogram materials* to the word *commercials*. Announcements counted as program materials include PSAs, program promos for the same program, and program credits that do not exceed 30 seconds (feature films excepted).

^b Prime time: "A continuous period of not less than 3½ consecutive hours, as designated by the station, between 6:00 P.M. and midnight."

^c Read as follows: A maximum of 9½ minutes may be devoted to commercial announcements by network affiliates during any 60 minutes of prime time, etc.

^d Special rules governing commercials in children's programs scheduled to start in 1976 include the following: 9½ minutes in 60 on weekends, 12 in 60 other days in nonprime time; 2 interruptions in 30 minutes, or 4 in 60 on weekends (NAB Code News, 6 June 1974).

Source: Material in National Association of Broadcasters, "Television Code," 17th ed. NAB, Washington, D.C., January 1974: 14-17.

The elaborate machinery of audience research and rating services described in chapter 13 exists to translate units of time into estimates of audience attention.

Stations set their rates at the highest level the market will bear. No systematic method of rate setting exists (see Besen, 1973); the process is a pragmatic one, influenced by many variables. Most important among these is market size (see §13.2). Even a small station with an unfavorable channel assignment has a chance of doing well in a very large market, for such a market offers varied resources in both audience interests and advertising needs.

Second in importance to market size comes channel assignment and related technical factors. The latter include such things as the station class of an am station, the conductivity of the soil in its environs, whether its position is high or low in the standard broadcast band. In the case of television, whether the station operates on a uhf or vhf channel obviously has great significance. These

technical parameters place physical ceilings on station coverage, hence ultimately on the value of station time. The extent of competition might be considered the third major factor, although it could also be considered an indirect consequence of the first two since competition will automatically rise to the level that available market resources and technical facilities allow.

The factor of skillful, imaginative, creative management comes third or fourth. Only after a minimum threshold has been reached in terms of market and facilities can management find sufficient scope to bring its skills, imagination, and creativity into effective play. Nevertheless, management does represent the one controllable variable. The market and the facilities remain essentially the same; only programming appeal and sales efficiency can, within limits, be freely manipulated.

Television networks base their time rates for sponsored programs on varying percentages of the aggregate time rates of all affiliates carrying a program. The time rate for each affiliated station is based on a formula that takes into consideration its coverage, circulation, overlap with other affiliates, and other factors that affect its pulling power. Base rates in 1974 for interconnected television affiliates varied from \$75 to \$10,000 per hour depending on the size of market. Sponsors pay a percentage of the aggregate of all these separate station rates. The percentage varies widely according to time of day, season of the year, and the number of time periods purchased. CBS rates varied in 1974 from a low of 8 percent of the aggregate of station rates to a high of 65 percent.

Most network business, however, consists of selling spot participations in programs, and the price of these varies according to the popularity of each program as measured by the rating services. In 1974 a 30-second spot in the average prime-time network entertainment program cost \$27,270, whereas the same spot in a daytime serial averaged \$5,670. Spots in top-rated programs ran much higher — up to \$108,000 for the football Superbowl. Radio network basic spot rates varied from a maximum of \$2,000 for a 60-second announcement down to \$375 (all rates from BBD&O, 1974).

Stations and networks publish rate cards stating the formal asking price for their time. It is, however, an extraordinarily complicated pricing system because of the very nature of broadcast time, which, as we have said, represents audience attention. Audiences vary from one hour to the next, from one program to the next, and from one season to the next, so all these variables enter into the calculation of rate card prices.

Time classes We saw in §13.12 how audience size fluctuates according to the time of day, especially in the case of television. Prime time is the best television time not only because the largest audience is available then but also because the composition of the audience is then most representative of the total population.

Television prime time varies from one region to another but always falls

between 6:00 and 11:00 P. M. A narrow fringe on each side of the prime-time segment also has high audience potential. Daytime hours constitute a third level, and early morning and late night hours a fourth. Times of the day are classified accordingly, and rates for them vary by class. Some television stations and networks vary their rates hourly throughout the day; others rely on three or four time classes. Typically, Class A (prime) time costs the full rate (100 percent), Class B 65 percent of Class A, Class C 50 percent of Class B, and Class D 35 percent of Class C. Networks make seasonal rate changes, as well. For example, the average prime-time television spot costs about a third less in summer than in winter.

Radio listening produces a much flatter curve throughout the day, with its peaks during drive times in the morning and late afternoon. The general flatness of the curve, however, encourages radio stations to adopt a single time class (note the specific examples of time class practices shown in exhibit 15.2).

Program appeal Variations in program popularity must be considered as well as changes in audience potential according to time of day and season. Most stations therefore set special rates for participations in established programs, adjusted according to audience size. Networks similarly vary the cost of spot participations, as we have already noted.

Retail versus wholesale advertising Rates also vary because advertisers' trading areas vary. Broadcasting inherited from newspapers the custom of setting lower rates for local (or retail) than for general (or national) advertising.

A purely local advertiser, such as a retail shopkeeper, receives no benefit from advertising that reaches beyond the neighborhood from which he draws his customers. Large stations, however, cover wide areas, combining a number of neighborhood marketing zones. A nationally distributed product such as a gasoline can benefit from this wider reach, since customers can find the product in many neighborhoods.

Another justification for a rate markup for national and regional advertising is that such advertising usually entails two commissions, one paid to the medium's national sales representative (\$15.7) and one to the client's advertising agency (\$15.8). Local rates are about 20 to 50 percent less than national advertising rates, though some stations maintain a single rate.

15.5 Rate cards

It would be impracticable for national advertising agencies and others interested in multimarket rates to keep a current file of all the separate rate cards of thousands of stations. A commercial firm, Standard Rate and Data Service (SRDS), supplies such information in a series of monthly rate catalogues. SRDS publishes separate rate listings for networks (radio and television), radio stations, television stations, and for other media as well.

Exhibit 15.2
Sample rate card listings in SRDS publications

WREX-TV
ROCKFORD
 (Airdate October 1, 1953)

ABC Television Network



A Gilmer Station

Subscriber to the NAB Television Code

Media Code 6 214 0700 6.00

WREX-TV, West Auburn & Winnebago Bldg., Rockford, Ill. 61105, Phone 815-963-1013, TWX 918-612-0770.

I. PERSONNEL

General Manager—Jack Manzie.
 General Sales Manager—Jack McWeeny.
 Traffic Manager—Lolo Swanson.

II. REPRESENTATIVES

B-N Television, Inc.

III. FACILITIES

Video 216,000 w.; audio 32,500 w.; ch 13.
 Antenna ht.: 718 ft. above average terrain.
 Operating schedule: 6:00-1:30 am. CST, CDT.

IV. AGENCY COMMISSION

15% to recognized agencies on time charges only; no cash discount.

V. GENERAL ADVERTISING See coded regulations

General: 1a, 2a, 2b, 2c, 2d, 2e, 2f, 2g, 2h, 2i, 2j, 2k, 2l, 2m, 2n, 2o, 2p, 2q, 2r, 2s, 2t, 2u, 2v, 2w, 2x, 2y, 2z, 3a, 3b, 3c, 3d, 3e, 3f, 3g, 3h, 3i, 3j, 3k, 3l, 3m, 3n, 3o, 3p, 3q, 3r, 3s, 3t, 3u, 3v, 3w, 3x, 3y, 3z, 4a, 4b, 4c, 4d, 4e, 4f, 4g, 4h, 4i, 4j, 4k, 4l, 4m, 4n, 4o, 4p, 4q, 4r, 4s, 4t, 4u, 4v, 4w, 4x, 4y, 4z, 5a, 5b, 5c, 5d, 5e, 5f, 5g, 5h, 5i, 5j, 5k, 5l, 5m, 5n, 5o, 5p, 5q, 5r, 5s, 5t, 5u, 5v, 5w, 5x, 5y, 5z, 6a, 6b, 6c, 6d, 6e, 6f, 6g, 6h, 6i, 6j, 6k, 6l, 6m, 6n, 6o, 6p, 6q, 6r, 6s, 6t, 6u, 6v, 6w, 6x, 6y, 6z, 7a, 7b, 7c, 7d, 7e, 7f, 7g, 7h, 7i, 7j, 7k, 7l, 7m, 7n, 7o, 7p, 7q, 7r, 7s, 7t, 7u, 7v, 7w, 7x, 7y, 7z, 8a, 8b, 8c, 8d, 8e, 8f, 8g, 8h, 8i, 8j, 8k, 8l, 8m, 8n, 8o, 8p, 8q, 8r, 8s, 8t, 8u, 8v, 8w, 8x, 8y, 8z, 9a, 9b, 9c, 9d, 9e, 9f, 9g, 9h, 9i, 9j, 9k, 9l, 9m, 9n, 9o, 9p, 9q, 9r, 9s, 9t, 9u, 9v, 9w, 9x, 9y, 9z, 10a, 10b, 10c, 10d, 10e, 10f, 10g, 10h, 10i, 10j, 10k, 10l, 10m, 10n, 10o, 10p, 10q, 10r, 10s, 10t, 10u, 10v, 10w, 10x, 10y, 10z, 11a, 11b, 11c, 11d, 11e, 11f, 11g, 11h, 11i, 11j, 11k, 11l, 11m, 11n, 11o, 11p, 11q, 11r, 11s, 11t, 11u, 11v, 11w, 11x, 11y, 11z, 12a, 12b, 12c, 12d, 12e, 12f, 12g, 12h, 12i, 12j, 12k, 12l, 12m, 12n, 12o, 12p, 12q, 12r, 12s, 12t, 12u, 12v, 12w, 12x, 12y, 12z, 13a, 13b, 13c, 13d, 13e, 13f, 13g, 13h, 13i, 13j, 13k, 13l, 13m, 13n, 13o, 13p, 13q, 13r, 13s, 13t, 13u, 13v, 13w, 13x, 13y, 13z, 14a, 14b, 14c, 14d, 14e, 14f, 14g, 14h, 14i, 14j, 14k, 14l, 14m, 14n, 14o, 14p, 14q, 14r, 14s, 14t, 14u, 14v, 14w, 14x, 14y, 14z, 15a, 15b, 15c, 15d, 15e, 15f, 15g, 15h, 15i, 15j, 15k, 15l, 15m, 15n, 15o, 15p, 15q, 15r, 15s, 15t, 15u, 15v, 15w, 15x, 15y, 15z, 16a, 16b, 16c, 16d, 16e, 16f, 16g, 16h, 16i, 16j, 16k, 16l, 16m, 16n, 16o, 16p, 16q, 16r, 16s, 16t, 16u, 16v, 16w, 16x, 16y, 16z, 17a, 17b, 17c, 17d, 17e, 17f, 17g, 17h, 17i, 17j, 17k, 17l, 17m, 17n, 17o, 17p, 17q, 17r, 17s, 17t, 17u, 17v, 17w, 17x, 17y, 17z, 18a, 18b, 18c, 18d, 18e, 18f, 18g, 18h, 18i, 18j, 18k, 18l, 18m, 18n, 18o, 18p, 18q, 18r, 18s, 18t, 18u, 18v, 18w, 18x, 18y, 18z, 19a, 19b, 19c, 19d, 19e, 19f, 19g, 19h, 19i, 19j, 19k, 19l, 19m, 19n, 19o, 19p, 19q, 19r, 19s, 19t, 19u, 19v, 19w, 19x, 19y, 19z, 20a, 20b, 20c, 20d, 20e, 20f, 20g, 20h, 20i, 20j, 20k, 20l, 20m, 20n, 20o, 20p, 20q, 20r, 20s, 20t, 20u, 20v, 20w, 20x, 20y, 20z, 21a, 21b, 21c, 21d, 21e, 21f, 21g, 21h, 21i, 21j, 21k, 21l, 21m, 21n, 21o, 21p, 21q, 21r, 21s, 21t, 21u, 21v, 21w, 21x, 21y, 21z, 22a, 22b, 22c, 22d, 22e, 22f, 22g, 22h, 22i, 22j, 22k, 22l, 22m, 22n, 22o, 22p, 22q, 22r, 22s, 22t, 22u, 22v, 22w, 22x, 22y, 22z, 23a, 23b, 23c, 23d, 23e, 23f, 23g, 23h, 23i, 23j, 23k, 23l, 23m, 23n, 23o, 23p, 23q, 23r, 23s, 23t, 23u, 23v, 23w, 23x, 23y, 23z, 24a, 24b, 24c, 24d, 24e, 24f, 24g, 24h, 24i, 24j, 24k, 24l, 24m, 24n, 24o, 24p, 24q, 24r, 24s, 24t, 24u, 24v, 24w, 24x, 24y, 24z, 25a, 25b, 25c, 25d, 25e, 25f, 25g, 25h, 25i, 25j, 25k, 25l, 25m, 25n, 25o, 25p, 25q, 25r, 25s, 25t, 25u, 25v, 25w, 25x, 25y, 25z, 26a, 26b, 26c, 26d, 26e, 26f, 26g, 26h, 26i, 26j, 26k, 26l, 26m, 26n, 26o, 26p, 26q, 26r, 26s, 26t, 26u, 26v, 26w, 26x, 26y, 26z, 27a, 27b, 27c, 27d, 27e, 27f, 27g, 27h, 27i, 27j, 27k, 27l, 27m, 27n, 27o, 27p, 27q, 27r, 27s, 27t, 27u, 27v, 27w, 27x, 27y, 27z, 28a, 28b, 28c, 28d, 28e, 28f, 28g, 28h, 28i, 28j, 28k, 28l, 28m, 28n, 28o, 28p, 28q, 28r, 28s, 28t, 28u, 28v, 28w, 28x, 28y, 28z, 29a, 29b, 29c, 29d, 29e, 29f, 29g, 29h, 29i, 29j, 29k, 29l, 29m, 29n, 29o, 29p, 29q, 29r, 29s, 29t, 29u, 29v, 29w, 29x, 29y, 29z, 30a, 30b, 30c, 30d, 30e, 30f, 30g, 30h, 30i, 30j, 30k, 30l, 30m, 30n, 30o, 30p, 30q, 30r, 30s, 30t, 30u, 30v, 30w, 30x, 30y, 30z, 31a, 31b, 31c, 31d, 31e, 31f, 31g, 31h, 31i, 31j, 31k, 31l, 31m, 31n, 31o, 31p, 31q, 31r, 31s, 31t, 31u, 31v, 31w, 31x, 31y, 31z, 32a, 32b, 32c, 32d, 32e, 32f, 32g, 32h, 32i, 32j, 32k, 32l, 32m, 32n, 32o, 32p, 32q, 32r, 32s, 32t, 32u, 32v, 32w, 32x, 32y, 32z, 33a, 33b, 33c, 33d, 33e, 33f, 33g, 33h, 33i, 33j, 33k, 33l, 33m, 33n, 33o, 33p, 33q, 33r, 33s, 33t, 33u, 33v, 33w, 33x, 33y, 33z, 34a, 34b, 34c, 34d, 34e, 34f, 34g, 34h, 34i, 34j, 34k, 34l, 34m, 34n, 34o, 34p, 34q, 34r, 34s, 34t, 34u, 34v, 34w, 34x, 34y, 34z, 35a, 35b, 35c, 35d, 35e, 35f, 35g, 35h, 35i, 35j, 35k, 35l, 35m, 35n, 35o, 35p, 35q, 35r, 35s, 35t, 35u, 35v, 35w, 35x, 35y, 35z, 36a, 36b, 36c, 36d, 36e, 36f, 36g, 36h, 36i, 36j, 36k, 36l, 36m, 36n, 36o, 36p, 36q, 36r, 36s, 36t, 36u, 36v, 36w, 36x, 36y, 36z, 37a, 37b, 37c, 37d, 37e, 37f, 37g, 37h, 37i, 37j, 37k, 37l, 37m, 37n, 37o, 37p, 37q, 37r, 37s, 37t, 37u, 37v, 37w, 37x, 37y, 37z, 38a, 38b, 38c, 38d, 38e, 38f, 38g, 38h, 38i, 38j, 38k, 38l, 38m, 38n, 38o, 38p, 38q, 38r, 38s, 38t, 38u, 38v, 38w, 38x, 38y, 38z, 39a, 39b, 39c, 39d, 39e, 39f, 39g, 39h, 39i, 39j, 39k, 39l, 39m, 39n, 39o, 39p, 39q, 39r, 39s, 39t, 39u, 39v, 39w, 39x, 39y, 39z, 40a, 40b, 40c, 40d, 40e, 40f, 40g, 40h, 40i, 40j, 40k, 40l, 40m, 40n, 40o, 40p, 40q, 40r, 40s, 40t, 40u, 40v, 40w, 40x, 40y, 40z, 41a, 41b, 41c, 41d, 41e, 41f, 41g, 41h, 41i, 41j, 41k, 41l, 41m, 41n, 41o, 41p, 41q, 41r, 41s, 41t, 41u, 41v, 41w, 41x, 41y, 41z, 42a, 42b, 42c, 42d, 42e, 42f, 42g, 42h, 42i, 42j, 42k, 42l, 42m, 42n, 42o, 42p, 42q, 42r, 42s, 42t, 42u, 42v, 42w, 42x, 42y, 42z, 43a, 43b, 43c, 43d, 43e, 43f, 43g, 43h, 43i, 43j, 43k, 43l, 43m, 43n, 43o, 43p, 43q, 43r, 43s, 43t, 43u, 43v, 43w, 43x, 43y, 43z, 44a, 44b, 44c, 44d, 44e, 44f, 44g, 44h, 44i, 44j, 44k, 44l, 44m, 44n, 44o, 44p, 44q, 44r, 44s, 44t, 44u, 44v, 44w, 44x, 44y, 44z, 45a, 45b, 45c, 45d, 45e, 45f, 45g, 45h, 45i, 45j, 45k, 45l, 45m, 45n, 45o, 45p, 45q, 45r, 45s, 45t, 45u, 45v, 45w, 45x, 45y, 45z, 46a, 46b, 46c, 46d, 46e, 46f, 46g, 46h, 46i, 46j, 46k, 46l, 46m, 46n, 46o, 46p, 46q, 46r, 46s, 46t, 46u, 46v, 46w, 46x, 46y, 46z, 47a, 47b, 47c, 47d, 47e, 47f, 47g, 47h, 47i, 47j, 47k, 47l, 47m, 47n, 47o, 47p, 47q, 47r, 47s, 47t, 47u, 47v, 47w, 47x, 47y, 47z, 48a, 48b, 48c, 48d, 48e, 48f, 48g, 48h, 48i, 48j, 48k, 48l, 48m, 48n, 48o, 48p, 48q, 48r, 48s, 48t, 48u, 48v, 48w, 48x, 48y, 48z, 49a, 49b, 49c, 49d, 49e, 49f, 49g, 49h, 49i, 49j, 49k, 49l, 49m, 49n, 49o, 49p, 49q, 49r, 49s, 49t, 49u, 49v, 49w, 49x, 49y, 49z, 50a, 50b, 50c, 50d, 50e, 50f, 50g, 50h, 50i, 50j, 50k, 50l, 50m, 50n, 50o, 50p, 50q, 50r, 50s, 50t, 50u, 50v, 50w, 50x, 50y, 50z, 51a, 51b, 51c, 51d, 51e, 51f, 51g, 51h, 51i, 51j, 51k, 51l, 51m, 51n, 51o, 51p, 51q, 51r, 51s, 51t, 51u, 51v, 51w, 51x, 51y, 51z, 52a, 52b, 52c, 52d, 52e, 52f, 52g, 52h, 52i, 52j, 52k, 52l, 52m, 52n, 52o, 52p, 52q, 52r, 52s, 52t, 52u, 52v, 52w, 52x, 52y, 52z, 53a, 53b, 53c, 53d, 53e, 53f, 53g, 53h, 53i, 53j, 53k, 53l, 53m, 53n, 53o, 53p, 53q, 53r, 53s, 53t, 53u, 53v, 53w, 53x, 53y, 53z, 54a, 54b, 54c, 54d, 54e, 54f, 54g, 54h, 54i, 54j, 54k, 54l, 54m, 54n, 54o, 54p, 54q, 54r, 54s, 54t, 54u, 54v, 54w, 54x, 54y, 54z, 55a, 55b, 55c, 55d, 55e, 55f, 55g, 55h, 55i, 55j, 55k, 55l, 55m, 55n, 55o, 55p, 55q, 55r, 55s, 55t, 55u, 55v, 55w, 55x, 55y, 55z, 56a, 56b, 56c, 56d, 56e, 56f, 56g, 56h, 56i, 56j, 56k, 56l, 56m, 56n, 56o, 56p, 56q, 56r, 56s, 56t, 56u, 56v, 56w, 56x, 56y, 56z, 57a, 57b, 57c, 57d, 57e, 57f, 57g, 57h, 57i, 57j, 57k, 57l, 57m, 57n, 57o, 57p, 57q, 57r, 57s, 57t, 57u, 57v, 57w, 57x, 57y, 57z, 58a, 58b, 58c, 58d, 58e, 58f, 58g, 58h, 58i, 58j, 58k, 58l, 58m, 58n, 58o, 58p, 58q, 58r, 58s, 58t, 58u, 58v, 58w, 58x, 58y, 58z, 59a, 59b, 59c, 59d, 59e, 59f, 59g, 59h, 59i, 59j, 59k, 59l, 59m, 59n, 59o, 59p, 59q, 59r, 59s, 59t, 59u, 59v, 59w, 59x, 59y, 59z, 60a, 60b, 60c, 60d, 60e, 60f, 60g, 60h, 60i, 60j, 60k, 60l, 60m, 60n, 60o, 60p, 60q, 60r, 60s, 60t, 60u, 60v, 60w, 60x, 60y, 60z, 61a, 61b, 61c, 61d, 61e, 61f, 61g, 61h, 61i, 61j, 61k, 61l, 61m, 61n, 61o, 61p, 61q, 61r, 61s, 61t, 61u, 61v, 61w, 61x, 61y, 61z, 62a, 62b, 62c, 62d, 62e, 62f, 62g, 62h, 62i, 62j, 62k, 62l, 62m, 62n, 62o, 62p, 62q, 62r, 62s, 62t, 62u, 62v, 62w, 62x, 62y, 62z, 63a, 63b, 63c, 63d, 63e, 63f, 63g, 63h, 63i, 63j, 63k, 63l, 63m, 63n, 63o, 63p, 63q, 63r, 63s, 63t, 63u, 63v, 63w, 63x, 63y, 63z, 64a, 64b, 64c, 64d, 64e, 64f, 64g, 64h, 64i, 64j, 64k, 64l, 64m, 64n, 64o, 64p, 64q, 64r, 64s, 64t, 64u, 64v, 64w, 64x, 64y, 64z, 65a, 65b, 65c, 65d, 65e, 65f, 65g, 65h, 65i, 65j, 65k, 65l, 65m, 65n, 65o, 65p, 65q, 65r, 65s, 65t, 65u, 65v, 65w, 65x, 65y, 65z, 66a, 66b, 66c, 66d, 66e, 66f, 66g, 66h, 66i, 66j, 66k, 66l, 66m, 66n, 66o, 66p, 66q, 66r, 66s, 66t, 66u, 66v, 66w, 66x, 66y, 66z, 67a, 67b, 67c, 67d, 67e, 67f, 67g, 67h, 67i, 67j, 67k, 67l, 67m, 67n, 67o, 67p, 67q, 67r, 67s, 67t, 67u, 67v, 67w, 67x, 67y, 67z, 68a, 68b, 68c, 68d, 68e, 68f, 68g, 68h, 68i, 68j, 68k, 68l, 68m, 68n, 68o, 68p, 68q, 68r, 68s, 68t, 68u, 68v, 68w, 68x, 68y, 68z, 69a, 69b, 69c, 69d, 69e, 69f, 69g, 69h, 69i, 69j, 69k, 69l, 69m, 69n, 69o, 69p, 69q, 69r, 69s, 69t, 69u, 69v, 69w, 69x, 69y, 69z, 70a, 70b, 70c, 70d, 70e, 70f, 70g, 70h, 70i, 70j, 70k, 70l, 70m, 70n, 70o, 70p, 70q, 70r, 70s, 70t, 70u, 70v, 70w, 70x, 70y, 70z, 71a, 71b, 71c, 71d, 71e, 71f, 71g, 71h, 71i, 71j, 71k, 71l, 71m, 71n, 71o, 71p, 71q, 71r, 71s, 71t, 71u, 71v, 71w, 71x, 71y, 71z, 72a, 72b, 72c, 72d, 72e, 72f, 72g, 72h, 72i, 72j, 72k, 72l, 72m, 72n, 72o, 72p, 72q, 72r, 72s, 72t, 72u, 72v, 72w, 72x, 72y, 72z, 73a, 73b, 73c, 73d, 73e, 73f, 73g, 73h, 73i, 73j, 73k, 73l, 73m, 73n, 73o, 73p, 73q, 73r, 73s, 73t, 73u, 73v, 73w, 73x, 73y, 73z, 74a, 74b, 74c, 74d, 74e, 74f, 74g, 74h, 74i, 74j, 74k, 74l, 74m, 74n, 74o, 74p, 74q, 74r, 74s, 74t, 74u, 74v, 74w, 74x, 74y, 74z, 75a, 75b, 75c, 75d, 75e, 75f, 75g, 75h, 75i, 75j, 75k, 75l, 75m, 75n, 75o, 75p, 75q, 75r, 75s, 75t, 75u, 75v, 75w, 75x, 75y, 75z, 76a, 76b, 76c, 76d, 76e, 76f, 76g, 76h, 76i, 76j, 76k, 76l, 76m, 76n, 76o, 76p, 76q, 76r, 76s, 76t, 76u, 76v, 76w, 76x, 76y, 76z, 77a, 77b, 77c, 77d, 77e, 77f, 77g, 77h, 77i, 77j, 77k, 77l, 77m, 77n, 77o, 77p, 77q, 77r, 77s, 77t, 77u, 77v, 77w, 77x, 77y, 77z, 78a, 78b, 78c, 78d, 78e, 78f, 78g, 78h, 78i, 78j, 78k, 78l, 78m, 78n, 78o, 78p, 78q, 78r, 78s, 78t, 78u, 78v, 78w, 78x, 78y, 78z, 79a, 79b, 79c, 79d, 79e, 79f, 79g, 79h, 79i, 79j, 79k, 79l, 79m, 79n, 79o, 79p, 79q, 79r, 79s, 79t, 79u, 79v, 79w, 79x, 79y, 79z, 80a, 80b, 80c, 80d, 80e, 80f, 80g, 80h, 80i, 80j, 80k, 80l, 80m, 80n, 80o, 80p, 80q, 80r, 80s, 80t, 80u, 80v, 80w, 80x, 80y, 80z, 81a, 81b, 81c, 81d, 81e, 81f, 81g, 81h, 81i, 81j, 81k, 81l, 81m, 81n, 81o, 81p, 81q, 81r, 81s, 81t, 81u, 81v, 81w, 81x, 81y, 81z, 82a, 82b, 82c, 82d, 82e, 82f, 82g, 82h, 82i, 82j, 82k, 82l, 82m, 82n, 82o, 82p, 82q, 82r, 82s, 82t, 82u, 82v, 82w, 82x, 82y, 82z, 83a, 83b, 83c, 83d, 83e, 83f, 83g, 83h, 83i, 83j, 83k, 83l, 83m, 83n, 83o, 83p, 83q, 83r, 83s, 83t, 83u, 83v, 83w, 83x, 83y, 83z, 84a, 84b, 84c, 84d, 84e, 84f, 84g, 84h, 84i, 84j, 84k, 84l, 84m, 84n, 84o, 84p, 84q, 84r, 84s, 84t, 84u, 84v, 84w, 84x, 84y, 84z, 85a, 85b, 85c, 85d, 85e, 85f, 85g, 85h, 85i, 85j, 85k, 85l, 85m, 85n, 85o, 85p, 85q, 85r, 85s, 85t, 85u, 85v, 85w, 85x, 85y, 85z, 86a, 86b, 86c, 86d, 86e, 86f, 86g, 86h, 86i, 86j, 86k, 86l, 86m, 86n, 86o, 86p, 86q, 86r, 86s, 86t, 86u, 86v, 86w, 86x, 86y, 86z, 87a, 87b, 87c, 87d, 87e, 87f, 87g, 87h, 87i, 87j, 87k, 87l, 87m, 87n, 87o, 87p, 87q, 87r, 87s, 87t, 87u, 87v, 87w, 87x, 87y, 87z, 88a, 88b, 88c, 88d, 88e, 88f, 88g, 88h, 88i, 88j, 88k, 88l, 88m, 88n, 88o, 88p, 88q, 88r, 88s, 88t, 88u, 88v, 88w, 88x, 88y, 88z, 89a, 89b, 89c, 89d, 89e, 89f, 89g, 89h, 89i, 89j, 89k, 89l, 89m, 89n, 89o, 89p, 89q, 89r, 89s, 89t, 89u, 89v, 89w, 89x, 89y, 89z, 90a, 90b, 90c, 90d, 90e, 90f, 90g, 90h, 90i, 90j, 90k, 90l, 90m, 90n, 90o, 90p, 90q, 90r, 90s, 90t, 90u, 90v, 90w, 90x, 90y, 90z, 91a, 91b, 91c, 91d, 91e, 91f, 91g, 91h, 91i, 91j, 91k, 91l, 91m, 91n, 91o, 91p, 91q, 91r, 91s, 91t, 91u, 9

Exhibit 15.2 shows sample entries from the SRDS station series. In order to keep the catalogues down to reasonable size, many standardized items of information are listed by code numbers. For example, in the WREX-TV rate card, the symbol *1a* under General Advertising means that the station follows the NAB television code standards for the length of advertising copy.

Rate cards are usually very informative about a station's facilities and sales policies, in addition to giving rate information as such. Following are some typical subsidiary entries usually found in rate cards.

Commission Stations usually allow 15 percent commission to "recognized" advertising agencies; most stations limit agency's commissions to time charges, but some allow commission on such additional charges as talent fees and studio rehearsal fees.

Acceptability Stations often have special rules on the acceptability of certain categories of advertising and programs, notably liquor advertising and political, religious, and foreign language programming.

Rate inclusions Normally the basic rates cover time on the transmitter plus the minimum studio facilities required to air the simplest form of recorded advertisement. Some stations make additional charges for the use of various types of facilities, music performing rights fees, live talent fees, and so on.

Rate protection Since stations change their rates often, clients with existing contracts need some assurance of stability. Protection for existing contracts from the effects of rate changes runs from a minimum of about a month to a maximum of a year.

Product protection Clients want to be protected from the adjacent scheduling of competitive product advertising. Stations usually promise a minimum of about 15 minutes' separation between advertisements for similar products and services.

Combinability of discounts Usually stations place limitations on the extent to which clients can add together more than one contract or different types of contracts, such as contracts for participations and sponsorships, in order to earn quantity discounts (see §15.6).

15.6 Rate differentials

Formally stipulated rates are subject to reduction through a variety of manipulations, some legitimate, some borderline, some plainly illegal. Ideally, broadcasters would like all rate discounts and deals to be above-the-table transactions. In practice, though, competition and sometimes plain cupidity cause individual broadcasters to fall considerably short of the ideal.

Quantity discounts Price reductions for quantity buyers are, of course, standard business practice. It costs money to negotiate and write contracts,

draw up advertising schedules, and change the details in program logs. The more stable the advertising orders, the less money and time a station wastes on paperwork. But broadcasters have another motive for encouraging quantity buying: broadcast advertising operates on the principle of cumulative exposure over a period of time. Any single announcement will normally reach relatively few people; of those few, fewer still will respond to the first impression. But a series of announcements scheduled at staggered times of the day and week and spread over a period of months may gradually reach and drive itself home to virtually the entire audience.

Broadcasters usually base quantity discounts on frequency of insertion, amount of time bought per insertion, and dollar volume.⁴ Practices vary widely. As it happens, the television station rate card in exhibit 15.2 offers no quantity discounts at all. The radio station, on the other hand, drops its \$47 per 1-minute announcement by 34 percent (down to \$31) if the client contracts for 1,000 insertions. Or the client can earn the same discount by purchasing a “saturation package” of 36 insertions in one week. Broadcasters find such package deals, representing discounts for purchases of varying combinations of spots, an effective sales tool — something like the grocery store’s come-on when it offers two cans for 89 cents.

The rate cards depicted in exhibit 15.2 illustrate another contrast in discount practices. The television station charges are proportionate to the length of a spot: a 60-second spot costs exactly twice as much as a 30-second spot. But the radio station gives what amounts to a discount for longer spots. For example, in the time class in which a 30-second spot costs \$35, a 60-second spot costs not twice as much (\$70) but only \$47. In effect, by buying a full minute the advertiser gets about a 33 percent discount on the half-minute price.

Position and preemptibility The position of a spot in the schedule, whether or not adjacent to a high-rated program, can make a big difference in the spot’s effectiveness. For this reason some stations either charge extra for fixed positions or list certain specific positions as having a surcharge.

On the other hand, the station benefits in flexibility from preemptible spots — those that can be moved, on either short notice or no notice at all, to different positions. Preemptibility helps a station even out its commercial load, making it easier to sell the less desirable positions pending their sale at higher rates.

A related device provides for the sale of preemptible 30-second announcements in positions normally planned for 20-second announcements, pending another customer’s buying the shorter period. The preemptible customer gets 30 seconds at the price of 20 seconds in return for allowing himself to be moved or canceled without notice.

⁴ The law entitles certain political candidates to buy time at the “lowest unit rate,” interpreted to mean they must be granted maximum discounts, even if unearned (see §17.8 for the law covering campaign time).

Per inquiry (PI) This rate-evading device in effect puts rates for broadcast advertising on a piecework commission basis. In a PI deal, the station receives payment not for the time devoted to commercials but for the number of inquiries received or items sold in response to the advertiser's commercials. The station itself often handles the transaction by telephone and mail and retains its share of the purchase price, which may be as high as 50 percent. The products are usually low-cost items of slight value: patent medicines, how-to-do-it books, religious articles, household gadgets, and the like.

Bartering and tradeouts Acquiring radio time by the exchange of goods and services rather than by paying money became a common practice in the late 1920s and early 1930s. During those depression years many a station set up its studio in a hotel, equipped its offices, fed its employees, and obtained the use of automobiles on due bills for radio time (Barnouw, 1966: 235). Such exchanges, usually called tradeouts, have persisted to the present.

In 1969 a new type of television tradeout referred to as bartering, or advertiser syndication, began to become common. In a typical bartering deal an advertiser pays for the rights to a syndicated television series (*The Lawrence Welk Show*, *Hee Haw*, and *Wild Kingdom* were popular examples) and fills all but two of the commercial slots in the programs with his own commercials. In exchange for the use of the program and the right to sell the remaining spots, the station runs the advertiser-syndicated spots at no charge. Thus the station gains not only a program in the deal but also cash — assuming it succeeds in selling the open spots.

Bartering of this type was at first regarded with suspicion and hostility by the conventional advertising fraternity (see, for example, Swisshelm, 1973). For the FCC it also raised some questions about undue influence over programming by persons other than licensees. Nevertheless, it proved a popular device, especially because of the new demand for syndicated material created by the prime-time access rule. In 1973 about 19 percent of all access programming in the top markets was barter programming (*Broadcasting*, 6 May 1974). By then it had become more respectable, though still controversial. Old-fashioned tradeout deals were also on the increase. Barter and tradeout together, however, still amount to only a small fraction of the total advertising revenue of broadcast stations.⁵

Brokerage Barter and trade deals verge on a more sensitive area: the sale of large chunks of station time to others for resale (see §15.8 on the relationships between brokers and advertising agencies). Brokerage may result in the licen-

⁵ Licensees must give estimates of the cash value received in barter and tradeout deals in their annual reports. In fiscal 1972 they reported \$55 million for television and \$39 million for radio (FCC, *Annual Report*, 1974: 243, 276). These amounts are equivalent to only about 3 percent of total broadcast revenue. In terms of the value of station time (rather than the estimated cash value of the bartered items), it is estimated the total would be only about half as much.

see surrendering effective control over programming, which violates the basic doctrine of licensee responsibility. Brokerage contracts must be kept on file and available for FCC inspection, though not as part of the file that must be made available for public inspection. One way of formally assuring licensee control is to make all commercials sold through a brokering or barter arrangement technically preemptible.

Promotional announcements Network rate cards provide for no commercials shorter than 30 seconds, but a flourishing trade nevertheless goes on in the business of selling or bartering shorter segments of time for promotional announcements, or “plugs” (not to be confused with promos for forthcoming programs, as described in §14.2). NBC is said to have acquired in a single year 36,000 items for giveaway programs, the items having a value of \$7 million. Each item was given a promotional announcement of up to 10 seconds (Malko, 1973). In some cases advertisers simply make a cash payment to ensure the conspicuous use of trademarked items, such as cars or airplanes, without explicit mention of the product.

The legal requirement of sponsor identification (§17.8) is met by a variety of phrases: “promotional fee paid by . . . ,” “production assistance provided by . . . ,” “travel arrangements made through . . . ,” and so on. However, the rule exempts mentioning the sources of prizes as long as the identification is “reasonably related” to their role as prizes (47 CFR 73.654, a). This loophole, which likewise exempts logging such mentions as commercials, enables evasion of commercial time standards. For example, one commentator monitored a popular half-hour network giveaway show and found that it contained “12 regular commercials — 30 seconds each — for a total of six minutes, plus plugs for 25 products. Those plugs took up an additional five minutes and 55 seconds. That left only 16½ minutes during which nothing was being advertised” (Funt, 11 Aug. 1974).

Plugola Illegal insertion of promotional plugs is known as plugola. An entertainer or some other individual connected with a program makes the arrangements privately. The individual rather than the medium pockets the compensation. Any conspicuous use of brand-name products not explained by a disclaimer in the credit announcements can be suspected as arising from a plugola deal.

Payola Closely related to plugola, but confined to a specific promotional situation, is payola. Disc jockeys and others responsible for recorded music programs exercise significant power over the exposure and hence the success of popular music. “Song plugging” has a long and legitimate history, but broadcasting gave it a new dimension. The rapidity with which broadcasting and the modern disc and tape recording industry disseminate compositions, the overwhelming number of new pieces released, and the high returns brought in by

hit songs all conspire to put great pressure on the leading disc jockeys, whose approval can lift a new song out of anonymity.

Payola began innocently enough, with record companies merely supplying stations with free samples of their new pressings. But the expanding industry poured out such an avalanche of new pressings that even potential hits could be buried and forgotten. This situation led record distributors to use bribery to secure favored treatment for their companies' recordings. A congressional investigation uncovered a wide range of direct and indirect forms of such payola, and in 1960 the communications act was amended in an effort to stop the practice (House CIFIC, 1960).

A number of stations indignantly fired disc jockeys, and the jittery record companies became far more prudent. But the American Broadcasting Company made it plain it would not dismiss the star of its teenage dance hour, Dick Clark, despite revelations that he pushed songs published by companies in which he had a financial interest. (Opatowsky, 1962: 255)

Clark denied any wrongdoing and saw no inconsistency in his involvement in the ownership of a maze of 33 music companies while he hosted a highly successful television program that featured popular music (Weinberg, 1962: 207).

That payola survived the 1960 publicity and the communications act amendment is made evident by a new eruption every few years. Apparently, the stakes are too high and the probability of being caught are too low to hope for permanent eradication. In 1973 new payola scandals began to surface, culminating in the discharge of the president and other personnel of CBS Records the following year. In an unprecedented instance of public corporate self-examination, CBS News ran a documentary, "The Trouble With Rock," contradicting the denials that had been issued by its sister corporation (Lichtenstein, 1974).

Fraudulent billing National manufacturers, such as automobile companies, join with their local dealers in paying for locally placed advertising for their products. This practice, known as cooperative advertising, gave rise to a fraudulent technique called *double billing*, whereby the station prepares two different bills for broadcast time — one for the manufacturer and one for the local dealer. In this way stations trick manufacturers into paying more than they should. Stations have devised many stratagems to take advantage of this situation. Double billing occurs with such frequency that the FCC issued special notices on the matter in 1965 and again in 1970 (30 FR 13642, 13662) in which it described some of the illegal practices that had come to its attention. On the likely assumption that many go undiscovered, it must be assumed that fraudulent billing is a widespread industry problem.

Another type of fraudulent billing, known as *clipping*, occurs when affiliates cut away from, or superimpose local material over, the opening or closing

seconds of network programs. The practice became so common by 1972 that NBC threatened to cancel affiliations and the FCC imposed fines. The following year the FCC issued a warning notice to licensees (38 FR 6918, 1973). Clipping may also take the form of violating sponsor identification and logging rules.

15.7 Local, network, and national spot advertising

Local retail merchants need to reach only the area from which they draw their clienteles. They find in broadcasting a flexible medium for local advertising. A small shop can usually capitalize on a small station whose coverage area roughly coincides with its trading area. A larger retail outlet, such as a big urban department store, can find a major station with a coverage area reaching into the suburbs and neighboring communities.

A national manufacturer of a brand name article, on the other hand, needs a national medium. At the flip of a switch, a network-affiliated broadcasting station transforms itself from a local into a national medium. The paradoxical character of broadcasting as both a local and a national medium is one of its unique features. Advertisers who desire prestige (and are able to pay the bill for it) find no vehicle to match network program sponsorship as a means of institutional advertising on a national scale. For those who aim more at direct sales results, participating network spots can also work wonders for nationally distributed consumer products.⁶

And yet, despite its advantages, network advertising has its drawbacks for some national advertisers. In television there are only three network choices, and each network affiliate is one of the major stations in its market. For some purposes another combination of stations may be preferable. For some purposes, a local program with an established following might be a better vehicle than a network program. The needs of such advertisers — national or regional in scope but not well served by network stations and network programs — may be answered by national spot advertising.

National spot offers maximum flexibility: the advertiser can “spot” his advertising on the map, selecting the precise combination of markets and stations to suit his campaign. As his advertising vehicle, he can use sponsorship of local or syndicated programs, participation in local or syndicated programs, and station break spots. The only vehicle foreclosed to the national spot advertiser is network programming. Networks, after all, are in direct competition with

⁶ Although we think of the major networks in program terms as strictly national media, in terms of advertising they must be understood to function as either national or regional media. It is technically feasible to temporarily split a national network into regional subnetworks to insert regional advertising. Similarly, nationally distributed magazines publish regional editions that carry subnational advertising without disturbing the editorial content. In 1974 the national networks made commitments to the FTC to set up regional sales offices to give regional advertisers easier access to network broadcasting as an advertising vehicle.

national spot: both seek to sell their services to clients with national, or broad regional, advertising campaigns in mind.

National spot advertising depends on a special class of sales intermediaries, the *station representatives*. A national “rep” maintains offices in the principal business centers, functioning as sales agent for a string of stations that otherwise would have no direct access to the offices of national advertisers and their advertising agencies. The full-service rep, by virtue of wide contacts in the industry, is in a position to offer counsel on rate structures and program development to help client stations keep pace with national trends. A station forms an exclusive contractual relationship with a representative and pays a commission on sales that varies from 5 to 15 percent.

Both network affiliates and independent stations employ national representatives. For the affiliate, the rep is a third selling force, added to the station’s own sales staff and that of the network. For the independent station, the rep provides its only access to the national advertising market.

All broadcasting sales, then, can be categorized as belonging to one of the three classes: local, network, or national spot. These options make broadcasting an exceedingly flexible advertising medium, adaptable to the goals of virtually every type of business that wants to reach the mass consumer. Exhibit 15.3 indicates how the largest national advertisers take advantage of this flexibility, dividing their budgets between radio and television, and within each of those categories between national spot and network vehicles.

Exhibit 15.4 shows that in fiscal 1972 gross television revenue depended primarily on network advertising, secondarily on national spot. Radio, on the other hand, derived hardly any revenue from networks, depending chiefly on local advertising. Note that if we remove the networks from the equation and examine it on the station level, national spot becomes the biggest source of television revenue. This change shows that a large part of the advertiser’s network investment goes to support costly programming. Revenue reaches the affiliates indirectly in that form, as well as directly in the form of cash.

Radio’s heavy dependence on local advertising results from television’s being too expensive for most local retail advertisers. However, 25 years ago, before television captured most of the national advertisers’ budgets, radio’s distribution among the three categories closely paralleled television’s present distribution.

15.8 Advertising agencies

Virtually all businesses of any size include an advertising allocation in their annual budgets. As indicated in §14.1, U.S. businesses as a whole devote only 1.08 percent of their sales revenue to advertising. Advertisers of consumer goods, though, may spend as much as 20 to 50 percent of their total budgets on advertising. Note the nature of the products represented by the 10 top U.S.

Exhibit 15.3
Top 10 U.S. advertisers' use of media

Rank Advertiser	Expenditure ^a (millions)	% distribution of total advertising expenditures					
		Spot TV	Network TV	Spot radio	Network radio	News- papers	Mags.
1 Proctor & Gamble Co.	\$233	39.2	55.3	0.1	0.0	0.7	4.3
2 General Motors Corp.	158	12.8	30.3	10.0	1.2	21.8	19.5
3 General Foods Corp.	133	37.2	48.0	1.2	0.1	4.7	8.6
4 Ford Motor Co.	127	16.6	34.3	9.6	1.4	14.9	19.3
5 Bristol-Myers Co.	124	16.7	56.6	3.9	0.6	1.2	14.7
6 American Home Products Corp. (drugs & cosmetics)	123	30.8	57.4	4.4	0.6	1.4	4.5
7 Sears, Roebuck & Co.	99	21.8	37.0	20.2	0.2	0.7	19.9
8 Colgate-Palmolive Co.	97	36.0	44.1	2.8	2.7	2.7	11.4
9 Sterling Drug, Inc.	93	9.6	67.3	5.0	6.5	1.5	9.2
10 R. J. Reynolds Industries	84	1.9	9.1	0.1	0.0	43.4	29.8

^a Includes only "measured" media. Total expenditures are higher when point-of-purchase promotion and other advertising and promotion expenditures are included.

Source: Based on 1973 data reprinted with permission from *Advertising Age*, 15 July 1974. Copyright © by Crain Communications, Inc.

advertisers, listed in exhibit 15.3: soaps and cleaners, automobiles, foods, drugs and cosmetics, department stores, and tobacco products. Their advertising budgets vary in size from \$84 million to over \$233 million.

How best to spend such large sums involves complex decisions: which media to use; how much to invest in each; what kinds of vehicles to employ; how to plan, design, and test the effectiveness of advertising campaigns. Such decisions require special skills and experience. Each large advertiser maintains its own department for the purpose, but it also employs advertising agencies, which deal solely in this kind of work. The immediate image the term *advertising agency* brings to mind is that much criticized, admired, glamorized, and mistrusted home of the upper echelons of the advertising industry, Madison Avenue, though in fact only two of the top agencies listed in exhibit 15.5 actually have Madison Avenue addresses.

Forerunners of these veritable symbols of the mass consumption society were rather shabby nineteenth-century newspaper space brokers. They bought space in wholesale lots and resold it whenever they could and at whatever markup they could get. In the last quarter of the century the vague outlines of today's agency began to evolve, with standardization of space rates and payment for agency services in the form of commissions.

In the early days of commercial radio, time brokers emerged once more as intermediaries between national advertisers and individual radio stations. Ben Gross relates a story that tells something of the atmosphere of early commercial radio. In 1922 a would-be time broker bought time for resale from WEAf-New York. But the station became alarmed at so much commercialism and refused to

Exhibit 15.4
Relative importance of network, national spot, and local revenue

Service	Percentage of gross revenue ^a ascribable to		
	Network	National spot	Local
Radio networks & stations	4	25	71
Radio stations ^b	1	26	73
Television networks & stations	46	32	22
Television stations	10	54	36

^a Total paid by advertisers, including commissions and program charges.

^b Am and am/fm stations only. Excludes line and service charges.

Source: Based on fiscal 1972 data in FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 1974: 223, 224, 244, 246.

continue dealing with the broker, who thereupon purchased time from WAAM-Newark. The station owner was so doubtful of the legality of the procedure that he insisted on receiving payment in cash rather than by check and arranged to meet the broker clandestinely in a hotel, where the money could change hands secretly (Gross, 1954: 66).

During the mid-1930s, station representative firms and the advertising agencies absorbed the time broker's functions (see Hettinger, 1933, for a contemporary account). N. W. Ayer & Son, one of the oldest advertising agencies in the print media, claims to have been the first major agency to take radio seriously as an advertising medium (Hower, 1949: 132). Ayer handled advertising for an optical company on WEAf as early as 1922 and introduced one of the most popular early network-sponsored programs, the National Carbon Company's *Eveready Hour*, in December 1923. By 1928 Ayer had already set up a separate radio department.

Another pioneer agency in radio was Lord and Thomas, whose Albert Lasker (one of the legendary figures of advertising history) placed nearly half of NBC's national advertising for the 1927–1928 season (Gunther, 1960: 194). Lasker overcame NBC's reluctance to use direct advertising, insisting on using commercials modeled closely on the established copywriting style familiar in space media.

Reduced to its simplest terms, the advertising agency functions as a specialized extension of the client's own advertising department for planning and executing campaigns. The chief agency functions include account management (the all-important personal contacts with the client); creative services; production (handled mostly by outside specialized companies but coordinated and supervised by the agency); research; and media buying. An agency dealing with a major account becomes intimately familiar with the client's business, to the extent that agencies sometimes assist in the development of new products and advise on the improvement of old ones.

Exhibit 15.5
Ten U.S. advertising agencies largest in broadcast billings

Rank	Agency	Broadcast billings (millions)	Broadcast % of agency total
1	J. Walter Thompson Co.	\$246	52
2	Leo Burnett Co.	217	21
3	Young & Rubicam	212	66
4	Batten, Barton, Durstine & Osborn	198	62
5	Grey Advertising	158	54
6	Ted Bates & Co.	144	65
7	Dancer-Fitzgerald-Sample	136	70
8	McCann-Erickson	133	61
9	Benton & Bowles	130	76
10	Ogilvy & Mather	114	52

Source: "The Broadcasting Top 50 Advertising Agencies of 1974," *Broadcasting* 9 Dec. 1974: 22.

Exhibit 15.6 summarizes the typical routes followed in the placement of broadcast advertising as described in this chapter. Most national advertisers work through agencies; local advertisers often do, but the smaller ones also often work directly with sales personnel of stations. Stations reach national non-network (national spot) advertisers through station representatives. Advertising emerges as local, national spot, or network. Local and national spot use the same vehicles — all forms of programs except network. Networks, of course, use their own programming as vehicles.

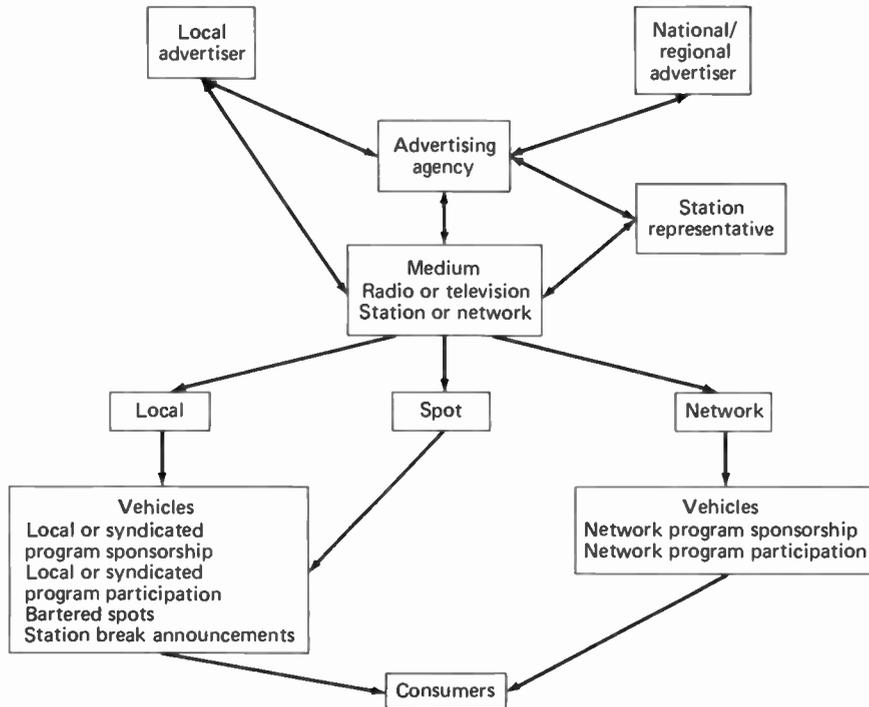
The foregoing describes the roles played by a *full-service* agency, such as those listed in exhibit 15.5. Like other institutions, agencies have recently been affected by revisionist ideas. One idea that caught on was the *boutique* agency. It concentrates its efforts on one central function — creative services — leaving most of the other work to the client's own advertising department and to specialty firms.

Another new trend questioned the sacred 15 percent commission on gross media costs, long the established method of compensation for agencies. The theory of the commission is that the agency performs a number of functions for clients that the media would otherwise have to perform themselves. In recognition of the value represented by these services, the media accept a discount on their gross charges for time or space.

The agency contracts with the medium on behalf of the agency's client. The agency collects from the client and then passes on the net receipts to the medium after deducting its own commission.

This system puts the agency in a curious position: its commission comes off the top of the medium's rate card charges; yet the money itself comes from the advertiser, passing to the medium through the agency. Although the medium gives the agency discount, the agency's responsibility lies with its client, the

Exhibit 15.6
Broadcast advertising routing patterns



advertiser, not with the medium.⁷ The American Association of Advertising Agencies, to which major agencies belong, comments: "It is important to note that the agency contracts with media in its own name, as an individual contractor. In its relations with media it is not legally the agent of its client, and the word 'agent' or 'agency' is, in a legal sense, a misnomer" (AAAA, 1954: 19). This situation creates problems for the media when agencies go bankrupt and media attempt to collect directly from the agencies' former clients. Currently, broadcasters are exploring new contractual undertakings that would enable them to collect directly from the advertisers in certain cases.

Traditionally, agency compensation has been 15 percent of media charges, usually excluding production and other additional expenses considered non-commissionable. In the 1950s the AAAA tried to regularize and police the agency business by setting up standards of recognition and fixing compensation at 15 percent. However, the Justice Department viewed enforcement of

⁷ An advertiser cannot himself get a discount on media charges simply by dealing directly with the media and by-passing the use of an agency as a go-between. However, some large organizations do have in-house agencies that are recognized as legitimately entitled to earn commissions.

such rules as restraint of trade, and in 1956 the AAAA agreed to refrain from fixing commissions, from setting up standards of approval for agencies, and from taking other measures that had been proposed for policing the industry. Some experts consider the commission system obsolete (see, for example, Ogilvy, 1964: 102; Rowsome, 1970: 60).

Other systems of payment that have been tried include a flat annual fee, an hourly rate with a guaranteed minimum, and a cost-plus basis of payment. A survey of its members by the Association of National Advertisers disclosed that three-quarters of the responding members believed the commission system would persist. Respondents foresaw, however, an increase in advertiser self-sufficiency, meaning that some would deal directly with the media, relying on specialty firms for other necessary services (A.N.A., 1974).

15.9 Creative aspects of advertising

Just as the main road to high executive positions in broadcasting often leads up through sales (§12.6), one of the main roads to creative opportunities in broadcasting often runs through the advertising market. Perhaps “creative” is not exactly the right word for the inventive part of the advertising business. One commentator complains that “the word ‘creative’ is heavily overused in the jargon of advertising. . . . The usage tends to repel persons outside the trade, who read into it an assumption that the invention of an effective commercial is held to be at one with the creation of a sonnet or sonata . . .” (Rowsome, 1970: 63).

Nevertheless, some of the brightest talents in design, graphics, still photography and cinematography, writing, performing, directing, and other arts and crafts find opportunities for satisfaction as well as profit in advertising — opportunities they might never find in the more artistically elite settings. When Stan Freberg spends \$150,000 on a production number for a single soup commercial, when Kodak shoots 18,000 feet of film at a cost of \$100,000 to obtain 180 feet of advertising — that means a lot of work for a lot of people who may never make it to Lincoln Center. And some television commercials can be considered, in their own way, gems of lapidary art — telling a complicated story with absolute precision, without the waste of a single frame, confined by creative boundaries far more restrictive than the prosody of a sonnet.

Advertising styles are the litmus paper of the times. No sooner does a new art genre, a new intellectual movement, a new life style, a new insider vocabulary emerge than advertising co-opts it. Creative advertising people constantly probe the social climate with sensitive antennae to detect new trends.

Advertising is thus in a constant state of ferment and change. For example, many of the sages of advertising live by the rule that humor has no place in the business. Yet the Doyle Dane Bernbach agency took Volkswagen from an advertising budget of under \$1 million to \$20 million with ads like the shot of

a lonely Coke bottle and a head-on view of a VW bug, with the caption “Two shapes known the world over”; the completely blank space with the caption “We don’t have anything to show you in our new models”; Wilt Chamberlain standing in the doorway of a bug, leaning on the roof (which rose as high as his hip), with the headline, “They said it couldn’t be done. It couldn’t.” Volkswagen moved from space ads into television with equally telling effect: “The Karman Ghia is the most economical sports car you can buy . . . [shot of a Ghia being stopped cold by a paper screen] . . . It’s just not the most powerful.”

Some of the best commercials in the history of television were written for Volkswagen. One test of their excellence is that they were so visual it is hard to describe them adequately in words. The author of a book on VW advertising caught the atmosphere of one of the series in these words:

The camera looks through the windshield of a car traveling a dark, snow-covered country road. Heavy loads of fresh snow bend down pine and fir branches. No announcer’s voice is heard; the only sound is that of the engine prosaically purring along. . . . Curiosity and a measure of suspense is created. Who is driving, and where? What errand has taken him out on such a night? Finally the headlights swing off by a large dark building and are switched off. A big door opens and a powerful snowplow rolls past as the announcer’s voice begins, “Have you ever wondered how the man who drives the snowplow drives to the snowplow? This one drives a Volkswagen. So you can stop wondering.” (Rowsome, 1970: 116)

The agency violated yet another convention of advertising by running the snowplow ad on Florida and southern California stations, where audiences never see snow, much less a snow plow. It was just as big a hit there as in Minnesota and Maine.

Anyone can break rules, but it takes people of imagination to break rules successfully. The history of advertising is full of colorful figures who made millions by breaking rules. One of the most remarkable advertising men in broadcasting commercial history was William Benton. He made \$1 million in a highly innovative career of only 14 years in advertising agency work. Then he went on to become vice president of the University of Chicago, publisher of the *Encyclopaedia Britannica*, one of the founders of the United Nations Educational, Scientific and Cultural Organization and U.S. ambassador to that organization, founder of the Voice of America as an assistant secretary of state, U.S. senator from Connecticut, and — almost incidentally — one of the country’s richest men. As senator he had the distinction of being the one man willing to face up squarely to the menace of Senator Joseph McCarthy in 1951. He introduced a resolution to expel McCarthy from the Senate. This motion ultimately led to McCarthy’s censure and downfall, but it cost Benton his seat in the 1952 election.

After graduation from Yale, Benton turned down a chance at a Rhodes scholarship in order to go into advertising. He learned the advertising agency ropes in the best of all schools of the 1920s — the Lord and Thomas agency in

Chicago, then presided over by another legendary advertising figure who in later life also became a philanthropist, Albert Lasker (see Gunther's biography, 1960).

Within eight years Benton felt ready to strike out for himself. He left Chicago in 1929 to form the Benton and Bowles agency in New York. Benton realized in those early days of network radio that to be effective radio advertising had to somehow compensate for its lack of visual cues. "Up to then," he said later, "you'd always had a commercial announcement, somebody stopping the show and talking, as though he were reading from a magazine. I staged commercials, you could hear the spoons, people clinking cups of coffee, everything acted out" (quoted in Whitman, 1973).

Benton left advertising for good in 1935. During his short agency career, however, he bridged the crucial years from radio's tentative start as a national medium to its mature success. His contributions included having a hand in developing consumer research,⁸ launching some of the most successful network shows of the period (such as *Maxwell House Showboat*), introducing a live studio audience as part and parcel of the acoustic scene, using audience reaction and cue cards, and popularizing the singing commercial.

Much as Benton had come at a crucial moment to capitalize on the need to adapt advertising methods to radio's unique demands, Rosser Reeves arrived in time to adapt radio's conventions to television. An apostle of the hard sell, Reeves created some of "the most mind pulverizing commercials in the history of television" (Whiteside, 1969: 47).⁹ While at the Ted Bates and Co. agency, Reeves was responsible for bringing to viewers vivid demonstrations of how stomach acids burned holes in cloth; how baseballs aimed at the viewer could be stopped in the nick of time by Colgate toothpaste's "invisible shield"; how the bursting of a giant chain symbolized Kools breaking "the hot-cigarette habit"; how even after being fired from crossbows and rifles the Bic pen "writes first time every time"; how Viceroy filter traps catch nicotine and tar; how Anacin, "like a doctor's prescription — not one but a combination of ingredients," stops the pounding of hammers, the "boing!" of springs, and the discharge of lightning bolts that normally go on inside an aching head. Reeves's contribution to the heavier side of television persuasion was the invention of the political spot, on behalf of Dwight Eisenhower during the 1952 presidential campaign.

The move into spot buying in place of sponsorship (\$15.2), another frontier

⁸ He pioneered product acceptability research while with Lord and Thomas, where he was given an accolade that in the light of his subsequent dignified achievements he may have wished to forget. On hearing that Benton was leaving Chicago to set up his own agency, the chemist who had invented Kleenex and Kotex, said to him: "Young man, I hate to see you go. I consider you the world's greatest authority on the sanitary napkin" (Hyman, 1969: 126).

⁹ Most of the material on Reeves in this section is drawn from Thomas Whiteside's *New Yorker* article, "The Man from Iron City."

on which Reeves pioneered, was also typical of his hard-nosed philosophy of selling. He made no attempt to please, entertain, or divert, regarding the television audience as a captive bound to look at commercials in any event. He avoided distractions like pretty girls and humor, sticking grimly to driving home the *unique selling proposition*.

The USP was a catch phrase Reeves adopted to expound his theory of advertising. Any advertisement, he believed, should be totally devoted to the exposition of some special feature of the product that sets it apart from its competitors. For the kinds of marginally differentiated products he usually dealt with (cigarettes, headache remedies, toilet soap, and the like), such special features were not always easy to find. But Reeves had a genius for inventing them. He frequently set up generous research grants so that he could make legally defensible claims that “doctors prove” that his product had some unique feature. Never mind that doctors could have proved the same thing about the competition — Reeves regarded selective omission in proving claims as part and parcel of the art of advertising.

Naturally, the Reeves approach to advertising brought him into frequent conflict with the FTC. His agency handled the liver pills that the FTC finally put off the air and was responsible for the notorious sandpaper test of shaving cream that the Supreme Court declared deceptive (see §18.14). The FTC struck out the “invisible barrier” baseball demonstration for toothpaste.

The FTC’s jurisdiction did not, however, run to the new field of political advertising. The Eisenhower spots consisted of a series of questions and answers, designed to give the impression that the general was talking directly to ordinary people all over America, giving answers to their toughest questions about how he planned to solve their problems when elected president. Actually, Reeves recorded the “answers” before the questions had been asked, putting Eisenhower in front of the cameras for a whole day while he recorded one statement after another. Then he sifted through the throngs of tourists at Rockefeller Center to find suitably typical Americans from various parts of the country who would agree to read questions from cue cards. Film editors did the rest.

Not every colleague in the advertising fraternity approved of Reeves’s imaginative approach to the facts. One advertising executive was quoted as remarking that there were two things wrong with advertising in America: Rosser Reeves. This kind of comment pleased Reeves, whose answer was to point to the remarkable success of his campaigns. He claimed that the animated headache commercial with the hammers and other hardware boosted Anacin’s sales level from \$18 million to \$54 million in less than two years. This meant about a \$12 million increase in advertising billings handled by his agency. “It was,” said Reeves, “like wiring a slot machine to keep paying out a perpetual jackpot” (quoted in Whiteside, 1969: 54).

A man who came to represent the antithesis of Rosser Reeves once had the

job of creative supervisor in Reeves's agency, Ted Bates and Co. After a series of jobs in conventional, old-line agencies, Jerry Della Femina broke away to establish his own agency and become a leader in the "creative revolution." He wrote an irreverent book about his view of the agency business, drawing its title from an anecdote about how he shook up the executives of a staid traditional agency by solemnly proposing an outrageous headline for a Japanese electronics firm: *From Those Wonderful Folks Who Gave You Pearl Harbor*.

Della Femina catches some of the spirit of what copywriters began to call "the now generation." "The establishment is talking to a dying generation," he says of the traditional agencies. "They're not on the same wavelength as the younger kids today" (Della Femina, 1970: 150). His criticism of the traditional full-service agencies is essentially that they are run by people over 35. More specifically, he revolts against specialization that turns the creative worker into just another isolated automaton in an assembly line. To Della Femina, the essence of the advertising business is the mysterious creative chemistry that goes to work when a good copywriter and a good art director are shut in a room together until they come up with an answer to the client's problem. And the answer is a far cry from a cutaway head with animated machinery inside.

Economic Constraints on Programming

To the critic, television is about programs. To the broadcast practitioner, it is mainly about sales. (Brown, 1971: 58)

At this point we might pause to recollect that our overriding goal has been to trace the major influences that have shaped broadcasting in America. We first looked at how the physical nature of the medium imposes limitations, then at the part played by the accidents of history. Now we are about to summarize economic influences before going on to survey social influences — the law's compulsions and the weight of public opinion. This division of subject matter is admittedly somewhat artificial since economic processes operate in a social context. Still, for purposes of orderly exposition, it may be helpful at this point to follow the foregoing analysis of the financial and business aspects of the medium with a summary of the primarily economic influences.

16.1 The price of localism: Marginal stations

The social policies of localism and free enterprise dictate authorization of as many local stations as possible (see §17.7). As a result, stations are allowed to proliferate beyond the market's supporting capacity. The result is an abundance of economically marginal operations.

As business enterprises, broadcasting stations have two peculiarities that affect their ability to withstand adverse economic conditions without lowering their standards: (1) Declining income cannot be countered by equivalent reductions in expenses, as it can in many other businesses; as a licensed medium, broadcasting must comply with minimal engineering standards, maintain a minimum schedule of operations, and otherwise meet externally imposed standards not required of nonregulated businesses. (2) A losing station is slow to die: a broadcast license represents in a sense a kind of lottery ticket; success may always be just around the corner if only the right formula can be found.

Therefore, failing stations tend to hang on long past the point of no return. Someone nearly always turns up to risk investing just a little more money or time on the chance that the license will finally pay off.¹ In their desperation, operators of such stations tend to abandon all programming standards, and to resort to all the undesirable, borderline commercial practices — rate cutting, accepting questionable advertising, overloading programs with bargain commercials, and even such illegal devices as double billing.

The problem of the marginal station has received judicial recognition. Application for a new station in an already saturated market may be answered by opposition from the existing station (or stations) on the grounds of economic injury. The appeals court has held that the commission must give existing stations an opportunity to present proof of such alleged injury — not because the FCC has a duty to protect the commercial interests of licensees but because it must consider whether or not increased competition will “spell diminution or destruction of service,” to the detriment of the public interest (see §17.9).

The general level of commercial broadcasting might be improved if it were possible, without creating even more undesirable consequences in the process, to simply kill off, quickly and painlessly, marginal stations whose incomes cannot support a reasonable standard of program service and advertising integrity. For the damage they do spreads far wider than their own meager coverage areas. The stronger, more ethically operated stations find themselves under pressure to lower their standards too. Gresham’s law — that bad money drives out good — so often applied to broadcast programming, applies equally to all broadcast standards.

Maintaining high standards implies some degree of economic freedom to make appropriate decisions; a manager must be free to say “no” without going bankrupt. The degrees of economic freedom among stations cover a tremendous range. Managers of stations on good channels in rich markets without excessive competition can afford the luxury of integrity. They can turn down questionable advertising, refuse to make under-the-table rate-cutting deals, select program material with the public interest in mind, adhere conscientiously to advertising and program codes, produce good local public service features, and risk reprisals from interests adversely affected by courageous editorials. Managers of marginal stations, unsure of being able to meet their payrolls at the end of the week, may feel they cannot afford the price of integrity.

By and large, the FCC appears to have leaned over backwards in making sympathetic allowances for the business problems of economically weak licen-

¹ An elementary example of marginal station standards: the owner of two small am stations pleaded the pressure of “immediate necessities of operation and meeting the stations’ payrolls with insufficient staff to deal with regulatory matters” as an excuse for not responding to FCC reminders that he had failed to submit renewal applications. One station had six employees, the other seven; the owner was managing both stations and acting as the only salesman (*Broadcasting*, 9 Nov. 1970).

sees. Stations have often accumulated extraordinarily long lists of violations before finally being brought back to book (see §18.10).

16.2 Service to minorities

A broadcasting system dependent on advertising for financial support — and one, moreover, that allows the advertiser and his agents extensive influence over program production and selection — must inevitably reflect the point of view of the business community. Regarded primarily as vehicles for advertising, programs function as means and not ends. This view diverts attention from the intrinsic content and quality of programs, encouraging a reliance on proven formulas, stereotypes, blandness, mass appeal — in short, the “vast wasteland.”

The implications of advertiser influence go beyond the merely negative sense of lost opportunities — the screening-out and leveling-down process of syndication to achieve mass appeal entertainment. Commercially oriented programming tends also to draw a certain picture of the world, a picture reflecting established majoritarian values — the materialism and the life styles of economically dominant culture groups.

Commercial broadcasters must of necessity operate within the confines of the business and political structures of their respective communities. They can hardly be expected to understand — much less program sensitively for — the viewpoints, tastes, and needs of the ghetto dwellers, the disaffected, and other minorities. This media bias is one of the most widely quoted findings of the Commission on Civil Disorders, which analyzed the urban riots of 1967.

The media report and write from the standpoint of a white man's world. The ills of the ghetto, the differences of life there, the Negro's burning sense of grievance, are seldom conveyed. Sights and indignities are part of the Negro's daily life, and many of them come from what he now calls “the white press” — a press that repeatedly, if unconsciously, reflects the biases, the paternalism, the indifference of white America. (National Advisory Commission on Civil Disorders, 1968: 366)

Similarly, a federally sponsored study of violence pointed to the socio-economic bias of the media. “The outstanding characteristics of ideas that have difficulty gaining access [to the mass media] are that they are new, that their proponents lack prominence, and that they threaten the values of the social group to which the broadcaster or publisher belongs” (Baker & Ball, 1969: 67).

One of the ironies, even dangers, of media bias is that ghetto dwellers are among the heaviest consumers of broadcasting. It would be surprising if the contrast between the affluent world of most programming and advertising and the real world of the ghetto did not create tensions. Yet not until violence had indeed begun was any serious attention paid to the fact that broadcasting, often

overtly as well as merely by implication, had systematically reinforced local racial, economic, and cultural prejudices.

For a decade broadcasting has been the focal point of a mounting concern on the part of minorities over mass communication's failure to portray sympathetically the values, attitudes and behavior of blacks, Indians, Spanish-surnamed Americans, orientals, Jews, and similar groups.

Broadcast advertising and programming are often insensitive to people's needs and desires. Television and radio can be peculiarly vicious in trampling on the dignity of minority citizens who are at the bottom of the economic heap and not greatly valued as consumers. Broadcasting has glorified material standards and creature comforts and has raised the expectations of the poor, but has done little to help poor people achieve the prospects it dangles before them so alluringly. (United Church of Christ, 1970: 3)

Neglect of ethnic minority interests is a highly visible case in point. But it would be a serious misconception to define the problem of service to minority interests in solely ethnic terms. In truth, the entire public is made up of minorities. As the President's Task Force on Communications Policy said in 1968, "Ours is a pluralistic society, in culture as well as in ethnic origins and life-styles of its people. A medium of expression as pervasive as television should reflect and enrich this cultural pluralism" (1968: VII-3).

Interests vary infinitely, and most individuals have linkages with many groupings — neighborhoods, social clubs, school classes, churches, hobbies, political parties, occupations, sports, and so on. Taken singly, most of these associations represent minority group interests. One of the best analyses of this dilemma ever published appeared in the Pilkington Report, a British government white paper that said, for example,

Some of our tastes and needs we share with virtually everybody; but most — and they are often those which engage us most intensely — we share with different minorities. A service which caters only for majorities can never satisfy all, or even most, of the needs of any individual. It cannot, therefore, satisfy all the needs of the public. (Great Britain, 1962: 16)

16.3 The quiz scandals

The search for innocuous but nevertheless popular programming constantly edges commercial broadcasting into types of entertainment that systematically capitalize on human weaknesses. In the early 1950s, a craze for "giveaway" programs swept television. The giveaways were followed by a flood of quiz contests later in the 1950s: *The Sixty-Four Thousand Dollar Question*, *Twenty-One*, *The Big Surprise*, and countless imitations. On a single day, five new quiz shows were introduced.

In dramatic confrontations between chorus girls expert on astronomy, clergymen expert on love stories, shoemakers expert on opera, college teachers

expert on everything, contestants could win — or fail to win — thousands upon thousands of dollars in a single night. “Isolation booths” for contestants heightened the drama and the appearance of authenticity. On-camera armed guards and bank vice presidents opened strong boxes to remove sealed envelopes containing the golden questions. A Northwestern University English professor “supervised” their preparation. And the caged contestants raised the tension still higher with lip-biting, brow-wrinkling, eye-rolling histrionics.

There was only one catch: many of the contests were rigged. Contestants often knew in advance what to expect. They won or lost in accordance with carefully laid plans to maximize suspense and were coached on how to act out agonized brain racking to best effect.

As early as 1956 hints of “quiz fixing” began to surface. In 1957 a feature *Time* article mentioned that producers “may be taking great risks” to whip up flagging ratings. “The producers of many shows control the outcome as closely as they dare,” wrote *Time*, carefully adding “ — without collusion with contestants (22 April 1957).

Collusion was in fact the name of the game. In the midst of pious disclaimers from package producers and network officials, the New York district attorney started an investigation in the fall of 1958. Ultimately, 10 persons pleaded guilty to having perjured themselves in denying complicity in quiz rigging. The first official confirmation of fraud was not made until July 1959, and by that time the quiz craze had already run its course — after earning millions for drug and cosmetic sponsors (Weinberg, 1962: 46).

For television, 1959 became known as the “year of the scandal.” A report by the attorney general to the president, congressional hearings, and an FCC investigation brought out much latent hostility toward television, stimulating renewed attacks by long-standing critics and even by its friends. Congress considered a bill empowering the FCC to license networks and to impose license suspensions and heavy fines for violating regulations. By the time the bill reached the president for signature its teeth had been blunted. The maximum penalty had been reduced to a wrist-slapping \$10,000 maximum fine and/or one year in jail. The network licensing proposal had quietly evaporated.

Big-money quiz shows disappeared from the air. After a decade, however, a revival began and by the 1970s the giveaway programs approached their former frenzied pitch, albeit hedged with carefully worded disclaimers and disclosures. These cryptic statements, often meaningless to the ordinary viewer, complied with the letter, if not the spirit, of the law against deception.

The quiz scandals dramatized divergent points of view as to what broadcasting is all about. The communications act, as well as most serious observers of the social scene, regarded broadcasting as an important means of communication charged with serious social responsibilities. Advertisers, their agents, and many broadcast officials, on the other hand, regarded broadcasting as just another branch of show business. To the first group the quiz deceptions seemed

a massive betrayal of public confidence, a symptom of widespread moral decay. To the second group they seemed no more fraudulent than a stage pistol that fires blanks instead of lethal bullets. Many of those directly involved seemed genuinely amazed that the simulated spontaneity and rigged outcomes should be regarded as any more seriously misleading than stage make-up.

The public seemed equally divided. Opinion surveys taken soon after the disclosure indicated that although many people felt outraged at having been so egregiously taken in, many others still approved of the quizzes and a quarter of the respondents saw nothing wrong with the deception (Kendrick, 1969: 130).

Ambivalence about the nature and responsibility of broadcasting and broadcasters goes back to the industry's very beginnings. David Sarnoff's original vision in 1922 equated the first national network-to-be with "a public institution of great value in the same sense that a public library, for example, is regarded today." The advertising agency men who later took charge of most of radio's network commercial programming equated it with advertising copy.

The attitude that made the quiz rigging possible had always been part of broadcasting; it just happened that the extraordinary notoriety of the quiz programs made people pay attention to something they had not theretofore seriously considered. Bill Stern, a pioneer radio sports announcer, ingenuously volunteered a perfect illustration of the show-biz view of broadcasting. In explaining why much of the "reporting" on his popular *Colgate Sports Newsreel* consisted of sheer fabrication, he wrote,

I am certain that no harm was done to anyone through our recounting of these admittedly dramatized stories, which were aimed solely at entertaining those who listened to my show. . . . I was living in the make-believe world of the theatre and the license I took was basically harmless. Diversion was my stock in trade and I thrived, rightly or not, on the same fanciful principles used by other communications media which lift audiences out of a humdrum, monotonous existence of mundane fact and insipid incident. (1959: 105)

16.4 Blacklisting

If the advertising viewpoint tends to encourage escapist programming, it also tends to actively discourage more substantial programming. Every program topic of any substance stimulates the partisan emotions of one group or another. Controversy is inevitable and ordinarily healthy. In commercial broadcasting, though, controversy can have an unhealthy, debilitating effect on programming when advertisers overrespond to inconsequential or ill-founded opposition.

The hypersensitivity of sponsors has affected programming from the early days of broadcasting. One of the notable radio personalities of the 1930s was Alexander Woollcott, whose *Town Crier* was sponsored by Cream of Wheat. The sponsor asked Woollcott to stop criticizing Adolf Hitler. When Woollcott

declined, the company canceled its sponsorship (Barnouw, 1968: 35). Decades later, the sponsor of a *Playhouse 90* drama about the Nuremberg trials of Nazi war criminals deleted a reference to the killing in gas chambers. The sponsor? The natural gas industry (Minow, 1964: 14).

Time and again, sponsors have caved in to pressures, not daring to take the time and trouble to establish their bona fides. The Xerox Corporation, a rare exception, stood up to attacks on a series of specials about the United Nations that it sponsored. The John Birch Society urged subscribers to its bulletin to attack Xerox for lending support to the United Nations, that “instrument of Soviet Communist conspiracy” (Rubin, 1967: 5). On cue, 61,000 anti-U.N. letters arrived. This would have been more than enough to persuade most advertisers to drop the project instantly. But rather than tamely accepting the letter attack at its face value, Xerox did some analyzing. On closer examination it appeared that the 61,000 letters had actually been written by only about 16,000 different people. Waiting a little longer, the corporation eventually received about 14,500 letters of more spontaneous origin that approved their program choice. Xerox went still further, employing a research firm to make an objective survey of public reaction. The public voted 10 to 1 in favor of the programs. Most advertisers, however, have neither the time nor the money — even if they do have the will — to stand up to pressure groups long enough to find out whether or not they represent a responsible and significant segment of public opinion.

During the late 1940s and early 1950s there emerged a more sinister aspect of commercial broadcasting’s vulnerability to pressure — the systematic blacklisting of performers, writers, directors, and others to punish them for holding communist or left-wing views. One of the most publicized cases was that of Jean Muir, an actress in a television series sponsored by General Foods. On the strength of a few complaints about Miss Muir’s politics (estimates varied from 20 to 200), the company summarily canceled the actress’s contract at a cost to itself of \$10,000. Among the “subversive activities” charged against Miss Muir was that she sent a telegram congratulating the Moscow Art Theater on its fiftieth anniversary.

A few cases of such dismissals received wide publicity in the period 1949–1951. Then, according to a study of blacklisting commissioned by the Fund for the Republic, the networks and major agencies “institutionalized” advance screening procedures to avoid the kind of publicity the Muir case provoked (Cogley, 1956: 23, 42). Top-ranking broadcasting executives were assigned to devote their full energies to combing through published lists and compiling their own “black,” “gray,” and “white” lists, negotiating with “experts” on communist infiltration, hearing appeals from victims, and issuing “clearances.” Scores of writers, performers, newsmen, and other creative people in broadcasting suddenly found themselves dismissed, like Jean Muir, or else

mysteriously unable to find work. Careers of many innocent people were permanently damaged. Some committed suicide.

Among those who benefited from this extraordinary usurpation of power were the publishers of *Counterattack: The Newsletter of Facts of Communism*, which produced the most notorious of the blacklists in 1950, entitled *Red Channels: The Report of Communist Infiltration in Radio and Television*. Even the flimsiest connection with a suspect meeting or movement or benefit performance was enough to earn a place on such lists.

Proving that listings were false (as many of the accused did), showing that the circumstances were entirely innocent (as many did), or disclaiming any communist leanings (as many tried to do) did not suffice to “clear” names once clouded. Mere innocence was not enough. The private anticommunist “investigators,” “experts,” and “consultants” demanded that suspects undergo a groveling purge of “dangerous neutralism.” AWARE, Inc., published *The Road Back: Self Clearance*, in which it stipulated that in order to clear their names, those guilty of having been accused should actively “support anti-Communist persons, groups, and organizations” and “subscribe to anti-Communist magazines, read anti-Communist books, government reports and other literature.” It even suggested that religious conversion would be regarded as a favorable sign of political redemption (quoted in Cogley, 1956: 136).

Although secretly disbelieving in this mummery, the broadcasting industry knuckled under to this reign of intimidation with scarcely a murmur of public protest. Of industry members responding to a survey commissioned by the Fund for the Republic, only 11 percent considered the blacklisters as “sincere and patriotic.” Others referred to them variously as “misguided,” “crazy,” “profiteers,” and “pathological.” Sixty-seven percent of the industry members interviewed believed the blacklisters were motivated by professional jealousy. But no one wanted to be quoted by name (Cogley, 1956: 242).

Among the unions, only Actors’ Equity took an antiblacklisting stand. The American Federation of Television and Radio Artists was almost torn apart by controversy. Even though a problacklist group of officers proved to represent only a minority of the members, AFTRA still failed to come to the aid of its accused members, who were facing the most serious crises in their careers.

One of these was John Henry Faulk, a successful radio personality on CBS, who helped to organize an antiblacklist but anticommunist ticket for AFTRA and was elected second vice president of the New York local. The problacklist faction included several officers of AWARE, Inc. Following the defeat of its slate in the AFTRA election, AWARE published a report accusing Faulk of seven instances of association with activities it considered politically suspect. Some time later CBS discharged Faulk while he was out of the country on vacation. He found his career abruptly at an end (see Faulk, 1964).

In 1956 Faulk brought suit against AWARE, Vincent Hartnett (one of its

founders), and Lawrence Johnson, a Syracuse supermarket operator active in the vigilante-style movement. Faulk alleged a malicious conspiracy to defame him. The trial devastatingly exposed the malicious, self-serving, and specious character of the blacklisters. Every one of the seven charges against Faulk was proved false. The peculiar viciousness of the libel so impressed the jury that on its own motion, it awarded even more damages than Faulk asked — a total of \$3.5 million. “This unprecedented award,” said the presiding judge, “was evidently intended to express the conscience of the community, represented by this jury . . . concerning a matter of fundamental rights” (quoted in Nizer, 1966: 459). On appeal, the defendants received another stinging rebuff when a five-judge New York appellate court unanimously upheld the guilty verdict, remarking that “the acts of the defendants were proved to be as malicious as they were vicious.” The court did, however, reduce the damages to a more reasonable \$550,000 (19 A.D. 2d 464, 1963).

With the benefit of hindsight, one can find indications that their sense of economic vulnerability made advertisers, networks, and agencies give in to a tyranny that would have collapsed in the face of a firm commitment to usual American standards of evidence, due process, and fair play. The Faulk verdict came too late to be of practical help to the chief victims. But it did expose in retrospect the incredible flimsiness of the professional blacklisters’ ramshackle guilt-by-association edifice.

Louis Nizer, Faulk’s lawyer, concluded his story of the case by saying, “One lone man had challenged the monstrously powerful forces of vigilantism cloaked in super patriotism” (1966: 464). Yet Nizer’s own masterful dissection of the defendants’ motives and methods proved not their power but their pitiful weakness. What made them seem monstrously powerful was the response of the people in the advertising companies, agencies, networks, and stations: they simply surrendered to pressure without firing a shot.

There were honorable exceptions. The late Chet Huntley, for example, then a Los Angeles news broadcaster sponsored by a coffee company, was threatened with a boycott of his sponsor’s product because he spoke favorably of UNESCO and unfavorably of Senator Joseph McCarthy of Wisconsin. Huntley’s supporters organized a counterboycott, and the sponsor stood firm. Gypsy Rose Lee, attacked for alleged association with four subversive groups, produced a list of about 300 benefits she had performed and asked how she could possibly have investigated the political complexion of every one; her network, ABC, refused to act without more substantial evidence, and none was forthcoming (Cogley, 1956: 88, 24). One of Faulk’s libelers, the chain store operator, in concert with a Syracuse, N.Y., American Legion post, managed to terrorize Madison Avenue with threats of boycotts; yet the local Syracuse broadcasters simply decided to ignore any such charges unless substantiated with more compelling evidence than the blacklisters usually brought forth.

Even in the Muir case, despite its extraordinary notoriety, had General Foods

merely ignored the charges against her, economic repercussions on the company would probably have been minimal. In the midst of all the publicity, General Foods itself commissioned a Gallup opinion survey. Less than 40 percent of the sample had even heard of the case, and of those who had heard of it, less than 3 percent could tie it in with the correct sponsor (Miller, 1952: 46).

In rebuttal the advertiser may well ask what rule of business requires him to take even a slight risk of this sort. The advertisers' position was expressed in the Fund for the Republic study by the president of the American Tobacco Company:

When a company such as ours uses its corporate funds to sponsor a program on television or radio, it does so with but one purpose — to reach the largest possible number of the public as its audience, and to present its products to that audience in the most favorable light. . . . We would be wasting shareholders' funds were we to employ artists or other persons who, under company auspices, are likely to offend the public. (Cogley, 1956: 101)

The problem may be precisely that broadcasting is not merely a business. We return once more to the differences in concepts of the broadcast medium and its responsibilities. Are economic motivations, on the record, adequate moral bases for the conduct of a broadcasting service? Cogley concluded the Fund for the Republic study of blacklisting by pointing out that when broadcasters took on the role of judging political guilt and innocence, they extended themselves well beyond the realm of economics:

If the American businesses which together comprise the radio-tv industry are to assume the burdens of government, they must also assume responsibility for dispensing justice. They cannot have it both ways. They cannot argue on the one hand that economic considerations come before all else, and, on the other, speak glowingly of the contribution "business statesmanship" is making to a business-oriented democratic society. (1956: 209)

16.5 Network clearance

We turn now to clearance in another sense — the process whereby an affiliate makes time available for network programs. Clearance is an essential feature of the network system of broadcasting in America, and the failure to understand clearance has led to a great deal of misunderstanding about the role of the network.

In §12.3 we reviewed the economic relationships between networks and their affiliates, which are governed by FCC rules that forbid the networks to coerce stations to clear time. The FCC intended to ensure that licensees would be free to reject network programs they judged to be "unsatisfactory," "unsuitable," "contrary to the public interest," or in conflict with more important programs obtainable from other sources. In practice, affiliates usually invoke the rules either to cater to local prejudices or, more frequently, to substitute more profit-

able programs. This means refusing to clear for nonentertainment programs or for the occasional “controversial” entertainment program. Sometimes stations evade the onus of noncarriage by recording network documentaries and the like and rescheduling them at the least salable times. This improves a station’s clearance record — at least until someone checks its logs.²

ABC has always had difficulty in competing effectively with the television prime-time evening news of CBS and NBC. A survey by the trade magazine *Variety* showed that 23 prime ABC affiliates failed to carry its network’s evening news, filling the time mostly with feature films and game shows. These defections deprived the news program of an estimated 14 percent of the audience it might otherwise have had. Commenting on the problem of clearance, the magazine said, “It’s one of the melancholy realities of the American television system, and symptomatic of the buck-hungry character of it, that all the stations will clear the network’s popular entertainment hits . . . but that many will deny their viewers the network news service if it’s going to run third in the market” (*Variety*, 1971).

Naturally, ABC fared even worse with documentaries, which are notorious for producing not only low ratings but frequently controversial backlash as well. At times only 30 percent of ABC’s affiliates accepted its documentary series *Scope*, and others carried it only on a delayed basis at less desirable times (Small, 1970: 40). Edward R. Murrow’s biographer estimates that on the average only about 45 percent of CBS’s affiliates cleared time for Murrow’s news documentaries, which almost invariably stimulated controversy. He pictures the networks caught in the middle between reciprocating economic pressures. “The demand of the affiliates for more mass-appeal programs, with the threat of replacing network offerings by their own canned fare, forms one of the arms of the pincers within which network programmers operate, the other arm being the demand of the stockholders for more dividends” (Kendrick, 1969: 17).³

In order to get any clearance at all for controversial news documentary programs, the networks rely on pressure from the FCC. For although on the one hand the FCC ensures the affiliates’ liberty to refuse clearance, on the other hand it also imposes on licensees the obligation to carry a certain amount of

² Although the emphasis in this section is on economic self-interest as the motive for nonclearance, it should be acknowledged that there can be other motives as well. Boston’s WCVB, successor to WHDH, a television station that lost its license in a highly publicized FCC decision (see §18.10), promised to provide a substantial amount of local programming in prime time. CBS, unwilling to sacrifice so much of its access to a major market, switched its affiliation. And even ABC is said to have considered accepting a uhf station as its affiliate rather than contracting with WCVB (Smith & Prince, 1974b). Thus, even if network-affiliated stations could afford to offer quantities of local programming in prime time, they would be constrained from doing so by the prospect of losing their network affiliations.

³ The Murrow programs could be cited as a rebuttal to much that has been alleged here about the restrictive effects of economics on programming, were it not that Murrow himself finally lost faith in the system. In the end he withdrew, disillusioned, from commercial broadcasting. His successor at CBS, Fred Friendly, did the same and has since turned his energies to the noncommercial field.

serious programming dealing with public issues of importance. After an intensive study of network news operations, an observer concluded that FCC influence was of key importance to the survival of network news and public affairs programming. He quotes an NBC executive as saying that if it were not for the FCC, "we couldn't line up enough affiliates to make a news program or documentary worth while" (Epstein, 1973a: 56).

Two notable examples of nonclearance owing to controversial material in entertainment programs occurred in 1973, each illuminating different aspects of the problems of economic pressures on network programming judgments. In March CBS canceled a scheduled telecast of a play called *Sticks and Bones*, one of a series of prestigious productions planned for CBS by Joseph Papp, the outstanding theatrical producer responsible for the New York Shakespeare Festival. In the face of an unprecedented level of affiliate defections, William Paley, chairman of CBS, himself postponed the performance on the network.

The play depicted, in harrowing and violent terms, the poisoned relations between a blinded Vietnam veteran and his uncomprehending family. By chance, its playdate fell at the very moment Vietnam prisoners of war were arriving home to star in a real-life drama staged by the government. The administration maximized the political benefits it hoped to gain from the POW release by arranging for the televising of POW arrivals and their joyful reunions with their families in an atmosphere of triumphal victory and patriotic enthusiasm. The bitterness of the contrast between these happy televised scenes and those in *Sticks and Bones* was too strong for many affiliates to stomach.

Four months previously an administration spokesman had publicly warned licensees to be more critical of network offerings. He told stations they could "no longer accept network standards of taste, violence, and decency in programming," urging them to "jump on the networks" (Barrett, 1973: 232). Doubtless these signals from Washington prompted, or at least reinforced, some affiliates (though by no means all) in their adverse reaction to *Sticks and Bones*.

About six months later, after the euphoria of the POW returns had subsided, CBS rescheduled the play. Half its affiliates still refused to clear for it, and nearly a quarter of them carried it only on a delayed basis. Not one purchaser for the participating spots could be found. The play went off without incident. By then it seemed relatively tame. Most critics agreed it was not a particularly good production, but practically everybody granted that it was "abrasive."

The second example of conspicuous failure to obtain clearance for an entertainment program illustrates another kind of force that exploits the economic vulnerability of broadcasting. Two episodes in the CBS comedy series *Maude* dealt with a decision of the title character to have an abortion. The abortion episodes, originally telecast late in 1972, came up for rerun in August 1973. The Catholic Church led a highly organized campaign to persuade CBS to cancel, or affiliates to refuse clearance for, the reruns of the two episodes. CBS would not back down, but about 20 percent of the affiliates complied with the

boycott. The industry management trade journal headed its editorial on both these cases "The Way It Should Work," saying in part, "CBS-TV did exactly what it had to do. Not presenting them would unquestionably have been easier but, we hurry to add, timid and, in the case of *Maude*, dangerous as well" (*Broadcasting*, 27 Aug. 1973).

One lesson to be drawn from these examples is the importance of a little-appreciated dividend of the existence of strong national network organizations. Vulnerable though they are to economic pressures, they can nevertheless stand up to them more effectively than can many individual licensees. As a *TV Guide* writer put it,

Individual station executives tend to speak more timidly, which is understandable. A pressure group can usually bring more economic power to bear against a lone station than against a network — especially if the group's members make up a big proportion of that station's viewing audience. Thus, you will often see a network standing up to the heat while some of its affiliated stations melt like butter in a frypan. (Gunther, 1974: 5)

Another insight to be gained from a study of the clearance process is that the networks are not the all-powerful dictators that spokesmen for the Nixon administration and other critics have tried to make them out to be. Nor can the wasteland quality of their programming be blamed on unilateral network decisions. Writes Les Brown,

In truth, the local outlets are as much to blame as the networks for the caliber of prime-time programming. A chief reason that quality shows have failed over the years has been the unwillingness of stations to clear them; it was not that the shows were rejected by people but that they were prerejected by stations. (1971: 359)

An FCC chairman once proposed requiring affiliates to justify to the FCC any rejections of network public affairs programs. Noting specific examples of failure to clear, other commissioners wrote that they believed affiliates "cannot refuse to carry network news and public affairs in the name of 'local autonomy' and then refuse to provide this programming from any source whatever" (14 FCC 2d 18, 1968).

Without some such countervailing pressures on affiliates from forces other than economic, it is unrealistic to expect any far-reaching reform of network programming policies. In the final analysis, the affiliates hold the trump cards. Fred Friendly, Edward Murrow's successor as news head for CBS, concluded,

The real paradox of television is that if by some miracle the network shareholders and officers suddenly determined to use only good taste, good judgment and their conscience, to guide their choice of programming, the power of the local stations would overrule them. Moreover, a network operating with an unbridled sense of responsibility would soon see its affiliates seceding to another network, perhaps even a new one, that traveled the low road to ratings and revenues. The harsh fact is that most affiliates are too profitable under present circumstances; mining gold from the ether as they are, they have no incentive to tamper with the magic results of "giving the people what they want." (1967: 274)

"Giving the people what they want" is, after "public interest, convenience, and necessity," the most-discussed phrase in the literature of broadcasting, and it requires a more detailed examination.

16.6 Economics of "cultural democracy"

The time-honored rejoinder of spokesmen for commercial broadcasting, whenever the quality of its programming comes under attack, has been to shift responsibility to the audience. The argument runs: We broadcasters cannot compel people to listen or watch; they cast their vote democratically with the tuning dial; we simply give them what they want. This is cultural democracy — free exercise of the franchise, popular choice, and majority rule.

Research does seem to bear out the contention that people generally like what they are being given. Program ratings attest to huge audiences for existing program fare. Inquiries as to whether people would rather have something different usually produce evidence of satisfaction by the majority with what is already available.

Generally speaking, the more education people have the more they express dissatisfaction with what they get. However, research indicates that when it comes to television consumption, people tend to say one thing and do another. For example, two studies of audience attitudes, one done in 1960 and another replicating it in 1970, compared samples of viewers in terms of their expressed preferences as opposed to their actual viewing as recorded in diaries. What they said they preferred seemed to have little effect on viewing choices. Speaking of the two studies, the researcher concluded, "There is a compelling consistency among the findings. . . . The characteristics of viewers, their attitudes toward television, and what they say they want on television — none of these factors seems to play a very important part in what people actually watch" (Bower, 1973: 141).

Broadcast practitioners are, therefore, usually disillusioned by attempts to please the better-educated segments of the audience. Canceling routine entertainment always brings a deluge of complaints from people who would rather see *Batman* than even so historic an event as man's first walk on the moon, with few compensating calls of praise. When "better" alternatives are offered, most people still choose light entertainment.

This is not simply a reflection of the quality of American culture. The same tendency has been observed all over the world whenever audiences have been given a free choice. In Great Britain, for example, the introduction of commercial television alongside the BBC resulted in wholesale audience defection from the BBC's traditional fare — and this despite the BBC's opportunity to use its earlier years of monopoly to educate public taste.

Studies carried out in England in 1955, 1956, and 1960 showed clearly how exposure to more demanding and "better" programs is avoided once there is a choice. . . . Crime and detective series, panel games, Westerns, drama, and variety

remained high, while information programs and documentaries lost two-thirds to three-quarters of their viewers. Five years later, the trend had become even more marked. (Himmelweit, 1963: 46)

Viewers prefer precisely the same types of sports and entertainment programs on cable and subscription television as they already see on conventional television. This accounts for the broadcasters' concern about the prospects of program siphoning if pay cable is given unrestricted opportunities for growth (§11.3).

In short, much in the practical experience of commercial broadcasters encourages "giving the public what it wants" and justifying this course as cultural democracy in action. Their argument in effect holds that economic incentives suffice to control the nature of the broadcast program service. Listeners/viewers occupy the driver's seat because they can turn off the set, and if enough people turn off the set they effectively turn off the money too. Most practical broadcasters regard faith in consumer sovereignty as an adequate determinant of programming. They see no reason for apologizing to those who would impose program standards enunciated by some voice other than the *vox populi*.

Yet even in the marketplace of tangible goods (as contrasted to that of ideas), a willingness to buy does not necessarily justify the sale of a product. People may want things that are potentially harmful to them and to those around them — drugs, firearms, and the like. Given the special public service nature of the medium, for broadcasting to cater only to the wants and to ignore the needs of society seems difficult to justify as a responsible policy.

How does one find out what people want? By audience research — but as was shown in §13.5, research deals not with actual wants but only with tuning behavior, from which the wants must be inferred.

Whatever significance attaches to tuning behavior, it tells us only about the past. People do not go on wanting exactly the same thing in the same form forever. Someone has to take the next step into the future — someone innovative and venturesome, not someone shackled to last month's statistics.

In §14.5 we saw that the producer, not the consumer, must of necessity be the innovator. Broadcast programming presents an analogous producer-consumer relationship. Inevitably, most consumers will say they are satisfied with present programming — they cannot really imagine alternatives. People generally accept and learn to like what they get. The principle of LOP rules — the least objectionable program acquires an audience, regardless of the program's merits (§13.12). As an advertising man once put it, programming guided solely by ratings leads to no new places.

If Christopher Columbus, the well-known sailor from Genoa, had applied modern advertising research methods to his proposed voyage, a consumer jury test would have told him in advance that the world was flat, depth interviews with expert seamen would have revealed the impressive monsters that awaited him hungrily at the end of the sea; motivational studies among his crew would have shown that

they were only interested in money; Ferdinand and Isabella would have cancelled the appropriation; America would never have been discovered, and you would all be *Indians*. (Brower, 1955)

Nor does the political analogy of voting-with-the-dial shape a more satisfactory version of cultural democracy. In the first place, democratic elections involve more than a plebiscite on the supreme leader. “Cyclops” in the *New York Times*, complaining of the cancellation of a program because ratings said it reached a mere 20 million people, wrote: “‘The’ public speaks, and the common denominator goes to the White House. But at the same time all the little publics elect congressmen to protect and reflect their special interests. In the government of TV entertainment, however, there are no congressmen, and we get a tyranny of the common denominator” (9 Dec. 1973).

Moreover, in democratic balloting the vote does not decide every future issue. The voters expect their representatives, once elected, to use responsible judgment on the issues that come before them, not to act as automatons wired into a polling computer.

In a genuine democracy, the losing side does not lose its rights; minorities continue to be served. Governance of broadcast programming by the quantitative criteria of audience research “votes,” however, ignores the rights of minorities, reduces programming decisions to the simple “yes-no” of the plebiscite, and results in the bland, lowest-common-denominator type of programming that earned the “vast wasteland” epithet.

The problem, as discussed earlier, is that economic imperatives invariably drive the networks and stations to maximize their audiences (§13.8). A perfectly respectable audience in terms of a specific program may be a disastrously inadequate audience in terms of the competitive situation. Critics praised the New York Shakespeare Festival company’s 1973 production of *Much Ado About Nothing* on CBS. It drew an estimated audience of over 6 million households — a spectacular success for a Shakespearean play. But that was less than 10 percent of the television households; it ranked 60th in the list of the 64 prime-time programs. As *TV Guide* editorialized, “It’s nice to know that people in more than 6 million homes were exposed to a superior production of a Shakespearean play. But it must be discouraging to people at the networks, who want to do more programs of this kind, to realize that so many viewers — more than 90 percent of the potential audience — decided not to watch” (7 April 1973).

16.7 Economic constraints on public broadcasting

Simply eliminating the advertiser does not eliminate economics. It still costs a lot of money to build and run a television station, and to isolate the recipient of large amounts of money from the influence of the source is notoriously difficult. Whether the funds come from advertisers, subscribers, local or federal

taxes, foundations, auction sales, or program production contracts, economic influence flows from the source, even though the degree and kinds of influence may vary widely.

For example, the foundations that, next to tax sources, have provided the largest share of educational broadcasting support have well-defined goals in mind. Naturally, they do not hesitate to exert influence on grant recipients to further those goals. During the critical first years of educational television, its chief foundation support came from the Fund for Adult Education. The Fund's "areas of concern" — the American heritage, social anthropology, international understanding, and community self-development — automatically became educational television's areas of concern (Powell, 1962: 70). A Fund-sponsored survey of this period declared,

Out of the Fund's own philosophy of adult education arose a requirement . . . that a reasonable proportion of the programming should be in the area of *adult education in the liberal arts and sciences*. The [Educational Radio and Television] Center was given the corresponding mandate, that this should be the area of its program production for the stations; and in a high proportion of cases the only "liberal education" that the stations offered in their early years was that furnished by the Center. . . . The fate of ETV in the late '60's is in large part bound up with the question whether school and college broadcasting will take it over. The adult beachhead fortunately was the first one established; and its survival, and extension farther into the field of battle, will be essential in preserving ETV as a social force rather than merely a visual aid. (Powell, 1962: 70)

In short, the economic power of the Fund played a key role in determining the very nature of public broadcasting.

In 1963, the Ford Foundation announced a major increase in its funding of NET, at that time the educational television network center. "With the grant, the Foundation asked the Center, and the Center agreed, to reduce its package [of network programming] to five hours of new programming a week, at least half of which would be in the area of public affairs, and to devote its resources to a television program service of high quality" (Jauch, n.d.: 11). Naturally, NET complied with this requirement.

From its inception, the noncommercial network experienced problems of clearance. One station rejected an episode in the *Forsythe Saga* series; some at first refused to carry *Sesame Street* because of the prominence of blacks in the cast; more than half the stations turned down a documentary about Fidel Castro; five rejected "Who Invited Us," a documentary about American participation in past wars that to some was too critical of American militarism; the entire Alabama state educational television network was accused of refusing to clear such network programs as *Black Journal* and *Soul* (and lost its licenses in consequence of this and other actions, as noted in §18.12); and in 1972, as mentioned, stations in Arkansas and Mississippi refused to carry "VD Blues," a

highly praised documentary on venereal disease that was credited with persuading thousands of young people to seek medical assistance.

Such refusals to clear time for the public network arose primarily from local pressures. In the season just prior to the 1972 elections, however, national politics took a hand in triggering clearance refusals. Events of the critical 1970–1971 season, the first season under the Public Broadcast Service network banner, were summarized in the Columbia University-Dupont series of broadcast journalism surveys (see Barrett, 1971: 62). A symptomatic example was PBS's deletion of a 12-minute episode from *The American Dream Machine* in the fall of 1971. The deleted episode was a minidocumentary on the infiltration of radical domestic organizations by FBI agents whose job was to encourage the organizations to commit crimes. Stories about such infiltration had already appeared in the press. The FBI refused to participate in the program or to make any statement on its contents.

PBS cut the FBI sequence before releasing *Dream Machine*, infuriating the producing organization, WNET-New York, and substantially contributing to the internal confusion of public broadcasting during this period. The New York station later ran the offending piece, along with a discussion on freedom of expression, and the entire package was offered to the network. Several years later the Justice Department itself publicly admitted that the FBI did in fact have such an infiltration policy at the time.

Of somewhat more substance was the case of a full-scale documentary, "Banks and the Poor," which criticized the role of banks and publicized the names of nearly a hundred members of Congress who voted on banking legislation despite their interest in banks. Some even served on the committees responsible for banking legislation. PBS warned affiliates that there might be repercussions, and several stations refused clearance, some as a direct result of overt pressure from local bankers. And there have been other, murkier episodes of planned programs that never got on the air, such as a Ralph Nader critique of advertising and a Woody Allen satire on politics (see Powledge, 1972; Millard, 1971).

It began to seem that public broadcasting could turn out to be even more susceptible to special interest pressures than the commercial system was. "Banks and the Poor," reported the Columbia University-Dupont survey,

raised a painful suspicion that, while commercial television's top echelons — supposedly with nothing but profits in mind — had fought for editorial independence of its news and public affairs divisions against the highest powers in the land, its counterpart in public television seemed to wilt before any outside disapproval was registered and continued to retreat in the face of an anticipated threat only weakly realized. (Barrett, 1971: 69)

After adopting its program-cooperative method of network operation in 1974 (see §10.11), the public broadcasting network no longer depended on clearance

in the same way as the commercial networks. The loss of liberalizing pressure from the national network organization, as suggested in §10.11, deprives public broadcasting of an important asset.

Public broadcasting stations, though free from direct advertiser pressure, nevertheless depend for financial support on the same political and economic power structure as commercial broadcasting. The identity tends to be closest for educational stations licensed to local school boards and state educational systems and less close for stations licensed to broadly based community foundations representing a wide range of interests and deriving financial support from a variety of sources.

One would be hard put to find a television equivalent, for example, of the Pacifica Foundation stations, a group of noncommercial listener- and foundation-supported fm radio outlets noted for their provocative programming policies (§9.12). These policies have repeatedly brought the stations into conflict with elements within their communities and have even occasioned a congressional investigation (see Senate CJ, 1963). The FCC's statement on renewal of the Pacifica licenses in 1964, after it had considered complaints against the stations' programming, has been called "probably the strongest ever issued by the Commission to that time defending the right of a station to air provocative programs" (Stebbins, 1970: 22). In dismissing complaints against Pacifica, the FCC relied on a provision of the communications act charging the commission with "promoting the larger and more effective use of radio in the public interest" (§303, g). Said the commission,

We recognize that . . . such provocative programming as here involved may offend some listeners. But this does not mean that those offended have the right, through the Commission's licensing power, to rule such programming off the air-waves. Were this the case, only the wholly inoffensive, the bland, could gain access to the radio microphone or the TV camera. (36 FCC 149, 1964)

Little that is provocative and likely to offend can be expected from commercial broadcasting, no matter what pronouncements and rules the FCC makes. Precisely because noncommercial broadcasting escapes this immediate dependence on advertisers, it was expected to be able to schedule provocative programming.

To obtain that freedom, public broadcasting, no less than commercial, needs a strong network organization that is capable of withstanding some of the pressures that overwhelm the local stations. Such a network would not deprive local stations of their autonomy. Instead it would help them preserve it by giving them support against total domination by local special interests.

Support is also needed against domination by national special interests, in both the executive and the legislative branches. This requires a system of federal financing that exempts public broadcasting from the annual budgetary

tug of war. An economist observed when the Corporation for Public Broadcasting first came into being,

It is said that nothing is so timid as a million dollars, but I would guess that a bureaucrat dependent on a Congressional appropriation can offer a million dollars a lesson in timidity. How far a Public Television Corporation can be insulated from this timidity is a question of fact for political science. The best way to find out is to try. (Alexander, 1968: 63)

The trial so far indicates that the insulation is not yet thick enough.

PART FOUR

**Social Control
of Broadcasting**

Law of Broadcasting

In the previous chapter we touched on one of the enduring issues in the debate on broadcast policy: To what extent should economic influences be left alone to determine, through processes of commercial competition and free consumer choice, the nature of the program service? The following chapters pursue that question in terms of the social controls imposed on broadcasting.

Government regulation must, at the very minimum, impose controls over the physical aspects of radio usage: frequencies, channels, power, types of emission, geographic locations, and times of operation. Broadcasters discovered in the 1920s how the absence of such regulation could destroy broadcasting's usefulness. Even the most permissive society, however, does not stop short with physical regulation. Every society seems to feel that the very nature of broadcasting requires further social controls.

Regulation starts from a statutory base but does not operate in a vacuum. Many influences affect its interpretation, implementation, and modification — influences from the courts, the administrative agency, the industry, Congress, the president, and the consumers. In this chapter we will ignore these influences for the moment, presenting a straightforward description of the statutes, largely in their own words. Later we will see how the law on paper is modified in actual practice.

17.1 Communications Act of 1934

The organic law of radio in the United States implicitly rests on the doctrine of scarcity. This doctrine asserts that because the electromagnetic spectrum is finite, it cannot be parceled out to literally everyone in the country. Yet it “belongs” to everyone and therefore cannot be given away to private individuals. Instead, the government, through its agent the Federal Communications Commission, approves certain self-nominated individuals — station licensees — as surrogates for the people, allowing them to use the spectrum so long as they do so in the interest of the people as a whole. The discharge of this licensee responsibility is the central concern of radio regulation.

The communications act is a link in a chain of delegated responsibilities: from the people to Congress via the Constitution; from Congress to the Federal Communications Commission via the communications act; from the FCC to the licensees via its Rules and Regulations.

The people grant Congress legal control over radio communication by virtue of the commerce clause of the Constitution. Section 8(3) of Article I gives Congress the power to “regulate commerce with foreign nations, and among the several States, and with the Indian tribes.” Radio communication has been held by the courts to be properly classified as “commerce”; and because of the nature of propagation and the factor of interference, the law regards radio as being by nature commerce “among the several States,” that is, interstate commerce.

The interstate nature of radio has an important bearing on the question of jurisdiction, since the federal government may not reach into a state to control purely intrastate commerce. Thus although the communications act concerns both wire and wireless communication, only wireless is interstate by definition. The FCC has no jurisdiction, for example, over a local telephone system whose service area lies entirely within a single state. Such a system comes under the jurisdiction of the state’s own public utilities commission or some similar body. The phrase “commerce with foreign nations” in the Constitution applies to communication systems with terminals both within the United States and outside its borders — the Atlantic cable, for instance.

Broadcasting stations cannot be subjected to both federal and state controls in matters covered by the communications act. But this does not remove them entirely from local jurisdiction. For example, state rather than federal laws cover libel and slander. Similarly, the communications act does not supersede other federal laws that affect broadcasting, such as copyright, obscenity, labor, and lottery laws.

Because it would be impracticable for Congress to supervise the day-to-day operation of communications, it delegated that responsibility to a special independent body, the Federal Communications Commission. Through the communications act, Congress both created the FCC and gave it a legal framework. It couched the act in general terms for the most part, leaving specific applications of general principles to the FCC, which is regarded as “a creature of Congress.”

Every FCC regulation and decision must be explicitly justified by the law. The FCC’s Rules and Regulations thus have the force of federal law, though not directly enacted by Congress.

The communications act limits the commission’s jurisdiction to non-governmental uses of radio; yet government uses account for 42 percent of the spectrum in the 30–10,000 MHz range, and another 26 percent is shared by government and private users (OTM, 1969: D7). Section 305 of the act gives the president rather than the FCC power to regulate frequency assignment and

other aspects of government stations. In 1970 Congress authorized establishment of the Office of Telecommunications Policy in the executive branch. It advises the President on overall communications policies, spectrum management, international agreements, and federal research and development activities. The OTP directs assignment of government spectrum allocations, maintaining an advisory relationship with the FCC. Allocations continue to be coordinated through the Interdepartmental Radio Advisory Committee, founded in 1922. IRAC comprises 16 government agencies and has liaison representation from the FCC (IRAC, 1972).

17.2 Federal Communications Commission

The communications act established the FCC

for the purpose of regulating interstate and foreign commerce in communication by wire and radio so as to make available, so far as possible, to all the people of the United States a rapid, efficient Nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges, for the purpose of the national defense, for the purpose of promoting safety of life and property through the use of wire and radio communication, and for the purpose of securing a more effective execution of this policy by centralizing authority heretofore granted by law to several agencies and by granting additional authority with respect to interstate and foreign commerce in wire and radio communication. (§1)¹

This section reminds us that Congress repealed the Radio Act of 1927 and substituted the present act in order to centralize authority. The 1934 legislation reenacted the 1927 radio laws with only minor changes. The new act extends FCC jurisdiction to both wire and radio communications, either interstate or foreign.

Section 4 describes the commission. The president appoints its seven members with the advice and consent of the Senate, one member being designated by the president as chairman. Commissioners must be citizens, may not have a financial interest in any type of communications business, must devote full time to the job. No more than four of the seven commissioners may be of the same political party.

Congress thus sought to prevent economic and political bias on the part of the commission. The term of seven years, contrasted with the presidential term of four years, makes it impossible for a president to radically change the balance of the commission's personnel all at once (the terms of the commissioners are staggered so that only one expires each year). On the other hand, a new president can to some extent immediately implement administration policies by exercising his right to appoint the chairman.

¹ Quotations from the act are based on the GPO edition listed in the guide to further reading under chapter 17, corrected through January 1974.

The act empowers the commission to “perform any and all acts, make such rules and regulations, and issue such orders . . . as may be necessary in the execution of its functions” (§4, i). In only a few instances did Congress tie the commission’s hands with highly specific regulations. For example, it placed an upper limit of three years on the term of broadcast licenses — though even here the commission may use its discretion in issuing licenses for shorter periods. Most provisions of the act give the commission wide latitude in applying its judgment to the particular set of facts of each case.

Nevertheless, the new law would have met the same fate as the Radio Act of 1912 if the commission had been given unqualified discretionary latitude (see §8.3). Congress needed a highly flexible, legally recognizable standard to limit the commission’s discretion in every decision or rule that it made. It chose for this purpose a phrase long familiar in the public utility field — “public interest, convenience, and [sometimes “or”] necessity.”

17.3 “Public interest” standard

The concept of broadcasting as something involving more than merely private interests, as something involving “the public interest,” emerged at the outset. In 1922 at the First Radio Conference, Herbert Hoover remarked, “This large mass of subscribers need protection as to the noises which fill their instruments [i.e. radio receivers]” (Dept. of Commerce, 1922: 3). Two years later Hoover testified at a congressional hearing,

Radio communication is not to be considered as merely a business carried on for private gain, for private advertisement, or for entertainment of the curious. It is a public concern impressed with the public trust and to be considered primarily from the standpoint of public interest to the same extent and upon the basis of the same general principles as our other public utilities. (House CMMF, 1924: 10)

At the Fourth Radio Conference, in 1925, the National Association of Broadcasters presented a resolution recommending that a law should be enacted making “public convenience and necessity” the basis of choice among competing applications (1926: 10, 23). Its Committee on Operating Regulations mentioned “public interest” as a guide. At that conference, Hoover remarked, “We can surely agree that no one can raise a cry of deprivation of free speech if he is compelled to prove that there is something more than naked commercial selfishness in his purpose” (p. 7).

The legislative history of the Radio Act of 1927 makes it apparent that Congress adopted essentially the same point of view. In answer to the NAB’s later contention that the commission was created merely to regulate technical aspects of broadcasting, Senator Burton K. Wheeler replied, “I went through all those hearings at that time, sat as a member of the committee, and it was not the

intention of the committee, nor of the Senate, just to regulate these physical things" (Senate CIC, 1944: 238).

The phrase "public interest, convenience, and necessity" appears frequently in the communications act. Congress left the FCC free to use its own judgment in many matters covered by the act, subject always to the test of serving the public interest. For example, the most basic power delegated by Congress to the FCC, that of issuing licenses, is couched in the following terms:

The Commission, *if public convenience, interest, or necessity will be served thereby*, subject to the limitations of this Act, shall grant to any applicant therefor a station license provided for by this Act. (§307, a. Emphasis added.)

The act makes similar conditions for the renewal, transfer, and modification of licenses.

Section 303 of the act gives the FCC powers to (a) classify stations, (b) prescribe the nature of the service to be rendered, (c) assign frequencies, (d) determine station location, (e) regulate the kind of apparatus used, (f) prevent interference, (g) study new uses for radio and provide for experimental uses of frequencies, (i) make special regulations for network stations, (j) require the keeping of records, (l) prescribe qualifications for station operators and issue them licenses, (o) designate call letters, (p) publish necessary information, and (s) require uhf tuners in television sets. This entire list is preceded, however, by the admonition to do these things "as public convenience, interest or necessity requires."

Few significant provisions fail to leave the door open for the exercise of FCC discretion. The phrase "public interest, convenience, and necessity" therefore takes on critical importance; in effect it determines the practical results of applying the generalities contained in the law.

The public interest standard (the "convenience" and "necessity" parts of the phrase have little apparent meaning for broadcasting, though they do for the public utility field) has served its purpose, for the communications act has held up remarkably well under repeated attacks in the courts. Some critics complain that the phrase has never been defined. In fact, though, the commission defines some aspect of public interest every time it makes a decision. A large body of definitional criteria has accumulated.

But the charge of vagueness cannot be denied. The very purpose of adopting the concept of public interest was to provide a flexible enough standard to meet almost any unforeseeable situation. Justice Felix Frankfurter called it "vaguish and penumbral" but not in an adverse sense. He recognized the essential need for adaptability.

Congress has charged the courts with the responsibility of saying whether the Commission has fairly exercised its discretion within the vaguish, penumbral bounds expressed by the standard of "public interest." It is our responsibility to say

whether the Commission has been guided by proper considerations in bringing the deposit of its experience, the disciplined feel of the expert, to bear on applications for licenses in the public interest. (346 *US* 91, 1953)²

As a judge of the U.S. Court of Appeals for the District of Columbia pointed out, "It would be difficult, if not impossible, to formulate a precise and comprehensive definition of the term 'public interest, convenience, or necessity,' and it has been said often and properly by the courts that the facts of each case must be examined and must govern its determination" (153 *F 2d* 628, 1946).

17.4 Rights to hearings and appeals

The commission may not act arbitrarily or capriciously in its interpretations of the public interest. In the first place, it cannot take any important action involving opposing interests without first holding a hearing and considering the various points of view involved. If the commission decides not to grant a license application, it must advise the applicant and others concerned of its objections; the applicant then has an opportunity to reply, and if the commission still decides against the applicant, it must set the matter for hearing, "specifying with particularity the matters and things in issue" (§309, e). If the commission proposes to change a station's power, frequency, or time of operation, the licensee is automatically entitled to a hearing (§§303, f; 316).

On the other hand, if the commission grants an application without a hearing, the grant remains for 30 days subject to protest from "any party in interest"; if the protest shows the protestant to be a real party in interest raising specific issues, the commission must hold a hearing on the matter and postpone the effective date of its decision (§309, d).

After hearings are held, the hearing officers (either commissioners or administrative law judges on the FCC staff) must file an initial or tentative decision

² A convenient short form for citing items in serial publications used by legal bibliographers has been adapted for citations here. Such citations consist of (1) a number representing the volume in the series, or in some cases the calendar year; (2) the abbreviated title of the series; (3) the page or section number of codified laws; and (4) the year. In this book the legal publications most frequently cited are *CFR* (Code of Federal Regulations) for FCC Rules and Regulations; *F* or *F 2d* (Federal Reporter, 1st and 2d series) for decisions of appeals courts; *FCC* or *FCC 2d* (Federal Communications Commission Reports, 1st and 2d series) for rulings, decisions, reports, orders, and letters of the FCC; *FR* (Federal Register) for FCC actions reported first in *FR*, later in *FCC*; *US* (United States Reports) for Supreme Court decisions; *USC* (United States Code) for the communications act and other federal statutes. These are government publications, but most have commercial counterparts with helpful annotations (see Foley, 1973, and guide to further reading, chapter 17). As an example of the form used in this book: the Frankfurter quotation just cited as "346 *US* 91, 1953" can be found on page 91 in volume 346 of the Supreme Court decisions in *United States Reports*, in the report of a case decided in 1953. In the bibliography of this book, under "*US*, 1953," one finds the case title cited as *FCC v. RCA*, with the page number 86, indicating the point at which the report of the decision starts, whereas the text citation above tells the page on which the specific quotation appears.

(§409, a). Exceptions may then be filed by the parties involved, pointing out objections to the conclusions reached in the decision. If requested, the commission must then consider oral arguments on the exceptions before issuing a final decision or order (§409, b).

If the commission wishes to revoke a license or issue a cease-and-desist order, it must first invite the licensee to show cause why such action should not be taken (§312, c). Finally, a “person aggrieved or whose interests are adversely affected” by a decision or order that grows out of a hearing may also petition for a rehearing, although the commission may use its own discretion in acting upon such requests (§405).

FCC procedures must conform in general to judicial standards and it must, of course, observe the safeguards provided by the Constitution. On occasion judges have reminded the FCC of these obligations.

It will be helpful to spell out the process which a commission properly follows in reaching a decision. The process necessarily includes at least four parts: (1) Evidence must be taken and weighed, both as to its accuracy and credibility; (2) from attentive consideration of this evidence a determination of facts of a basic or underlying nature must be reached; (3) from these basic facts the ultimate facts, usually in the language of statute, are to be inferred, or not, as the case may be; (4) from this finding the decision will follow by the application of the statutory criterion. . . . Administrative orders, quasi-judicial in character, are void, if a hearing was denied, if that granted was inadequate or manifestly unfair, if the finding is contrary to the indisputable character of the evidence, or if the facts found do not as a matter of law support the order made. The commission may not capriciously make findings by administrative fiat. Such authority, however beneficently exercised in one case, could be injuriously exercised in another, is inconsistent with rational justice, and comes within the Constitution’s condemnation of all arbitrary exercise of power. (96 F 2d 559, 1938)

Even after all the safeguards of hearings, rehearings, initial decision, exceptions, and oral arguments have been exhausted, a person or organization adversely affected by commission rules or decisions has a further recourse (see Krasnow & Longley, 1973: 42). Section 402 provides for appeals to the courts to enjoin, annul, or suspend commission actions. Appeals in radio licensing cases go initially to the U.S. Court of Appeals for the District of Columbia. If that court fails to satisfy a litigant on reappeal, he can petition the U.S. Supreme Court to review the decision. The Supreme Court is not bound to accept the case if in its opinion it raises no substantial federal question.

Generally speaking, the courts have taken the position that they should not substitute their judgment for that of the FCC, the body set up by Congress for the purpose of bringing expert judgment to bear on regulatory problems. The court usually confines its actions to determining whether the commission has followed proper procedure, whether it has acted within its lawful powers, and whether it has been arbitrary or capricious in its conclusions.

17.5 Licensing powers

All the powers of the commission, as indeed the effectiveness of the communications act itself, revolve around the licensing power.³ This in turn derives from the fundamental assertion of the communications act: that electromagnetic frequencies used for communication cannot be privately “owned.” The aims of the act, among other things, are

to maintain the control of the United States over all the channels of interstate and foreign radio transmission; and to provide for the use of such channels, but not the ownership thereof, by persons for limited periods of time, under licenses granted by Federal authority, and no such license shall be construed to create any right beyond the terms, conditions, and periods of the license. No person shall use or operate any apparatus for the transmission of energy or communications or signals by radio . . . except under and in accordance with this Act and with a license in that behalf granted under the provisions of this Act. (§301. Emphasis added.)

Congress stressed this point still further by requiring that a licensee sign a waiver “of any claim to the use of any particular frequency or of the ether as against the regulatory power of the United States because of the previous use of the same” (§304). Furthermore, although the FCC may determine the form of the licenses it issues, a license must include the condition that it “shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized therein” (§309, h).

This reiteration reflects the experience of the period before 1927, when regulation broke down because the law did not give the government unequivocal control of the broadcast frequencies. Congress foresaw, moreover, that introducing effective control was bound to encounter the claim that prior use of frequencies had conferred a kind of squatter’s right on pioneer broadcasters.

The act further safeguards the licensing power by providing that a license cannot even be issued until after a station has been constructed and tested. Only then can it be determined empirically that the signal does in fact conform to the requirements of the license. Hence the first step toward acquiring a broadcast license is to obtain a Construction Permit. The application for a CP requires all the information requested in the license itself.

Thus Congress made plain its intention of taking no chances on any misinterpretation: the radio frequencies, being public property, must be operated in the public interest. The government must decide not only who shall be licensed

³ The reference here is to the licensing of stations. The act also empowers the FCC to license operators of transmitters to ensure proper technical operation. The FCC has set up several kinds of operators’ licenses, classed according to the type of equipment for which the operator is to be responsible. FCC regional offices give examinations and issue licenses. The law requires licensed operators in attendance at certain classes of transmitters but not in studios for the handling of studio equipment (47 CFR 73.93, etc.).

but also whether a license shall continue in force. License renewals are not automatic but are subject to the discretion of the FCC (§307, d). Moreover, a license can be revoked before the expiration of its term (§312). Even temporary, licensed use of a frequency is not open to all comers. Licensees must meet criteria of eligibility:

All applications for station licenses, or modifications or renewals thereof, shall set forth such facts as the Commission by regulation may prescribe as to the citizenship, character, and financial, technical, and other qualifications of the applicant to operate the station; the ownership and location of the proposed station . . . the frequencies and the power desired to be used; the hours of the day or other periods of time during which it is proposed to operate the station; the purposes for which the station is to be used; and such other information as it may require. . . . (§308, b)

Of the four explicit qualifications mentioned (citizenship, character, financial qualifications, technical qualifications), the first is the most clear-cut: licenses may be issued only to citizens of the United States (§310, a). Once granted, a license or a CP may be transferred to another person or company only if the commission finds that the transfer would serve the public interest. The transferee must meet the same conditions as the original applicant (§310, b).

Despite the fact that commercial broadcast licenses confer on their recipients an opportunity to profit — often very greatly — the communications act made no provision for payment by licensees for use of the spectrum, although the Fourth Radio Conference in 1925 had in fact suggested license fees ranging from \$25 to \$5,000. This omission seems the more surprising considering that the federal treasury bears the considerable cost (about \$41.9 million in fiscal 1974) of administering the act. As a result of a congressional resolution of 1952 urging administrative agencies to become self-supporting, the FCC began charging “filing fees” in 1964 (see §18.2).

17.6 Uniqueness of broadcasting

In §7.4 we saw how radically broadcasting departed from previous forms of communication enterprise. The communications act recognizes that peculiar and separate character by three interlocking definitions (emphasis added):

“Radio communication” or “communication by radio” means the transmission by radio or writing, signs, signals, pictures, and sounds of all kinds, including all instrumentalities, facilities, apparatus, and services . . . incidental to such transmission. (§3, b)

“Common carrier” or “carrier” means any person engaged as a common carrier for hire, in interstate or foreign communication by wire or radio or in interstate or foreign radio transmission of energy, except where reference is made to common carriers not subject to this Act; but a person engaged in radio broadcasting shall not, insofar as such person is so engaged, be deemed a common carrier. (§3, h)

“Broadcasting” means the dissemination of radio communications intended to be received by the public, directly or by the intermediary of relay stations. (§3, o)

It should first be noted that the legal definition of radio includes television as well as sound transmission. The most significant element in this series of definitions, however, excludes broadcasting from the common-carrier category. This distinction is vital to broadcasting's unique status.

The common-carrier concept, which extends to transportation systems as well as to communication systems, applies to business enterprises of such character that public policy requires their services to be made available equally and without discrimination to all.

Common carriers are in effect monopolies, since public policy prohibits duplicate services where deterioration of service might result. It is forbidden to offer the public railroad, bus, airline, or telephone service without a license from either a state (for intrastate service) or a federal (for interstate service) agency. Such a license carries with it protection from competition, in return for which the licensee accepts close supervision of his business by the licensing agency.

Consider the consequences of applying the common-carrier concept to broadcasting: a station licensee would have to accept all buyers of time on a first-come, first-served basis. Licensees would have no control over what users said or showed on their facilities and hence could not be held responsible for the character of the broadcasting service rendered.

All this would reverse broadcasting's primary emphasis on the interests of the recipients of messages, not the senders. To repeat, "It is the right of the viewers and listeners, not the right of the broadcasters, which is paramount" (395 US 390, 1969). This emphasis is appropriate because the senders are using a facility (i.e. the electromagnetic spectrum) belonging to the recipients. Those who profit economically from the commercial broadcasting stations do so only in consideration of a service rendered to the general public.

The definition of broadcasting makes it a form of communication *intended* to be received by the public. This phrase automatically excludes forms of communication that, although *receivable* by the public, aim at specific recipients — for example, direct communication to individuals in the listening/viewing audience by broadcast performers. Such a communication is a common-carrier use of broadcasting. The FCC does not make an issue of casual "hellos," waves of the hand, anniversary greetings, and so on that frequently occur. However, direct communications have been more substantial in some cases. For example, a station received license renewal only after discontinuing programs of direct personal advice by an astrologer and a "spiritual psychologist." The commission remarked:

Their practices involved the transmission of point-to-point or individual messages that could not reasonably be said to have any general interest for the public. Broadcasting is by definition and essential characteristics a service for the general public. The use of a broadcast station for point-to-point delivery of messages is

inconsistent with the terms of the station license and the regulations under which licenses are issued. (1 FCC 196, 1935)⁴

“Functional” fm illustrates the practical significance of the definition of broadcasting. The FCC found this type of service to be nonbroadcast in character (§3.3). It issues a special class of license — a Subsidiary Communications Authorization — to permit fm stations to offer this service:

In so far as the programming is directed to the special interests of the industrial, mercantile, transportation, or other subscribers and is not primarily intended for reception by the general public, [functional fm] must be characterized as *predominantly non-broadcast* in nature. The fact that a large portion of these transmissions — including most of the program material — may be received by the general public on home receivers as an incidental by-product of the primary intent of the transmission does not change this rationale. (20 FR 1821, 1955)

Since transmissions under a Subsidiary Communications Authorization do not qualify as broadcasting, they come under the protection of §605 of the communications act, which forbids the unauthorized divulgence or publication of communications subject to the act. Broadcasting is necessarily made an exception to this rule. The applicability of §605 to functional fm stations, however, empowers the stations to prevent unauthorized persons from installing receivers to take advantage of their service. As long as the service legally constituted “broadcasting,” licensees could not prevent this form of piracy.

17.7 Doctrine of local access

The principle of public ownership of the frequencies, reinforced by the legal definition of broadcasting, entitles *all* the people to benefit from it. Section 1 of the act, it will be recalled, speaks of “all the people of the United States” (§17.2). With more specific reference to broadcasting,

In considering applications for licenses, and modifications and renewals thereof, when and insofar as there is demand for the same, the Commission shall make such distribution of licenses, frequencies, hours of operation, and of power among the several States and communities as to provide a *fair, efficient, and equitable distribution* of radio service to each of the same. (§307, b. Emphasis added.)

“Fair, efficient, and equitable distribution of radio service” has been taken to mean more than simply providing a local program service for the benefit of listeners and viewers. Both the FRC and the FCC considered it vital to allow *local access* to broadcast facilities for the benefit of originators of communica-

⁴ Other similar cases have involved programs offering financial, horse-racing, and medical advice. The concept of broadcasting as “a service for the public” does not rule out the special interest station that aims the bulk of its programming to a particular public, such as a specific ethnic or cultural group. Educational broadcasting is in any event excepted from the “general public” rule.

tions other than licensees, as well as for the benefit of receivers of communications. This interpretation has been supported by the Supreme Court: “Fairness to communities is furthered by a recognition of local needs for a community mouthpiece” (349 US 362, 1955).

Local access means an opportunity for local businesses to use the medium for advertising, for local candidates to appeal for political support, for local public service agencies to promote their objectives, for advocates of local controversies to air their points of view, for local governments to inform the electorate, for local educational and cultural institutions to broaden their community service, for local newsmen to report on community happenings, for local talent to have an outlet, and so on. Ideally, a station serves its area as a means of community self-expression, giving it a broadcast voice as well as a broadcast ear.

The communications act’s command to the FCC — to issue licenses so as to ensure a “fair, efficient, and equitable distribution” to each community — contains, however, an element of self-contradiction. Considerations of efficiency alone would require relatively few but very powerful stations, strategically located to give the best possible coverage and the maximum choice of programs. The doctrine of localism, on the other hand, demands more, less powerful, and less efficiently distributed stations.

The doctrine of localism also encourages the maldistribution implicit in a system that relies primarily on private commercial enterprise as the initiator of stations. The demand for stations tends to exceed the supply of channels in densely populated areas and to fall short of supply in rural areas.

Both the FRC and its successor, the FCC, nevertheless regarded the doctrine of local access as paramount. They therefore deliberately sacrificed efficiency. The President’s Task Force on Communications corroborated this policy in 1968:

No aspect of communications policy is more important than measures or arrangements which would permit or encourage the growth of communications of all kinds within localities: the discussion of local issues; contact with local or regional political leaders; tapping local talents; the use of local resources in education, technology, sports, and expression of all sorts of local interests. (VII, 5)

17.8 Program regulation

The communications act has surprisingly little to say in explicit terms about the most important aspect of broadcasting, the programming function.

Political candidates The most substantial direct statement about programs concerns political broadcasts: it is the well-known “equal time” requirement.

If any licensee shall permit any person who is a legally qualified candidate for any public office to use a broadcasting station, he shall afford equal opportunities to all

other such candidates for that office in the use of such broadcasting station: *Provided*, That such licensee shall have no power of censorship over the material broadcast under the provisions of this section. (§315, a)

News about candidates Congress amended §315 to stop broadcasters making higher than normal charges to political candidates and to prevent claimants for equal time from exploiting normal news coverage of rival political candidates' activities. Section 315(a), as amended, continues,

Appearance by a legally qualified candidate on any —

- (1) bona fide newscast,
- (2) bona fide news interview,
- (3) bona fide news documentary (if the appearance of the candidate is incidental to the presentation of the subject or subjects covered by the news documentary), or
- (4) on-the-spot coverage of bona fide news events (including but not limited to political conventions and activities incidental thereto),

shall not be deemed to be use of a broadcasting station within the meaning of this subsection. Nothing in the foregoing sentence shall be construed as relieving broadcasters, in connection with the presentation of newscasts, news interviews, news documentaries, and on-the-spot coverage of news events, from the obligation imposed upon them under this Act to operate in the public interest and to afford reasonable opportunity for the discussion of conflicting views on issues of public importance.

The Federal Election Campaign Act of 1972 amended §312 to give the FCC power to revoke a license “for willful or repeated failure to allow reasonable access to or to permit purchase of reasonable amounts of time for the use of a broadcasting station by a legally qualified candidate for Federal elective office on behalf of his candidacy.” The amendments apply to cable as well as broadcasting.⁵

Temporary suspension of §315 The “equal opportunities” clause of §315(a) created a dilemma that sometimes tends to defeat the purpose of the law. If, say, a national network wanted to donate time to the presidential candidates of the major national parties, it would open itself up to demands for “equal time” from a swarm of insignificant though legally qualified candidates representing “splinter” parties. As a result, appearances of the major political candidates (except in newscasts) have usually been limited to paid time periods.

In 1960, as an experiment, Congress temporarily suspended this part of §315 for that year's candidates for president and vice president only. This suspen-

⁵ The 1972 election campaign act further amended §315 by adding the requirement that legally qualified candidates may be billed for time at no more than the station's “lowest unit charge” during the 45 days preceding a primary runoff election or the 60 days preceding the election itself. At other times stations may charge their normal rates. The amendment also requires stations to secure written certificates to the effect that candidates have not exceeded their lawful campaign expenditure total in buying the time they use.

sion enabled the networks to stage the “Great Debates” between presidential candidates John Kennedy and Richard Nixon (§24.8). Without the suspension, §315 would have entitled 14 minor candidates to equal free time. Congress decided not to continue the suspension in subsequent election campaigns.

Politics and public broadcasting Congress added a proviso on political broadcasts in the Public Broadcasting Act of 1967. Section 399 prohibits non-commercial educational stations from editorializing and supporting candidates for political office. A different kind of political exclusion appears in §398, which provides that nothing in the public broadcasting sections of the act shall be deemed “to authorize any department, agency, officer, or employee of the United States to exert any direction, supervision, or control over educational television or radio broadcasting, or over the . . . curriculum, program of instruction, or personnel of any educational institution, school system, or educational broadcasting station or system.”

Sponsor identification Aside from these regulations regarding political matters, the act contains few specific rules regarding programs as such. Section 317 requires that anything broadcast for which payment is made (whether in cash or in kind) must be announced as paid for or furnished by the person responsible. An exception is made for the use of stage properties and the like.

This regulation links up with §508, requiring disclosure of payola/plugola types of payments, which Congress added to the act after investigating these practices. Section 509, another amendment, prohibits rigging the outcome of contests. Federal law forbids lotteries, fraud, and obscenity, but it does so by the U.S. criminal code (18 USC 1304, 1343, 1464) rather than by the communications act.

Overall “program performance” Although the act thus gives the FCC little explicit control over programs, it does grant wide implicit latitude. Operation in accordance with “the public interest, convenience, and necessity,” as required by the act, can be judged only in the light of a station’s performance, which consists, of course, of a program service. The FCC takes the position that the licensee alone must assume direct responsibility for programs and holds the licensee responsible for satisfying the public interest, convenience, and necessity. The commission works on the theory that it may not substitute its judgment for that of the licensee on individual program decisions but that it must review the overall promise and performance of the licensee.

17.9 Constitutional challenges

The Communications Act of 1934 has withstood numerous challenges to its constitutionality without losing any of its fundamental powers. A 1929 decision settled the question as to whether Congress had rightly classified radio communication as a form of commerce within the meaning of the Constitution.

It does not seem to be open to question that radio transmission and reception among the states are interstate commerce. To be sure it is a new species of commerce. Nothing visible and tangible is transported. . . . The joint action of the transmitter owned by one person and the receiver owned by another is essential to the result. But that result is the transmission of intelligence, ideas, and entertainment. It is intercourse, and that intercourse is commerce. (31 F 2d 454, 1929)

The revoking of licenses was challenged as violating the Fifth Amendment on the grounds of taking private property for government use and of taking private property without due process of law, but the courts consistently upheld the power of the government to control the frequencies.

That the Congress had the power to give this authority to delete stations, in view of the limited radio facilities available and the confusion that would result from interferences, is not open to question. Those who operated broadcasting stations had no right superior to the exercise of this power of regulation. They necessarily made their investments and their contracts in the light of, and subject to, this paramount authority. This Court has had frequent occasion to observe that the power of Congress in the regulation of interstate commerce is not fettered by the necessity of maintaining existing arrangements which would conflict with the execution of its policy, as such a restriction would place the regulation in the hands of private individuals and withdraw from the control of Congress so much of the field as they might choose by prophetic discernment to bring within the range of their enterprises. (289 US 282, 1933)

This does not mean that the private enterprise based on the use of this public property, the radio frequencies, loses all claim to security. Only when a conflict of interest occurs — when the broadcaster's private interest conflicts with the public interest in the effective use of the electromagnetic spectrum — must the private interest give way. The classic instance of this kind of conflict arises when an existing licensee resists allowing another station in his area on the ground that there is not enough business to support two stations. In the definitive economic injury case, *Sanders Brothers*, the Supreme Court said,

Plainly it is not the purpose of the Act to protect a licensee against competition but to protect the public. Congress intended to leave competition in the business of broadcasting where it found it, to permit a licensee who was not interfering electrically with other broadcasters to survive or succumb according to his ability to make his programs attractive to the public. (309 US 475, 1940)

A nonbroadcast source of economic injury came to the fore in the 1960s when cable television began its rapid expansion. Smaller and weaker television stations in particular stood to lose as a result of cable competition. The elaborate FCC rules to control cable growth outlined in §18.13 were intended to protect broadcasters from undue economic injury from this nonbroadcast though closely allied source of competition.

The most persistent constitutional challenge to the communications act and FCC interpretation of the act concerns the applicability of the free speech

clause of the First Amendment to the Constitution. Broadcasting is implicitly classified as a form of communication covered by the amendment.

Nothing in this Act shall be understood or construed to give the Commission the power of censorship over the radio communications or signals transmitted by any radio station, and no regulation or condition shall be promulgated or fixed by the Commission which shall interfere with the right of free speech by means of radio communication. (§326)

Evidently, though, Congress also recognized that the uniqueness of broadcasting (§17.5) entitled it to special treatment, distinct from that of the conventional “press.” For it went on to include in the act provisions that restrict the freedom of broadcast station owners to say whatever they please on the air. The explicit program restrictions of the communications act, however, have no effect on the great bulk of broadcast programming.

On the other hand, the FCC’s interpretation of its obligations under the public interest clause linked to its power to grant, withhold, and terminate licenses, has the effect of broadly controlling program content without necessarily intervening in any specific program decision so as to exercise restraint previous to broadcast. Some legal experts and most broadcasters continue to argue that the First Amendment should confer the same freedom from interference that the traditional press enjoys. The courts, however, have consistently ruled that broadcasting cannot be indiscriminately lumped together with other media. In *Red Lion*, for example, one of the most important latter-day Supreme Court broadcasting decisions, the court declared, “Although broadcasting is clearly a medium affected by a First Amendment interest . . . differences in the characters of the new media justify differences in the First Amendment standards applied to them” (395 US 386, 1969). (We will return to this theme in §20.7.)

17.10 Law of public broadcasting

Although the FCC had previously set up a noncommercial educational class of licenses, public broadcasting did not receive legislative recognition in the communications act until 1962. In that year Congress passed the Educational Television Facilities Act, the first explicit expression of federal responsibility for noncommercial broadcasting (§§390–395). This act authorized matching funds of \$32 million to be awarded over a five-year period by the Department of Health, Education, and Welfare for the construction of educational television stations.

The Public Broadcasting Act of 1967 renewed the facilities-aid arrangement for another three years, authorizing \$38 million and extending the grants to educational radio as well as television. It also established the Corporation for Public Broadcasting. Congress declared, “It is necessary and appropriate for the Federal Government to complement, assist, and support a national policy that

will most effectively make noncommercial educational radio and television service available to all the citizens of the United States” (§396, a, 5). The Corporation, which “will not be an agency or establishment of the United States Government” (§396, b), is governed by a 15-member board of directors appointed by the president with the advice and consent of the Senate. Among the purposes and activities of the corporation, §396(g) of the act lists

Facilitating “full development of educational broadcasting in which programs of high quality, obtained from diverse sources, will be made available to noncommercial educational television or radio broadcast stations, with strict adherence to objectivity and balance in all programs or series of programs of a controversial nature”

Assisting in setting up network interconnection so that all stations “that wish to may broadcast the programs at times chosen by the stations”; common carriers are authorized to give free service or reduced rates to such networks, subject to FCC approval

Carrying out its work “in ways that will most effectively assure the maximum freedom . . . from interference with or control of program content or other activities”

Making contracts and grants for production of programs

Establishing and maintaining a library and archives

Encouraging development of new stations

Conducting research and training

In carrying out these functions, the corporation may not own any broadcast facilities itself.

17.11 Enforcement provisions

The communications act authorizes the FCC to use the licensing power as an enforcement lever at three levels of severity: short-term renewal (§307, d), denial of renewal at the expiration of a license period (§307, d), and revocation (§212, a).

Short-term renewal puts the licensee on notice that his past performance leaves doubt as to his willingness or ability to operate in the public interest, giving the FCC an opportunity to review his future performance automatically within a shorter period than the normal license period of three years. Outright revocation occurs only rarely.

Failure to renew also occurs only rarely, but the threat of nonrenewal constantly lurks in the background. The communications act gives no guidance as to the terms of renewal beyond the general requirement of serving public interest, convenience, and necessity. Congress did not anticipate the extremely difficult and touchy questions implicit in the limited length of license periods and the need for periodic renewal: How should the FCC strike a balance be-

tween (1) the goal of giving licensees the degree of stability needed to justify investments in station facilities? (2) Should the commission pursue the goal of obtaining the best possible service for the public by replacing a licensee whose performance is mediocre with a new licensee who promises superior performance?

Originally, the communications act provided for no means of enforcement by the FCC short of the previously mentioned threats to licenses themselves. The FCC itself suggested that it needed some milder form of punishment. The chairman of the commission told a congressional committee,

The record of the Commission shows that there are very few revocations and very few denials of licenses since it does not wish to impose this harsh remedy. The Commission is of the opinion that the Broadcasting industry believes it can get away with almost anything because the Commission will not revoke their licenses or deny an application for renewal. (House CIFIC, 1951: 137)

In 1952 Congress amended the act to authorize the use of cease-and-desist orders (§312, b). To effect a cease-and-desist order, the FCC must first issue a show-cause order, giving the alleged offender an opportunity to give reasons why the order should not be issued. The cease-and-desist order seemed to be unduly cumbersome considering its mildness as a penalty. Accordingly, in 1960 still another amendment provided for “forfeitures” (i.e. fines) of up to \$1,000 per day of violation, with a maximum of \$10,000 for willful and repeated violations of FCC rules (§503, b).

17.12 Other laws affecting broadcasting

The Communications Act of 1934 gives the FCC responsibilities in nonbroadcasting areas that nevertheless affect broadcasters, directly or indirectly. For example, the FCC regulates AT&T tariffs, thereby affecting the cost of networking. It has jurisdiction over the Communications Satellite Corporation and other such enterprises. In addition, broadcast licensees come under the rule of municipal, state, and federal laws outside the communications act. In this section we will briefly review some of these incidental legal controls.

International agreements The communications act expressly charges the FCC with carrying out the provisions of international treaties (§303, r). Those of most immediate concern involve neighboring areas — Canada, Mexico, and the Caribbean islands. The North American Regional Broadcast Agreement, last renewed in 1960, controls regional am channel allocations (see exhibit 3.2). Supplemental agreements cover fm and television (FCC, *Annual Report*, 1974: 91).

Broader international coordination is supplied by the International Telecommunication Union. More than 130 countries belong to the ITU. The union’s radio division, the International Radio Consultative Committee (CCIR), has 14

study groups that deal with specialized radio problems such as propagation, relay systems, vocabulary, and space communication. The ITU's International Frequency Registration Board receives and publishes notifications of frequency usage from member countries and endeavors to minimize interference by obtaining compliance with international agreements on frequency allocations. The FCC acts for both government and nongovernment services in dealing with the IFRB on behalf of the United States.

The ITU assigns initial letters to be used for radio call signs throughout the world. The initial letters K, N, and W and part of the A series have been assigned to the United States. Section 303(o) of the communications act empowers the FCC to designate station call letters to U.S. nongovernment stations. American broadcasting stations use four-letter call signs, beginning with K if located west of the Mississippi, with W if located east. A few pioneer stations (for instance, KDKA-Pittsburgh and KOA-Denver) have been allowed to retain call signs of different patterns, authorized before the present rules were adopted. New stations may select their own call-letter combination in accordance with the rules.

Federal Trade Commission rules A number of federal agencies take an interest in controlling broadcast advertising. Chief among these is the Federal Trade Commission, which examines samples of radio and television commercial continuities as well as other advertising. It also deals with misleading audience research, such as that produced by hypo-ing (see Smith, 1971).

The FTC settles most allegations of illegal advertising by "stipulation," that is, the advertiser changes the questionable practice voluntarily. If the advertiser chooses not to accede, the FTC can issue a cease-and-desist order and secure compliance through the courts. FTC complaints have not been confined to the fly-by-night advertisers of unethical products and services; a great many of the best-known major advertisers have been cited as well.

Stations themselves are fairly safe from legal punishment in connection with false advertising, other than that by FCC action. Under the Wheeler-Lea Act of 1938 (amending the FTC Act), a station is held responsible for fraudulent advertising only if it prepares the broadcast material itself; if it does not prepare the material, it can absolve itself by naming the source.

Licensees are, however, responsible for violations of the Food and Drug Administration standards, and the Post Office Department can bar the use of the mails to stations engaged in fraudulent advertising. A "fraud by radio" provision of the U.S. criminal code enables the Department of Justice to attack the source of advertising directly. Broadcasters are at fault only insofar as they "knowingly permit" transmission of the material.

Obscenity, fraud, and lottery statutes Prohibitions against obscenity, fraud, and lotteries on radio, once part of the communications act, were recodified as §§1304, 1343, and 1464 of Title 18 of the criminal code. Of these, the antilottery

statute comes into play most frequently because of the widespread use of contests in promoting stations and advertised products. In fact, the NAB issued a guide to assist licensees in evaluating the legality of contests (NAB, 1974).

Fair employment laws Title VII of the Civil Rights Act of 1964 prohibits discrimination in employment practices by any employer with 25 or more employees. In 1969 the FCC incorporated this law into its own Rules and Regulations, making it the first federal administrative agency to do so. The FCC went further than the bare legal requirements in view of the special public service responsibilities of broadcasting (FCBA, 1971: 5). The rules (47 CFR 73.125) extended the federal law by applying the employment reporting requirements to stations with 5 or more full-time employees. Rather than wait for complaints before taking action, the FCC itself acts on the basis of licensee reports on the composition of their staffs (FCC Form 395). Broadcasting, both commercial and noncommercial, was once rated as one of the most discriminatory employment fields, but substantial improvement has taken place in recent years (Jennings and Tillyer, 1973).

The FCC also went beyond the civil rights act in applying the rules against discrimination by religious stations. In 1974 an appeals court upheld the FCC's finding that when such stations asked prospective employees whether they and their spouses adhered to a particular religious conviction, they were guilty of discrimination (498 F 2d 51).

Law of the press Insofar as broadcasting functions as a news medium, it becomes subject to the general body of laws, precedents, and traditions known as the law of the press. The authors of a well-regarded case book on mass communication law remark, "One of the startling legal realities of the law of broadcasting as compared with the law of the press is that the legal framework of broadcasting is *altogether different* from that of the press" (Gillmor and Barron, 1969: 641. Emphasis added).

Broadcasting operates within an elaborate framework of statutory law, whereas the conventional press relies more on common-law tradition and case-law precedent built up over many generations. Nevertheless, the typical concerns of press law also affect broadcasters: libel, obscenity, fair trial, freedom of access to information, freedom to travel, right of privacy, lobbying, antitrust laws, labor laws, advertising, copyright, and news representatives' privileges, such as the asserted right to withhold the identity of news sources and to refuse to surrender personal notes. To broadcasters, the last-named extends to the withholding of material edited out of films and audio tapes (§19.7). The fact that both the print media and the broadcast media came under concerted attack by the Nixon administration tended to draw them together in defense of their mutual interests in the news and public affairs field.

Copyright laws The law of copyright takes two forms: common law rights, and statutory rights. Common, or traditional, law confers a right of ownership over original artistic or literary productions, but this right evaporates as soon as a work is published. Publication is defined, in general, as “the sale, placing on sale, or public distribution, of a work.”

To protect rights over published works, the author must obtain statutory copyright, authorized by Congress in 1909. At that time Congress was concerned with *written* forms of reproduction and *live* performances (see Lacy, 1971). Although amended from time to time to extend protection to certain nonwritten and recorded forms, in 1975 the law retained essentially its outdated original conceptions.

For a dozen years Congress considered bills for reforming the copyright law. A bill approved in 1974 by the Senate but not the House would have brought U.S. law into conformity with that of most other countries by changing the length of copyright to 50 years (compared with the old law’s 28 years, renewable once, for a maximum of 56 years). The proposed new law took full account not only of broadcasting but also of such new means of reproduction as facsimile, video cassettes, cable television,⁶ microfilm, and photocopy. It also proposed a copyright royalty tribunal to determine royalty rates and to distribute fees.

In the broadcasting field, copyrightable elements under the old law (as amended) include scripts, filmed programs, musical compositions, works of art, and photographs involved in both programs and commercials.⁷ Ideas, titles, synopses, and slogans may not be copyrighted, although legal protection can be obtained through laws against unfair competition.

Music copyrights affect all broadcasting stations, as noted earlier (§9.4). Music copyright includes three classes of rights other than “publication” in the conventional sense: recording (mechanical rights); synchronizing (rights to record sound on film or tape in synchronism with pictures); and performing for profit (including performance via recordings). Recording and synchronizing rights concern program producers,⁸ whereas performing rights concern broadcasting itself. Recording rights at first applied only to previously copyrighted music and not to recordings as such. An amendment effective in 1972 brought sound recordings under the copyright statute.

⁶ Under the old law, the Supreme Court held that cable systems are essentially reception systems and therefore have no liability for paying copyright fees for broadcast programs they deliver by nonbroadcast means to their customers (392 *US* 390, 1968).

⁷ Upon request the Copyright Office at the Library of Congress will send free circulars covering the various types of copyrightable works. Statutory copyright involves a small fee and the deposit of copies of the work with the Copyright Office.

⁸ The special needs of network television led to a waiver of synchronizing rights fees for the first use of taped network programs. The waiver does not extend to subsequent uses or to filmed programs.

Administration of the Law: FCC at Work

In chapter 17 we considered the statutory framework of broadcasting regulation, noting that Congress left most of the details of implementation to the Federal Communications Commission. In this chapter we examine how the FCC puts the general mandate of the Communications Act of 1934 into practice.

18.1 Independent regulatory agencies

Starting with the Interstate Commerce Commission in 1887, Congress set up a series of independent regulatory federal agencies to supervise private activities in commerce, utilities, transportation, labor, finance, communication, and other such dynamic fields.

As one of these agencies, the Federal Communications Commission plays a hybrid role that blurs the traditional lines of demarcation among the legislative, executive, and judicial branches of the government. Though a “creature of Congress,” the FCC operates largely as an executive agency, administering laws enacted by the legislature. Insofar as it interprets these laws and adjudicates competing applications and appeals, its function verges on the judicial. And when it makes rules and regulations, it acts in a quasi-legislative capacity.

The commission’s legal origin reflects this mixed responsibility. Congress created the FCC and defined its scope of operation. On the other hand, the president appoints the commissioners and selects the chairman, although his choices must be approved by the Senate. And the Senate’s hearings on appointments are often extensive, effectively reminding appointees of their responsibility to Congress (see Quello nomination hearings, said to be the longest on record, Senate CC, 1974).

Congress constantly looks over the shoulder of the commission. Every major question that comes before it is likely to be looked into by the Senate Interstate Commerce Committee, the House Interstate and Foreign Commerce Committee, the appropriations committees, and others. Congress always has the last word,

since it approves the FCC budget and has the power to change the communications act itself (see Senate CA, 1974).

18.2 FCC budget and organization

The FCC receives an annual budgetary appropriation from Congress. In fiscal 1973 the commission reimbursed the U.S. treasury for 73 percent of its \$33.9 million budget with filing fees. Such fees vary according to the type of document filed, the service involved, and the size of the market. The FCC collected a grant fee of \$683,500 when the Washington Post Company bought WTIC-TV in Hartford, Connecticut, for \$33.9 million. Broadcasting accounted for 42 percent of the total FCC fee income for fiscal 1973 (FCC, *Annual Report*, 1974: 31).

The appeals court affirmed the FCC's authority to collect fees in a 1964 decision (335 *F 2d* 304), but a decade later cable interests obtained a Supreme Court decision negating the FCC's plan to charge cable companies annual service fees of 30 cents per subscriber (415 *US* 336, 1974). This decision threw the whole system of fee collection into confusion.

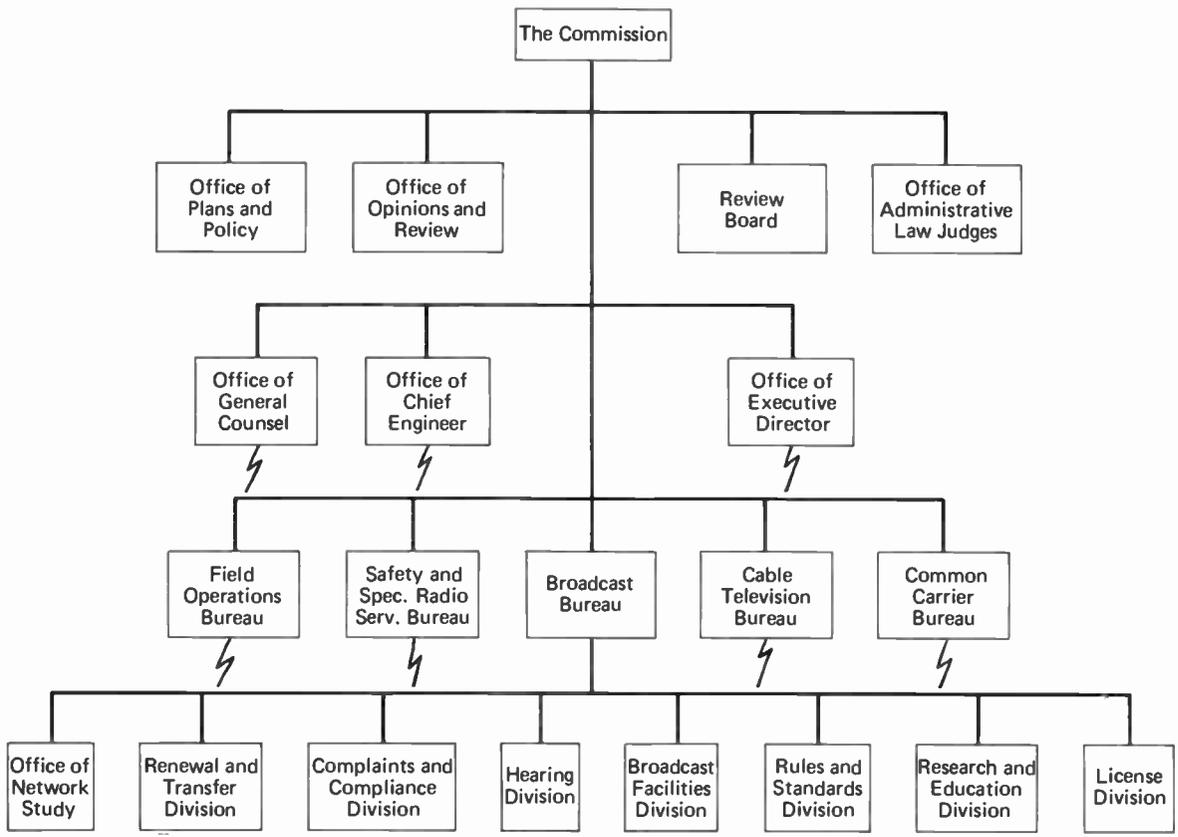
Exhibit 18.1 shows part of the FCC's organization chart. Operationally, it consists of five bureaus, which are responsible for broadcasting, cable television, common carriers, field operations, and safety and special radio services. (The broadcast bureau is made up of eight divisions.) In addition to its Washington offices, where most of the work takes place, the FCC maintains 48 field installations, whose duties include carrying out technical inspections, monitoring, and conducting examinations for technical operators' licenses.

Some conception of the FCC's workload can be gained from a few statistics on its major activities. According to the annual report for fiscal 1973, the FCC dealt with, among other things, over 800,000 applications, mostly safety and special radio services; 61,322 public complaints, comments, and inquiries about broadcasting; 18,542 station inspections in all services; 7,138 interference complaints; 4,092 unlicensed station detections; 160 court proceedings; 98 rule-making and enforcement proceedings; 36 international conferences; 14 appearances concerning legislation.¹

18.3 FCC Rules and Regulations

We described the origin of the FCC Rules and Regulations in §8.5. New rules appear first as proposals published in the *Federal Register* to give interested parties an opportunity to comment. On complex matters extensive proceedings may be conducted and rule-making can stretch out over a period of several years. When finally adopted, rules become official upon publication in the *Federal Register*.

¹ One-time commissioner Nicholas Johnson published a narrative of "a day in the life of the FCC" that offers a vivid description of the commissioners' work (Johnson & Dystel, 1973).



Source: Adapted from FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 19/4: 312.

An example comparing the sparseness of the communications act with the elaborateness of the corresponding FCC rules will show the relationship between the two. Section 303 of the communications act reads in part as follows:

Except as otherwise provided in this Act, the Commission from time to time, as public convenience, interest, or necessity requires shall — . . . (j) Have authority to make general rules and regulations requiring stations to keep such records of programs, transmissions of energy, communications, or signals as it may deem desirable.

In practice, the commission “deems desirable” many records, including three types of logs: two covering technical operation and maintenance and a third covering programming. The simple three-line grant of authority in the Communications Act quoted above becomes a half-dozen densely packed pages in the FCC’s Rules and Regulations.

The program log plays a pivotal role in station program operations. Normally, a station’s traffic department prepares a detailed plan of operations for each day’s broadcast. As the program day unfolds, the actual performance, as compared with the planned performance, must be recorded in the log. This record is the official history of the station’s performance. As an indicator of such performance, the FCC uses a “composite log” made up of a week of randomly chosen days, which serves as the sample by which the station’s overall performance is judged.²

Because of the log’s importance, it may be useful to review some of the directives in the rules and then to compare these instructions with an actual station log form (exhibit 18.2).

§73.670 Program Log.

(a) The following entries shall be made in the program log:

(1) For each program. (i) An entry identifying the program by name or title.

(ii) An entry of the time each program begins and ends . . .

(iii) An entry classifying each program as to type, using the definitions set forth in Note 1 at the end of this section.

(iv) An entry classifying each program as to source, using the definitions set forth in Note 2 at the end of this section. (For network programs, also give name or initials of network . . .

(v) An entry for each program presenting a political candidate, showing the name and political affiliation of such candidate.

(2) For commercial matter. (i) An entry identifying (a) the sponsor(s) of the program; (b) the person(s) who paid for the announcement, or (c) the person(s) who furnished materials or services referred to in §73.654(d) . . .

(ii) An entry or entries showing the total duration of commercial matter in each hourly time segment (beginning on the hour) or the duration of each commercial message (commercial continuity in sponsored programs, or commercial an-

² For an interesting analysis of the log-keeping process and suggestions for its improvement, see Bagdikian, 1971: 156.

Exhibit 18.2
Example of daily program log form

**Chevrolet
Broadcasting
Co., Inc.
Littletown,
Mainstate**

STATION WXXX DAILY PROGRAM LOG

AM FM TV

--	--	--

page 1

day Monday

date 10/6/69

time EST

6. Commercial Matter or Announcement Type: Commercial Matter (CM); Public Service Announcement (PSA); Mechanical Reproduction Announcement (MRA); Announced as Sponsered (V).
7. Program Source: Local (L); Network (Identify); Recorded (REC).
8. Program Type: Agricultural (A); Entertainment (E); News (N); Public Affairs (PA); Religious (R); Instructional (I); Sports (S); Other (O); Editorials (EDT); Political (POL); Educational (ED).

Station Identification Time 1	PROGRAM TIME		PROGRAM TITLE - SPONSOR 4	Commercial Matter or Announcement		PROGRAM	
	Begin 2	End 3		Duration 5	Type 6	Source 7	Type 8
1- 8:00	8:00	9:00	RHYTHM MELODIES			REC	E
2-			James Brothers	60	✓ CM		
3-			XYZ Laundry	60	✓ CM		
4-			Alan Tires	60	✓ CM		
5-			ABC Ice Cream	30	✓ CM		
6-			Red Cross			PSA	
7-			Sureway Food	60	✓ CM		
8-			Stop-Start Driver Training School	60	✓ CM		
9-			Shady Hill Summer Theatre	60	✓ CM		
10- 8:30	8:30	8:35	NEWS HEADLINES - Country Journal	1:30	✓ CM	L	N
11-			John's Donut Shop	60	✓ CM		
12-			Blackacre Real Estate	60	✓ CM		
13-			Wright Insurance	60	✓ CM		
14-			Ring Shoe Store	60	✓ CM		
15- 9:00	9:00	9:14	JDE SMITH DEM. County Democratic Com.			L	PA-POL
16-			Cosmo Drugs	30	✓ CM		
17-	9:15	9:28	FARM REPORT Coles' Tractor Co.	3:00	✓ CM	L	A
18-	9:29		Local Notice per Sec. 1.580				
19- 9:30	9:30	9:59	LITTLE ORPHAN PUNJAB			MBS	
20-			Mechanical Reproduction Announcement			MRA	
21- 10:00	10:00	10:29	LITTLETOWN LIBRARY TOPICS			L	I-ED
22-			Petite Clothes	60	✓ CM		
23- 10:30	10:30	10:44	HEAVENLY MOMENTS - Coun. of Churches			L	R
24-			Lehi Beverage Co.	60	✓ CM		
25-	10:45	10:59	MAN ON THE STREET Ford's Used Cars	3:00	✓ CM	L	PA
26-			John's Garage	60	✓ CM		
27- 11:00	11:00	11:24	COKE MELODIES	3:30	✓ CM	REC	E
28-			Tony's Pizzeria	60	✓ CM		
29-	11:25	11:29	MORNING HEADLINES			L	N
30-			Sta. Promo - Sports Windup (Schmaltz Beer)	10	✓ CM		
31- 11:30	11:30	11:59	JOHN'S OTHER LIFE			MBS	
32-			Ray Hay Rep. Back Hay Com.	20	✓ CM		
33-			Weekday Religious Education			PSA	
34- 12:00	12:00	12:14	MID-DAY NEWS			MBS	
35-	12:15	12:30	AIR FORCE TUNE TIME			REC	E
36-			Air Force Recruiting			PSA	
37- 12:30			Air Force Recruiting			PSA	
On	9. Operator or Announcer <i>John Schultze</i>		Off 9:00	On 9:00	Operator or Announcer <i>Robert M. Bach</i>		Off

Comments: ABC Ice Cream spot was not run during Rhythm Melodies and log-keeper forgot to delete entry. *Bob West, Program Manager WXXX 10/7/69*

Format recommended by the National Association of Broadcasters.

Source: National Association of Broadcasters, Radio-Television Program Log Recommendations, NAB, Washington, D.C., 1969: 32.

nouncement) in each hour. See Note 5 at the end of this section for statement as to computation of commercial time.

(iii) An entry showing that the appropriate announcement(s) (sponsorship, furnishing material or services, etc.) have been made as required by section 317 of the Communications Act and §73.654. A check mark (✓) will suffice but shall be made in such a way as to indicate the matter to which it relates.

(3) For *public service announcements*. (i) An entry showing that a public service announcement (PSA) has been broadcast together with the name of the organization or interest on whose behalf it is made. See Note 4 at the end of this section for definition of a public service announcement.

(4) For *other announcements*. (i) An entry of the time that each required station identification announcement is made (call letters and licensed location . . .)

(ii) An entry for each announcement presenting a political candidate, showing the name and political affiliation of such candidate.

(iii) An entry for each announcement made pursuant to the local notice requirements of §§1.580 (pregrant) and 1.594 (designation for hearing) of this chapter, showing the time it was broadcast.

(iv) An entry showing that broadcast of taped, filmed, or recorded material has been made in accordance with provisions of §73.1208.

(b) Program log entries may be made either at the time of or prior to broadcast. A station broadcasting the programs of a national network which will supply it with all information as to such programs, commercial matter and other announcements for the composite week need not log such data but shall record in its log the time when it joined the network, the name of each network program broadcast, the time it leaves the network, and any nonnetwork matter broadcast required to be logged. The information supplied by the network, for the composite week which the station will use in its renewal application, shall be retained with the program logs and associated with the log pages to which it relates. . . .

NOTE 1. *Program type definitions . . .*

(a) *Agricultural programs (A)* include market reports, farming, or other information specifically addressed, or primarily of interest, to the agricultural population.

(b) *Entertainment programs (E)* include all programs intended primarily as entertainment, such as music, drama, variety, comedy, quiz, etc.

(c) *News programs (N)* include reports dealing with current local, national, and international events, including weather and stock market reports; and when an integral part of a news program, commentary, analysis, and sports news.

(d) *Public affairs programs (PA)* include talks, commentaries, discussions, speeches, editorials, political programs, documentaries, forums, panels, round tables, and similar programs primarily concerning local, national, and international public affairs.

(e) *Religious programs (R)* include sermons or devotionals; religious news; and music, drama, and other types of programs designed primarily for religious purposes.

(f) *Instructional programs (I)* include programs (other than those classified under Agricultural, News, Public Affairs, Religious or Sports) involving the discussion of, or primarily designed to further an appreciation or understanding of, literature, music, fine arts, history, geography, and the natural and social sciences; and programs devoted to occupational and vocational instruction, instruction with respect to hobbies, and similar programs intended primarily to instruct.

(g) *Sports programs* (S) include play-by-play and pre- or post-game related activities and separate programs of sports instruction, news or information (e.g., fishing opportunities, golfing instructions, etc.).

(h) *Other programs* (O) include all programs not falling within definitions (a) through (g).

(i) *Editorials* (EDIT) include programs presented for the purpose of stating opinions of the licensee.

(j) *Political programs* (POL) include those which present candidates for public office or which give expressions (other than in station editorials) to views on such candidates or on issues subject to public ballot.

(k) *Educational Institution programs* (ED) include any program prepared by, in behalf of, or in cooperation with, educational institutions, educational organizations, libraries, museums, PTA's or similar organizations. Sports programs shall not be included.

NOTE 2. *Program source definitions.* (a) A *local program* (L) is any program originated or produced by the station, or for the production of which the station is substantially responsible, and employing live talent more than 50 percent of the time. . . . Programs primarily featuring syndicated or feature films or other nonlocally recorded programs shall be classified as "Recorded" (REC) even though a station personality appears in connection with such material. . . .

(b) A *network program* (NET) is any program furnished to the station by a network (national, regional, or special). Delayed broadcasts of programs originated by networks are classified as network.

(c) A *recorded program* (REC) is any program not defined in (a), (b), (c) above, including without limitation, syndicated programs, taped or transcribed programs, and feature films.

NOTE 3. *Definition of commercial matter* (CM) includes commercial continuity (network and non-network) and commercial announcements (network and non-network) as follows . . .

(a) *Commercial continuity* (CC) is the advertising message of a program sponsor.

(b) A *commercial announcement* (CA) is any other advertising message for which a charge is made or other consideration is received.

(1) Included are (i) "bonus spots"; (ii) trade-out spots, and (iii) promotional announcements of a future program where consideration is received for such an announcement or where such announcement identifies the sponsor of a future program beyond mention of the sponsor's name as an integral part of the title of the program. . . .

(2) Other announcements including but not limited to the following are not commercial announcements:

(i) Promotional announcements, except as heretofore defined in paragraph (b) of this Note.

(ii) Station identification announcements for which no charge is made.

(iii) Mechanical reproduction announcements.

(iv) Public service announcements.

(v) Announcements made pursuant to §73.654(d) that materials or services have been furnished as an inducement to broadcast a political program or a program involving the discussion of controversial public issues.

(vi) Announcements made pursuant to the local notice requirements of §§1.580 (pregrant) and 1.594 (designation for hearing) of this chapter.

NOTE 4. Definition of a public service announcement. A public service announcement is an announcement for which no charge is made and which promotes programs, activities, or services of Federal, State or local Governments (e.g., recruiting, sales of bonds, etc.) or the programs, activities or services of nonprofit organizations (e.g., UGF, Red Cross Blood Donations, etc.), and other announcements regarded as serving community interests, excluding time signals, routine weather announcements and promotional announcements.

NOTE 5. Computation of commercial time. Duration of commercial matter shall be as close as approximation to the time consumed as possible. The amount of commercial time scheduled will usually be sufficient. It is not necessary, for example, to correct an entry of a 1-minute commercial to accommodate varying reading speeds even though the actual time consumed might be a few seconds more or less than the scheduled time. However, it is incumbent upon the licensee to ensure that the entry represents as close an approximation of the time actually consumed as possible.

Exhibit 18.2 shows how all this works out in practice. A station's traffic department supplies the studio staff with copies of the log each day. The log keeper has the responsibility of verifying each item and entering corrections for items not aired as planned. Note in the exhibit how compensation is made when the log keeper forgets to enter a correction. Logs must be retained for two years, and starting in 1974 those of television stations had to be included in the public file kept available for inspection.

As a guide to licensees in handling particularly knotty problems, the commission from time to time draws together special primers based on material from its own regulations, from interpretive rulings, and from other sources. Primers have been issued to cover such subjects as the fairness doctrine (§20.8), the ascertainment of community needs (§18.7), and the use of broadcasting stations by candidates for public office (§20.4).

In certain limited situations the FCC will issue on request an advisory opinion in response to specific questions about the interpretation of its rules. Such interpretations must avoid any possibility of seeming to constitute prior censorship of programs or of dealing with facts that may be altered by subsequent events.

18.4 Obtaining a license

An applicant for a new license must first find an available channel. In the case of fm and television the applicant consults the FCC lists of channel allocations and knows immediately which remain unoccupied. In the case of am, however, a frequency search must be made — an engineering study to determine where a station of given class, power, and directional characteristics could be positioned without causing objectionable interference to existing stations (see Et-kin, 1970).

If there is an available channel worth activating, the applicant applies for a

Construction Permit and gives local public notice of intentions. Competing applicants and those petitioning to deny the grant have an opportunity to interpose if they have legal standing to do so. The FCC must delay taking action for a stipulated period to give time for such interventions.

Since all the most desirable channels have long since been occupied, the would-be licensee of the 1970s is far more likely to seek to purchase an existing station than to start a new one.³ A licensee does not “own” the channel and so cannot sell a station at will. The applicant for an existing license must go through essentially the same steps (except for the Construction Permit stage) in obtaining the license for an existing station as required for a new one (see §17.5). Transfers were once treated as a private concern of the parties directly involved, but in recent years they have come under increasing public scrutiny by consumer groups. In several instances such groups have opposed transfers when the transferees planned to alter the established program format of the station (see §22.8).

In the event of opposition to a proposed grant of a new license or to transfer of an old one, a comparative hearing may ensue. This pits the contending parties against each other in court-like proceedings presided over by administrative law judges. These are FCC staff members, not court judges, and prior to 1972 they were known as hearing examiners. The administrative law judge who presides over a hearing issues a preliminary decision. Nearly 2,000 such decisions were issued in fiscal 1972. Most initial decisions go to the Review Board or, in rare cases, to a panel of commissioners; some go directly to the entire commission sitting “en banc.” The Office of Opinions and Review drafts the final decisions (see FCC organization chart, exhibit 18.1).

Comparative hearings revolve around specified matters that have been formally designated as being at issue. A survey of 247 issues involved in hearings conducted in 1971 showed that of the questions raised 32 percent were technical, 27 percent financial, 19 percent program, 15 percent procedural, and 7 percent miscellaneous (Foley, 1974). Settling an issue can be an extremely costly, long-drawn-out business. This is especially true of highly desirable channels in major markets, where many millions of dollars of prospective profits can be at stake. The pressures surrounding such hearings have led to a number of attempts at improper influence over the FCC — especially during the 1950s, when the few remaining major television channels not already occupied by the prefreeze stations became available following the end of the freeze (see §21.3 on *ex parte* interventions).

Other by-products of the intense rivalry of mutually exclusive hearings are “strike” applications and payoffs. Some applicants intervene merely for the sake of putting roadblocks in the way of legitimate would-be licensees, who

³ In fiscal 1973, the FCC received 1,138 applications for transfer of ownership, of which 70 were denied (FCC, *Annual Report*, 1974: 194).

would then be asked to buy off the strike applicants in order to avoid the further costs of litigation and time. An amendment to the communications act (§311, c) now forbids an applicant to withdraw from a comparative hearing without FCC approval and limits payment by a remaining applicant to the actual out-of-pocket costs of the withdrawing applicant.⁴

One of the longest comparative hearings in FCC history began when am station KRLA-Pasadena lost its license in 1962. Nineteen applicants entered a comparative hearing for the channel, of whom seven remained in contention until the end, eleven years later. The final award in 1973 overturned two earlier decisions made in 1969 and 1971. During these years of litigation the station continued on the air, operated temporarily by a nonprofit corporation that turned its earnings over to educational broadcasting (*Broadcasting*, 10 Dec. 1973: 32).

The FCC issued a policy statement on the criteria it uses in making choices among comparative hearing applicants (30 FR 9660, 1965). Assuming the statutory requirements for qualifying as a licensee have been fully met, the principal criteria of selection are (1) diversification of media control; (2) participation in station operation by licensee; (3) nature of proposed program service; (4) efficient technical use of the channel (i.e. the best possible coverage with the least possible interference).

18.5 Basic licensee qualifications

As indicated in §17.5, the law explicitly requires licensees to be U.S. citizens. In addition, they must have the requisite character, financial, and technical qualifications to become licensees.

Financial and technical qualifications Financial qualifications can be specified objectively: the applicant must have enough money not only to build the proposed station but also to operate it at a loss, without relying on station revenues, during a reasonable period of development. Technical qualifications are demonstrated by compliance with FCC engineering rules and by avoidance of signal overlap or interference.

Character Character qualifications generally come into question during comparative hearings, when rival applicants seek to discredit their competitors by dredging up evidence of wrongdoing in an applicant's past. The FCC treats as character defects such things as attempts to mislead the commission by falsifying information in applications or by concealing relevant information. Some examples are falsification of logs, rigged quizzes, ex parte intervention,

⁴ Congress investigated a case in which the AVC Corporation bought five uhf television Construction Permits from the Overmyer Corporation at an alleged cost of \$4 million, even though Overmyer's actual out-of-pocket expense was estimated at only \$1.3 million (House CIFIC, 1969; see also FCC, Annual Report, 1974: 74).

surrendering responsibility for programming, using dishonest promotional campaigns, misusing audience survey data, and hypo-ing (§13.9). Otherwise, personal traits of an applicant play only a limited role in establishing the applicant's fitness to serve the public interest.

Localism The doctrine of localism (§17.7) also bears on the personal qualifications of licensees. Favoring an applicant would be evidence of plans to participate directly and personally in full-time station management and operations. Integration of ownership and management tends to assure the FCC that the professed objectives of the owner will be carried out conscientiously in day-to-day operations. A corporate applicant can gain an advantage if it can show that its major stockholders reside locally and represent diversified interests within the community.

Diversification The FCC favors an applicant who does not already own media facilities, particularly facilities serving the same area as the proposed station. But negative implications of multiple station or multimedia ownership can sometimes be offset by an outstanding record of past achievement. An experienced media owner can point to demonstrable achievements, whereas a newcomer must rely on untested promises.

These special qualifications are particularly important whenever more than one applicant seeks the same facility. Mutually exclusive applications are the most searching test of the FCC's interpretation of the public interest, convenience, and necessity clause. Each applicant in a mutually exclusive contest will almost certainly meet the minimum statutory qualifications for licensees. It then becomes necessary for the FCC to make a detailed inventory of the pluses and minuses of each candidate. The legal counsels of the contestants have ample opportunity to investigate their opponents' backgrounds and proposals in the most minute detail. Any lapse of judgment, any oversight in planning, any skeleton in the closet is almost certain to be brought out in such a proceeding.⁵

18.6 Program criteria

In 1946 the FCC issued its first comprehensive, reasoned statement on the program criteria it uses in evaluating performance. *Public Service Responsibility of Broadcast Licensees*, popularly known as "The Blue Book," devotes considerable space to "commercial excesses" and to specific instances of failures to live up to programming promises. It emphasizes the role of sustaining (noncommercial) programs in developing a well-balanced program service.

A 1960 statement of policy superseded "The Blue Book" (25 *FR* 7291, 1960).

⁵ Some of the flavor of such a high-stakes struggle may be found in Sterling Quinlan's *The Hundred Million Dollar Lunch*, which deals with the notorious WHDH case (Quinlan, 1974. See also §18.10).

The FCC's outlook had softened considerably in the interim and showed less concern about commercialism, explicitly discounting the sustaining program as an essential ingredient. Nevertheless, the FCC, as the FRC before it, has been generally consistent in evolving concepts of the criteria that should be used in applying the public interest test to programming.

According to the 1960 statement, "the major elements usually necessary" include the following 14 program categories or audience interests: agriculture, children, licensee editorializing, education, local self-expression, local talent, entertainment, minority-oriented programs, news, political programs, public affairs, religion, sports, and weather and market reports.

In view of the actual content of commercial broadcasting, it may come as a surprise to many to learn that entertainment is only one of 14 elements of program content considered important by the FCC. However, the commission set no quantitative standards. It said that these "usually necessary elements" should not be regarded as a "rigid mold or fixed formula."⁶

By 1971, though, the FCC had reconsidered this position, largely because of an appeals court reversal of its criteria for license renewals (see §18.9). This setback forced a reexamination of the problem of how to measure an incumbent station's past performance in the event of a competing application (27 FCC 2d 580). The FCC had proposed to give an incumbent preference over a new applicant if the former's program service had been "substantially attuned to meeting the needs and interests of its area." The interpretation of "substantiality" therefore became a key issue.

The FCC proposed three measurable elements of programming as critical for purposes of quantifying substantiality: the amount of news, public affairs, and local programming relative to programming as a whole. Unlike the other networks, NBC endorsed the FCC proposal, saying,

It appears that the stability of the broadcasting industry is being seriously threatened with turmoil which would result from contests in which newcomers carefully contrive applications designed to take advantage of their unrestricted ability to outpromise the existing licensee. . . . NBC reluctantly concludes that the Commission may have to adopt some quantitative standards for judging the performance of a renewal applicant, so that both the licensee and others will have some more precise standard for assessing a renewal applicant's performance. (NBC, 1971: 2)

NBC suggested that 10 to 12 percent of nonentertainment broadcast material would be a reasonable standard. In actual practice this turned out to be less than the current average, according to an FCC study (exhibit 18.3).

One problem in setting minimal levels is that stations differ so widely in their programming resources that it would be impossible to set a single standard for all. Data in exhibit 18.3 indicate, for example, that in practice the

⁶ Note, however, how they figure in the log requirements quoted in §18.3.

Exhibit 18.3
Measures of “substantiality” of public service television programming^a

Program category (commercials excluded)	Average % of total TV programming of		
	Largest stations ^b	Smallest stations ^c	Ratio (large/small)
News	10.3	2.1	4.9
Public affairs	5.3	2.7	2.0
Other nonentertainment	9.2	6.9	1.4
Local news	6.4	1.9	3.4
Local total	13.1	9.8	1.3

^a Based on a sample of 514 stations, using data for a composite week in 1972–1973.

^b Vhf network affiliates in top 50 markets with revenues over \$5 million.

^c Independent uhf stations.

Source: FCC, *Third Further Notice of Inquiry*, Docket 19154, 30 Nov. 1974.

largest stations programmed about five times as much news as the smallest, twice as much public-affairs programming, and over three times as much local news.

In any event, starting in 1974 television stations were required to file annual reports (FCC Form 303-A) covering the measurements indicated in exhibit 18.3. Previously, programming information became available only every three years, at license renewal time. Moreover, since renewals do not all occur in the same month, there had been no possibility of making a simultaneous nationwide comparison on the basis of renewal data.

18.7 Ascertainment of community needs

Several of the elements mentioned in the 1960 FCC program policy statement refer explicitly to local relevance — local self-expression, local talent, service to minority groups. In addition, the usefulness of religious, educational, public affairs, editorial, political, agriculture, news, and weather programs depends largely on their relevance to the local situation. In fact, the commission said flatly,

The principal ingredient of the licensee’s obligation to operate his station in the public interest is the diligent, positive, and continuing effort by the licensee to discover and fulfill the tastes, needs, and desires of his community or service area, for broadcast service. (25 FR 7294, 1960. Emphasis added.)

This emphasis on “localness,” as we have said, stems in part from §307(b) of the communications act, which directs the commission to allocate facilities so as to provide “a fair, efficient, and equitable distribution of radio service” to all the states and communities (§17.7).

Though Congress may originally have intended little more than to prevent regional favoritism in assigning stations, over the years the commissions linked

the idea of “localness” with “public interest, convenience, and necessity” — so closely, in fact, as to make it one of the chief criteria for evaluating program proposals.

In 1948 the court of appeals upheld the FCC in denying an application for improved facilities based on the licensee’s proposal to act as a “mere relay station” for network programs (169 *F 2d* 670, 1948). In the 1962 *Suburban* case, it upheld the FCC in refusing an applicant for an fm license in Elizabeth, New Jersey, because he proposed a schedule identical with programs on stations in Illinois and California, making no effort to determine whether or not it met the actual needs of the community (302 *F 2d* 191, 1962).

Although of such long standing, the localness requirement failed to achieve practical effects commensurate with its importance in the eyes of the FCC and the courts. As we have seen, a built-in centripetal force drives broadcasting toward program syndication (including networking) — the very opposite of localness (§9.6). Syndicated material is cheaper, easier to handle, more popular, and more profitable than most local material. Economic factors all conspire against local programming.

In 1960 the FCC started developing a device intended to guarantee that licensees would in fact tailor their services to fit the communities they are licensed to serve. Known as “ascertainment” for short, it consists of a requirement built into the license application that each licensee (1) undertake formal research on local problems, needs, and interests and (2) explicitly tailor some of the station’s programming to deal with the most pressing of these problems. The research must include both interviews with representative community leaders and a sample survey of the general population. The interviews with community leaders must be conducted by responsible executives of the station and not by clerical help or hired researchers (although professional help may be retained to conduct the sample survey of the general public). The implementation phase requires an explanation of how the licensee proposes to match programming with needs.

Five years later the commission found it necessary to issue a detailed primer on ascertainment (36 *FR* 4092, 1971). One common misunderstanding arose because licensees thought the ascertainment procedure is intended to get local opinion about suitable programs, rather than about community problems. This amounts to an evasion because the licensee, not the public, is responsible for using expert knowledge of broadcasting in order to devise programs relevant to community problems. The licensee must first ascertain the problems.

Some examples from the ascertainment primer will give an idea of the kinds of questions licensees have asked.

- Q. Can an applicant rely upon long-time residency in or familiarity with, the area to be served instead of making a showing that he has ascertained community problems?
- A. No. Such ascertainment is mandatory.

- Q. If, in consulting with community leaders and members of the general public, an applicant receives little information as to the existence of community problems, can he safely assume that only a few problems actually exist?
- A. No. . . . The applicant should note that many individuals when consulting with a broadcast applicant, either jump to the conclusion that the applicant is seeking programing preferences, or express community problems in terms of exposure or publicity for the particular groups with which they are affiliated. . . .
- Q. In the application, must there be a showing as to what broadcast matter the applicant is proposing [to deal with] what problem?
- A. Yes. . . .
- Q. Can an applicant specify only announcements and no programs to meet community problems?
- A. A proposal to present announcements only would raise a question as to the adequacy of the proposal. . . .
- Q. Can station editorials be used as a part of a licensee's efforts to meet community problems?
- A. Yes.
- Q. If an applicant proposes a specialized format (all news, rock and roll, religious, etc.), must it present broadcast matter to meet community problems?
- A. Yes. The broadcast matter can be fitted into the format of the station.
- Q. May an applicant rely upon activities other than programing to meet community problems?
- A. No. Many broadcasters do participate personally in civic activities, but the Commission's concern must be with the licensee's stewardship of his broadcast time in serving the public interest.

Broadcasters tend to resent the added burden of paperwork the ascertainment process imposes. They fear that "subjectively applied standards force them to play a game in which quantity and discursiveness are confused with quality and the realities of modern broadcasting" (Krasnow & Quale, 1974:7). On the other hand, some broadcasters use the ascertainment process as a management tool and benefit from it.⁷

As with all such devices, their effectiveness depends on the good faith and conscientiousness of their users. Plodding mechanically through the prescribed ascertainment procedures is not likely to produce worthwhile results. Imagination and sensitivity are essential. For example, the requirement of consulting "community leaders" about local problems leaves a great deal of definitional latitude. It has been pointed out that some leaders merely legitimize the actions of others, some effect changes by stimulating others, and some are activists in their own right (Surlin & Bradley, 1974). The licensee's choice of leaders or mix of leaders makes a significant difference in the meaningfulness of the results.

The ascertainment concept continues to evolve. In 1973 the FCC instituted an

⁷ That Indianapolis was the only major city not to experience racially inspired riots in the 1960s has been credited to broadcast activities guided by the findings of an ascertainment proceeding (Shosteck, 1974: 46).

inquiry into such questions as whether radio ascertainment should differ from television, whether small market ascertainment should differ from that in large markets, and what kinds of programs should be used in response to ascertained needs, especially for stations committed to rigidly defined formats.

18.8 Operating under license

Once licensed and in regular operation, a conscientious licensee normally experiences little official supervision or monitoring. The FCC field staff monitors and inspects stations for technical rather than programming violations. The technical and program logs described in §18.2 provide a running record of daily operations in case a complaint requires a checkup. The most common violations are operating with too much power, operating without a properly licensed technician, failure to make required transmitter checks, and failure to keep logs correctly.

Questions about programming usually come to the FCC's attention through complaints lodged against licensees by private individuals, organizations, or competitors. Exhibit 18.4 shows the number and most frequent subjects of complaints in one year. The leading topics vary from year to year. Most such public complaints have to be discarded because they have no substance or ask the commission to overstep its bounds by interfering with licensees' legitimate exercise of programming responsibility.⁸ When follow-up does seem warranted, the FCC writes a letter of inquiry to the licensee. If the reply warrants action, the FCC may send a letter of admonishment or a notice of apparent liability, either of which could lead to a fine.

Even without complaint-inquiry letters to answer, the licensee faces a heavy load of routine paperwork. The FCC requires annual reports on finances, employment, television programming, assessment of community problems and needs (television only). The renewal application falls due every three years, four months before the license expires, and must be accompanied by an ownership report. Any interim changes in details of ownership, in network agreements, in corporate stock, and in programming (if the changes are substantial) must be reported.

In the course of operations, meanwhile, other documents must be kept, notably the program and technical logs and a file of letters from the public. Licensees must be alert to a number of pitfalls that can get them into trouble with the FCC: their programming must adhere reasonably closely to the promises made in previous applications; they must avoid violating the lottery statute

⁸ The significance of complaint statistics can be diluted by organized write-in campaigns. In fiscal 1974, for example, most of the 5,778 complaints about television commentators' remarks on the Watergate hearings came on identical postcards; and over 20,000 complaints about obscenity came on identical forms that had been printed in a religious publication (information from FCC Complaints and Compliance Division).

Exhibit 18.4
Public complaints received by FCC

<i>Subject of complaint</i>	<i>No. received</i>
Programming complaints	
Obscenity, profanity, indecency	32,438 ^a
Advertising	2,739
Cancellation, refusal, substitution	2,562
Fairness doctrine	2,406
Section 315 (political candidates)	4,234
Distortion or suppression of news	1,299
Crime, violence, horror	1,171
Other	<u>5,190</u>
Total program complaints	52,039
Nonprogramming complaints	
Opposed to pending applications	3,385
Other	<u>5,898</u>
Total nonprogramming complaints	<u>9,283</u>
Total complaints	<u>61,322^b</u>

^a Unusually high because of organized card-writing campaign.

^b The commission also received 84,525 pieces of noncomplaint mail.

Source: FCC, 39th Annual Report, Government Printing Office, Washington, D.C., 1974: 220-221.

when promotion departments conduct contests; they must give any persons subjected to personal attack in their programs the proper notification and an invitation to reply; they must monitor popular song lyrics and foreign-language programs for possible violations. It behooves them to keep a fairness doctrine compliance log or diary and to keep close tabs on their sales departments to discourage temptations to cut corners with such violations as program-length commercials, double billing, and deceptive commercials.

While keeping one eye on the store, the licensee must direct the other toward Washington so as to be aware of new FCC regulations and new interpretations of old regulations. All this would be overwhelming were it not for communications lawyers in Washington whom stations retain to assist in the preparation of documents, to keep them informed of events at the FCC, and to remind them to meet their deadlines. Not every station can afford adequate legal advice of this kind, which is one reason small stations sometimes run up scores of violations before being called to account by the FCC.

Aside from the obvious need to comply with explicit regulations, the overriding consideration of licensees is their personal responsibilities for everything broadcast by their stations. The FCC emphasized in its 1960 policy statement that this responsibility

is personal to the licensee and may not be delegated. He is obligated to bring his positive responsibility affirmatively to bear upon all who have a hand in providing broadcast matter for transmission through his facilities so as to assure the discharge

of his duty to provide an acceptable program schedule consonant with operating in the public interest in his community. (25 FR, 7295)

Licensees must be wary of entering into contracts that imply turning over responsibility for programs to another party — sale of time to brokers for resale, for example, or agreements to give certain program time over to community groups. They must also face the fact that ignorance is no excuse: licensees cannot plead that a program was in a foreign language, that offensive material was buried in an otherwise inoffensive program, that a speaker made an unauthorized statement — no such circumstances warrant licensees' evasions of responsibility. The buck stops at the desk of the person in whose name the station received a license to go on the air.

18.9 Renewing a license

Assuming our hypothetical licensee has observed the rules as just outlined, success is virtually assured on application for renewal near the end of the third year of operation. Minor infractions can be paid for by obeying cease-and-desist orders, by paying fines, or simply by appropriate apologetic responses to FCC letters of inquiry about alleged violations. In order to avoid the expense of long-drawn-out proceedings, licensees often agree to change their ways without any formal adjudication of innocence or guilt. The informal letter of inquiry, along with the public statements commissioners make individually, have been called the “raised eyebrow” technique of regulation — a threat of punitive action that often secures compliance as effectively as legal sanctions.⁹

Renewals fall into two groups: uncontested applications and contested ones. The first group, which represents the great mass of the stations, goes through almost automatically. In fact, one of the chief complaints against the FCC by its critics has been the allegation that it merely rubber-stamps most uncontested applications, no matter how mediocre the licensees' performance. Considering that an FCC staff group of about 20 has to review the programming of some 2,700 stations a year, few applications can be subjected to intensive analysis (testimony of FCC chairman, House CIFIC, 1973: 112).

Opposition to renewals comes from individuals and groups alleging failure of incumbent licensees to operate in the public interest, from rival commercial applicants eager to get control of channels for themselves, and from combinations of these sources. Opposition can be initiated by the FCC itself, of course,

⁹ Occasionally a commission chairman has been known to resort to the type of unofficial regulation by persuasion known as “jawboning.” For example, in 1975, Commissioner Richard E. Wiley negotiated directly with the network heads to obtain an agreement to avoid “programming inappropriate for viewing by a general family audience” in the early prime-time hours. The NAB Code Board adopted these so-called “family standards” over substantial opposition from the industry. Opponents argued that the government was obtaining by volunteerism a degree of control over programming it could not obtain by law.

but even then complaints from audience members or other licensees usually alert the FCC initially to violations that cast doubt on a licensee's eligibility for renewal. Most petitions to deny are dismissed. Only the consequential petitions precipitate hearings.

Hearing policy considerations center on two issues: how the FCC should measure the "substantiality" of an incumbent licensee's past performance and on what grounds a rival applicant should be allowed to present alternative proposals. These issues have a vital bearing on the economics of commercial broadcasting in that licensees can hardly be expected to make substantial investments in broadcast properties and to undertake long-term contracts on the strength of a mere gamble on what will happen at the end of three years. The conscientious broadcaster needs some assurance that good conduct will be rewarded by renewal. On the other hand, the renewal process should not thwart the intent of the communications act by shutting out challenges, thereby giving incumbents perpetual licenses.

Two court decisions brought these issues to the fore in the 1960s. The first tested the concept of "standing," which the appeals court defined as "a practical and functional [concept] designed to insure that only those with a genuine and legitimate interest can participate in a proceeding" (359 F 2d 1002, 1966). In the 1966 *WLBT* case, citizens' groups won the legal right to intervene in the renewal hearings of a Jackson, Mississippi, television station, in opposition to the existing licensee (see §22.7 for details of the case). Previously, the FCC had accorded such standing only to other licensees who claimed a direct economic interest in the renewal proceedings. The court pointed out that the audience too has a direct economic interest in the outcome of renewal proceedings since its aggregate investment in receivers far exceeds that of the licensees in transmitters and studios.

This decision opened renewal hearings to a wide range of concerned citizens' groups — to "those who are most directly concerned with and intimately affected by the performance of the licensee" (359 F 2d 1002, 1966). The finding in the *WLBT* case had a major impact on the regulatory process. As a public interest attorney put it, "That single procedural pronouncement may have changed the complexion of broadcast regulation in the United States" (Bennett, 1974: 1).

The second case occurred in 1969 when the FCC took a channel away from WHDH-TV, a Boston vhf station, after 16 years of operation and awarded it to a rival applicant.¹⁰ For the first time a vhf station in a major market, seemingly without any gross violation of FCC rules, had lost its license. Although *WHDH* was not a straightforward renewal case and although the FCC itself said it was not to be taken as a precedent, it nevertheless profoundly shocked the industry.

¹⁰ Appeals dragged the case out for four years; the actual turnover of the license did not take place until 1973 (see §18.10 for details).

Events followed swiftly: the industry lobbied for a bill¹¹ to amend the communications act that would guarantee incumbent licensees preference in renewal hearings and give them more protection from challengers. The FCC forestalled Congress by adopting a revised renewal policy in 1970 that gave the industry essentially what it wanted (22 *FCC 2d* 424).

But the citizens' organizations challenged the legality of the new policy, and within a year it had been nullified by the appeals court. In the *Citizens Communications Center* case the court relied on a much earlier Supreme Court decision that had produced the *Ashbacker* doctrine (326 *US* 327, 1945). By this doctrine, in considering mutually exclusive applications under §309(e) — the hearing clause of the communications act — the FCC must conduct a full comparative hearing that includes *all* applicants. By evading this confrontation, said the court in *Citizens*, the FCC's policy had produced not stability but rigor mortis (447 *F 2d* 1214, 1971).

The requirement of a comparative hearing makes crucial the question of standards of comparison. What level of past program service on the part of incumbents entitles them to comparative preference? In its policy statement the commission defined the level as programming “substantially attuned” to local needs and lacking “serious deficiencies.” This level, said the court, would “in effect, substitute a standard of *substantial* service for the *best possible* service and effectively negate the hearing requirements of the statute as interpreted by the Supreme Court” (447 *F 2d* 1215, 1971, concurring opinion).

The FCC responded by proposing quantitative criteria for specific program types (§18.6). This is one small step in the direction of devising a comprehensive formula by which licensee performance may be measured. More searching indices must be built into the formula, however, before it can be considered a truly effective tool for analysis.

In 1973 Commissioner Nicholas Johnson, as a kind of valedictory to his stormy career as the great dissenter on the FCC, published a study designed to elaborate a more sophisticated measuring device. He described it as “an effort to use public disclosure of broadcasters' performance, and comparative ranking of those broadcasters, as a means of rewarding the better stations and punishing the worst” (Johnson, 1973: 6). Limited to the network television affiliates in the top 50 markets, the study analyzes 144 stations in terms of available indices in three categories: programming, minority and female employment statistics, and ownership.

Johnson's programming criteria add an interesting dimension to the conventional measurements, which are based on the relative amounts of nonentertainment and local programming and on the degree of commercialization. He proposed as an additional criterion the extent to which a licensee devotes his

¹¹ S. 2004, 91st Cong., 1st Sess., 1969, known as the Pastore Bill, named for the chairman of the Senate Commerce Committee's Subcommittee on Communication.

financial resources to programming.¹² A rough measure to this factor was obtained by dividing gross revenue into program expenses. As matters now stand, the FCC does not release the information needed to derive such an index. Johnson had confidential access to it but was able to release the results only in terms of station rankings and not in terms of dollars and cents. The study ranked all 144 stations according to all criteria except ownership (available ownership data did not lend themselves to comparative analysis).

Perhaps the most valuable contribution of the Johnson study is the disclosure of inadequacies in present licensee reporting requirements. Rules against public disclosure of financial data also prevent meaningful analysis of the extent to which licensees plow back profits into improving their program services.

It seems likely that some such system of objective analysis will eventually be introduced. In the meantime, however, Congress is expected to pass legislation amending the communications act that will give the FCC more guidance on renewal procedures (see Senate CC, 1974).

18.10 Losing a license

In rare cases of notorious misconduct, licenses have been revoked even before renewal time. Statutory grounds for revocation include false statements in applications; “willful or repeated failure to operate substantially as set forth in the license”; violations of cease-and-desist orders; “conditions coming to the attention of the Commission which would warrant refusing to grant a license or permit on an original application”; violation of the statutes against fraud, obscenity, and lotteries; failure to let candidates for federal elective offices use their facilities (§312).

The commission bears the burden of proof in a revocation proceeding. Refusing renewals, on the other hand, requires only a finding that the refusal would serve public interest, convenience, and necessity (§307, d). Administratively, the commission thus finds it easier simply to not renew licenses rather than to revoke them. In the period 1939–1973 only 32 licenses were revoked (FCC, *Annual Report*, 1974: 222).

Exhibit 18.5 shows the results of a study of license deletions (the general term for loss of license through surrender, failure to renew, or revocation) over a 36-year period. Deletions averaged less than 3 a year. If we discount licensees who apparently surrendered their licenses voluntarily by going off the air or by failing to renew applications, the total involuntary deletions amount to only 58 in the 36-year span. Even more striking, only one deleted station was charged

¹² A judge in the *Citizens Communications Center* case, which overturned the FCC’s renewal policy of 1970, had given a cue: “Along with elimination of excessive and loud advertising and delivery of quality programs, one test of superior service should certainly be whether and to what extent the incumbent has reinvested the profit on his license to the service of the viewing and listening public” (447 F 2d 1213, n.35, 1971).

Exhibit 18.5
Reasons for license deletions

Reasons cited by FCC ^a	Frequency cited in		
	Revocations (N = 32)	Denials (N = 46)	Total (N = 78) ^b
Misrepresentation to FCC	20	20	40
Unauthorized transfer of control	9	19	28
Technical violations	8	19	27
Abandonment, failure to prosecute renewal	8	12	20
Character of licensee	4	11	15
Financial incapacity of licensee	3	3	6
Fraudulent contests on station	1	1	2
False advertising on station	0	1	1
Indecent program materials	0	1	1
Overcommercialization	0	1	1
Departure from promised programming	1	0	1
Miscellaneous	7	10	17
Totals	61	98	159

^a Most cases involved more than one reason; hence not each of these reasons would necessarily suffice by itself.

^b The five most recent cases were still on appeal when the study was made.

Source: Data in John A. Abel, Charles Clift III, and Fredric A. Weiss, "Station License Revocations and Denials of Renewal, 1934-1969," *Journal of Broadcasting*, 14 (Fall, 1970): 411-421.

with false advertising, only one with overcommercialization, and only one with departing from program promises.

Most involuntary deletions have involved small stations, either with extraordinarily long lists of violations to their discredit or used for patently questionable purposes. Licensees often used such stations as personal mouthpieces, but as the FCC stated in its first enunciation of the fairness doctrine, "Congress intended that radio stations should not be used for the private interest, whims, or caprices of the particular persons who have been granted licenses" (13 FCC 1248, 1949). The stations described in §9.1, involving unethical medical advice by a spurious doctor and slander by a religious fanatic, are cases in point.

A more recent case was that of a station that aired the radical right-wing views of a fundamentalist preacher named Carl McIntire. McIntire's organization bought WXUR (am/fm) in Media, Pennsylvania, when stations of nearby Philadelphia refused to carry his syndicated *Twentieth Century Reform Hour* (McIntire testimony, House CIFIC, 1973: 979).

Almost from the moment that McIntire acquired the station in 1965, complaints about his one-sidedness began. Despite opposing petitions from 19 organizations, the FCC initially renewed the license but in 1970 turned down the next renewal application (24 FCC 2d 18), alleging that the licensee failed to comply with the rules governing the fairness doctrine, personal attack rules, ascertainment of local needs, and adherence to programming promises. The FCC later dropped the fairness doctrine and ascertainment charges over the

protest of Commissioner Nicholas Johnson. According to him, WXUR “totally refused to make any efforts at all to ascertain what its community needs and interests were” and presented important public issues in a grossly one-sided fashion (27 FCC 2d 579, 1971). The appeals court, in a divided decision upholding the FCC on the issue of misrepresentation, used unusually strong language in describing the licensee’s behavior: “With more bravado than brains, Brandywine [the station’s corporate name was Brandywine-Mainline Radio] went on an independent frolic, broadcasting what it chose, abusing those who dared to differ with its viewpoints.” The court characterized the licensee’s defense as “childish prattle” (473 F 2d 48, 1972).¹³

At the opposite end of the spectrum of deletions was WHDH-TV-Boston, a vhf station operated by the *Boston Herald Traveler*, a major daily newspaper. This is the single license deletion that might conceivably have given law-abiding broadcasters justifiable license-renewal jitters. But the FCC gave its assurance that WHDH must be regarded as a unique instance and not as a precedent. As the then-chairman of the FCC put it, the WHDH case “doesn’t prove anything except how sometimes bureaucracy can go mad” (House CIFIC, 1973: 108).

Nevertheless, WHDH had such a noisy impact and its details are so unusual that it deserves discussion despite its ambiguity. In a book-length study, one observer listed some of the events involved: the longest regulatory case in U.S. history, the demise of a 125-year-old newspaper (without WHDH income, the *Herald Traveler* soon went out of business), \$4 million in legal fees, “a wave of ‘claim-jumping’ of television licenses by minority groups, disaffected dissidents and outright opportunists” (Quinlan, 1974: xiv).

Channel 5 in Boston was one of the few vhf channels in major markets that remained unoccupied during the freeze. In the postfreeze period such channels became the object of intense struggles because of their immense potential value, inflated still further by the artificial delay of the freeze. The battle for the Boston channel was one of half a dozen that were alleged to have been tainted by *ex parte* (extralegal) efforts on the part of applicants.

The *Herald Traveler* went through a 13-month comparative hearing before being awarded the channel in 1957 and replacing the initial licensee, who had been disqualified for misrepresentation to the commission. WHDH first ran into difficulties on the score of alleged *ex parte* interventions with the FCC. The issue receded into the background as the years of litigation dragged on, and a new issue took the foreground — the issue of diversification of media ownership. The complicated case also included charges of concealment of ownership and antitrust violations. The FCC took over 15 months to write a three-to-one

¹³ McIntire, who has a flair for squeezing publicity out of losing spectacularly hopeless causes, responded to the loss of the station by launching a pseudoevent — a shipborne “pirate” station that broadcast from international waters off the New Jersey coast just long enough to get a flurry of publicity.

decision against WHDH, reversing its own staff's initial hearing decision (16 FCC 2d 1, 1969). The case lingered on until the Supreme Court finally settled it by upholding the FCC (403 US 923, 1971). On March 19, 1972, the station passed into the hands of the group that won out in the comparative hearings, and WHDH-TV was replaced by WCVB-TV.

The *WHDH* case proved that it was at least possible for a major station to lose its license without having committed the overwhelming accumulation of violations that buttress most deletions. It therefore became the leading cause of broadcasting industry demands for new legislation to spell out the terms on which stations could be challenged at renewal time.¹⁴

18.11 Regulation of networks

In the years prior to 1927, when the broadcasting law was first enacted, networks had not yet assumed the central role they now have. Accordingly, the law made no provision for direct regulation of networks. During the course of congressional committee debates, however, a provision was added that authorized special regulations governing stations engaged in "chain" broadcasting (§3, p). By putting its rules in the form of limitations on the kinds of network contracts licensees may enter into, the FCC can indirectly regulate many aspects of network operations. And to the extent that networks own and operate stations of their own, they come under direct regulation as licensees.

The FCC's first major investigation of networks led to the chain broadcasting regulations of 1938 and a landmark Supreme Court decision, generally referred to as *The Network Case* (319 US 190, 1943). Television caused renewed concern, and in 1955 Congress authorized an FCC investigation that led to the establishment of a permanent Office of Network Study in the commission (see FCC organization chart, exhibit 18.1) and to further development of the chain regulations.

Rules growing out of the chain broadcasting investigation of 1938 still apply. Their general import is to restrain networks from unduly influencing their affiliates' economic effectiveness at times when they are not carrying network programs and to ensure equity in the contractual relationship between affiliate and network.¹⁵

The chief network rules govern the following situations:

¹⁴ The successor station, WCVB, having won such a notorious victory, is subject to close public scrutiny in terms of promises versus performance. First reports were favorable. The station had a news team 70 strong and two investigative reporting units, spent \$7,500 weekly on children's programming, scheduled 55 hours of local live programs each week, and frequently preempted network time for special local programs (Quinlan, 1974: 74). See also Smith and Prince (1974a, b), who examine the emotional impact of the *WHDH* case in terms of "living proof of the practicability of the FCC's public interest doctrine" (1974b: 38).

¹⁵ The rules vary somewhat from one service to another and do not apply at all to noncommercial educational stations. For am rules see 47 CFR §§73.131–73.138; fm, §§73.231–73.240; television, §73.658.

1. *Exclusivity of affiliation* Network-affiliate contracts may not preclude an affiliate of network A from accepting programs made available to it by network B.
2. *Territorial exclusivity* Contracts may not prevent network A from releasing a program to an affiliate of network B in a market where its own affiliate declines to carry the program. The two exclusivity rules seek to prevent dog-in-the-manger tactics that might deprive the public of benefiting from available programs.
3. *Term of contract* Affiliation contracts may not run for longer than two years, renewable six months before expiration. Before this regulation went into effect, both NBC and CBS contracts bound their radio affiliates for five years but themselves for only one.
4. *Option time* Originally networks sought to tie up certain hours of their affiliates' schedules and required them to make these hours available on short notice. This prevented the stations from dealing effectively with local and non-network national advertisers. The FCC cut back on the networks' freedom to impose option time rules on radio stations and wholly eliminated option time with respect to television.
5. *Right to reject programs* Contracts may not prevent affiliates from rejecting network programs if the affiliates prefer to substitute other programs. The rule allows three broad bases for rejection: the affiliate (A) "reasonably believes" the network offering to be "unsatisfactory or unsuitable"; (B) considers the network program "contrary to the public interest"; (C) finds the network program in conflict with another program "of outstanding local or national importance." This regulation reflects the doctrine that the licensees have ultimate legal responsibility for their stations' programming. Responsibility may not be delegated to the network or to anyone else. Except in the case of known controversial programs, however, licensees obviously do leave much of the programming responsibility for their stations to the networks — an argument advanced by those who favor the direct licensing of networks as well as stations. In practice, affiliates tend to reject two types of network programs: those that don't make money and those that cause trouble (§16.5).
6. *Duopoly* A network may not own more than one station covering the same service area or any station where the existing stations "are so few or of such unequal desirability . . . that competition would be substantially restrained."
7. *Dual networks* A network organization may not operate two or more networks covering the same territory at the same time. This and the previous rule were aimed originally at the NBC Red/Blue combination of radio networks.
8. *Control of rates* Contracts may not allow networks to influence affiliates' rates for non-network time.

In addition to the foregoing rules of general application, these additional ones apply in particular to television networks:

9. *Representation Networks* may not act as national sales representatives for non-network time except for their owned stations. This rule reflects the fact that network sales departments compete directly against stations' national sales representative firms in selling to national advertisers.
10. *Syndication Networks* may not compete in the program syndication field, except overseas.
11. *Prime-time access Stations* may not broadcast network programs for more than 3 hours during the 7 P.M.–11 P.M. (prime time) period (6 P.M.–10 P.M. in the central and mountain time zones). Although the rule applies only to the top 50 markets it affects all markets since the networks cannot afford to program separately for the remaining markets. Exceptions may be made for special news programs, for broadcasts by candidates for public office, and for other special situations (§10.6).

The oligopoly power of the networks continues to invite government intervention, and in 1972 the Justice Department initiated an antitrust suit against the three national chains (see §21.6).

18.12 Regulation of public broadcasting

Noncommercial broadcasting escapes some of the regulatory burdens of the commercial service. To accommodate state networks and licensees desiring to offer simultaneous educational and cultural services, the FCC exempts noncommercial services from the ownership and affiliation limitations imposed on commercial operators. Public broadcasting licensees are also excused from ascertainment requirements. This exemption seems likely to change, although the ascertainment rules may develop along more permissive lines for educational stations (see Bennett, 1972).

But noncommercial licensees operate under some special restrictions of their own. As mentioned earlier, the communications act forbids educational stations to editorialize or to support or oppose candidates for political office (§399). This does not, however, bar such stations from allowing candidates to use their facilities on an equal opportunities basis. In fact, a state law that attempted to make it a criminal offense for the state's educational network to carry broadcasts "for the promotion, advertisement or advancement of any political candidate . . . or opposing any specific program, existing or proposed, of governmental action" was declared invalid by the Supreme Court of the state of Maine (Morison & McNeil, 1970).

The chief distinguishing feature of noncommercial broadcasting is, of course, its noncommerciality. It is not totally free of commercialism, however.

Licensees may accept grants-in-aid from commercial sources for specific programs, and stations may give brief credit to such “sponsors.” The FCC exempts from normal credit limitations the annual auction sales held by many public television stations to raise funds from the general public (47 *CFR* 73.621, e, Note 4). Credit for donated articles is generously given during the auctions — to the extent that they seem perilously close to the “program-length commercial” that is forbidden even to commercial broadcasters (see §18.14).

As to programs on educational stations, their definition leaves wide latitude. Noncommercial stations may broadcast “educational cultural and entertainment programs, and programs designed for use by schools . . . as well as routine and administrative material pertaining thereto” (47 *CFR* 73.621, c). This permits scheduling every type of program used on commercial stations with the sole exception of full-length commercial announcements. The “routine and administrative material” of the rule exempts noncommercial educational stations even from the prohibition against point-to-point communications in commercial broadcasting.

The fact that the FCC has not required noncommercial stations to make a formal ascertainment of community needs or to justify programming in those terms may cause future problems for licensees who could be charged with failure to serve their communities fairly. When the Alabama Educational Television Commission applied for routine renewals of its eight stations in 1970, the FCC considered a complaint from 60 petitioners at the University of Alabama that alleged systematic deletion by the state system of PBS network programs dealing with blacks and the Vietnam controversy. The AETC replied that it gave priority to local programming and that in any event the omitted network programs contained “lewd, vulgar, obscene, profane or repulsive material” that the licensee was justified in deleting (25 *FCC 2d* 343, 1970). After first dismissing the complaint the FCC eventually refused renewal by a 4–2 decision — the first instance of such harsh action against a noncommercial licensee (50 *FCC 2d* 461, 1975). However, the FCC allowed the Alabama network to continue operating the stations, pending a decision on who would become the licensee or licensees (by that time the state network involved nine stations). The FCC also waived its rules and permitted AETC to reapply.

18.13 Regulation of CATV

The communications act could not, of course, have anticipated the novel problems for broadcasting posed by the development of community antenna television in the 1950s. For a decade the FCC hesitated to assert jurisdiction, hoping that Congress would lead the way. Congress debated at length, but no new law for CATV came forth.¹⁶ Eventually, cable began to have so much

¹⁶ Examples: *VHF Boosters and CATV Legislation* (Senate CC, 1959); *Regulation of Community Antenna Television* (House CIFIC, 1965).

impact on broadcasting that the FCC was obliged to intervene. For years it had been nurturing uhf television, only now to see its shaky foundation undermined by cable, which tends to hurt the weakest stations first. Educational stations too felt themselves vulnerable to CATV audience splitting. Denver public television interests, for example, opposed importation of educational signals from California (Johnson, 1970: 15).

The FCC based its first claim of jurisdiction over cable on the fact that many systems were beginning to import distant signals by using microwave relays (which required FCC licenses). Such imported programs, the FCC concluded, threatened economic hardship to broadcast stations, whose audiences would be reduced by competition from stations not normally part of their markets. Accordingly, in 1962 the commission began to impose case-by-case restrictions on cable systems using microwave relays.

In 1966 the FCC asserted general jurisdiction over cable systems, including those not using microwave relays. The rules adopted that year included requirements that a CATV system must carry local television stations and must not duplicate local programs with imported programs on a same-day basis. The 1966 rules also prohibited importation of any signals at all into the top 100 markets without prior hearings as to the probable effect of such importations on existing broadcast stations. The Supreme Court affirmed the FCC's jurisdiction over CATV in 1968 in the *Southwestern Cable* case (392 US 157).

A period of intense effort to evolve a comprehensive system of regulation ensued. The debate centered on the issue of cable development in the largest urban centers. At one extreme cable proponents argued for unrestrained growth, contending that broadcasting represented an outmoded technology, artificially propped up by FCC protectionist policies. At the other extreme broadcasting interests argued that if the FCC allowed unrestrained cable development, the public would eventually find itself paying for the entertainment programs that it had previously received "free" from over-the-air broadcasting and would be denied public service programs of a type only national networks can produce.

The comprehensive regulations of 1972 described in chapter 11 represented a compromise — a consensus agreement to try a conservative policy of limited growth. Many remained convinced, however, that cable television must be given a free rein in order to develop. The issue had such political importance that the president appointed a high-level committee to make long-range cable recommendations. It included three members of the Cabinet, three presidential advisors, and the director of the Office of Telecommunications Policy. The committee's report, released early in 1974, disclaimed any belief in cable as "a modern day Rosetta stone capable of unravelling the complex problems facing this society." Nevertheless, the general tenor of the report supports the development of an eventual common-carrier cable system completely free of the type of supervision to which broadcasting has been accustomed. The committee opposed exclusive franchises and free access channels. It recommended

extension of copyright to include cable use, in order to create an incentive for original cable programming. It recommended but did not unanimously endorse a federally funded demonstration project to help develop some of the more innovative potentialities of cable television (see Cabinet Committee, 1974).

18.14 Regulation of advertising

FTC actions As indicated in §17.12, the Federal Trade Commission is responsible for controlling fraudulent advertising. Under the terms of a formal liaison agreement, the FTC retains primary jurisdiction and the FCC forwards broadcasting complaints to the FTC for action. The FCC regards the broadcasting of fraudulent advertising as evidence of unfitness in a licensee. It makes licensees explicitly responsible for advertising as well as for other types of program content. The FCC expects licensees to be aware of FTC actions and to examine with particular care any advertising they carry that has become the subject of an FTC complaint (29 FCC 2d 807, 1972).

Deceptive demonstrations Television introduced a new form of advertising deception with the staged or “simulated” demonstration. This involves misuse of one of the medium’s most effective tools, the ability to give visual proof of an advertising claim. In its first ruling on deception in this field, the Supreme Court upheld the FTC after a four-year battle to stop the use of deceptive methods of visual “proof” of advertising claims on television.

The FTC objected to a visual demonstration of a shaving cream’s alleged efficacy in “shaving” sandpaper. In fact, the sandpaper had to be soaked in the cream for 80 minutes before it could be “shaved”; moreover, the commercial used a plexiglass mockup for the demonstration instead of real sandpaper. An appeals court twice reversed the FTC before the Supreme Court finally settled the question. By that time it had been conceded that the original sandpaper claim could not be proved; the Supreme Court focused on whether or not it was unlawful to use props to simulate demonstrations. The court upheld the FTC in its contention that it is deceptive to offer the viewer “proof” of a claim by means of a simulated visual demonstration (380 US 374, 1965).

Amount of advertising The FCC has always considered the relative prominence of commercial material in programming as having public interest significance. On the whole, though, it has grown more permissive with the years. For example, the 1946 “Blue Book” (§18.6) cited cases of advertising “excess,” including a station that averaged 16.7 commercial spots per hour, another that ran 6 spots consecutively, and others for interrupting newscasts with middle commercials (FCC, 1946: 40).

The commission’s 1960 statement on programming warned licensees to “avoid abuses with respect to the total amount of time devoted to advertising continuity as well as frequency with which regular programs are interrupted

for advertising messages” (25 FR 7295). License application forms require statements about commercial practices, past as well as future in the case of renewals. These call for stating the number of minutes per hour devoted to commercials, and if the number exceeds the standards set in the National Association of Broadcasters code (§15.3), the applicant must explain the reason for so much advertising.

In 1963 the commission proposed adopting the NAB standards as its own. Broadcasters lobbied vigorously against official adoption of their own trade association’s standards, inspiring a bill in Congress to forbid any such action on the part of the FCC. At the ensuing congressional hearings, testimony of the FCC chairman explained one reason for the opposition: an FCC study of station logs indicated that 40 percent of the stations exceeded NAB time limitation standards (House CIFIC, 1963: 38). Early in 1964 the FCC dropped the proposal to impose fixed standards in favor of “closer scrutiny” of how well stations live up to their application promises (see Krasnow & Longley, 1973: 105). It continued its case-by-case approach, leaving room for wide variations according to local circumstances. And indeed, as mentioned earlier, in 1966 the commission even authorized a Los Angeles fm station to experimentally broadcast a service consisting entirely of classified advertisements (§9.11).

Loudness Another measure of advertising salience used by the FCC is relative loudness. In 1963 the commission conducted a formal investigation of complaints that commercials seem louder than their surrounding program material. After a two-year study the commission released a statement of policy concerning loud commercials (30 FR 8967, 1965); it concluded that they were indeed a problem and contrary to the public interest. It listed a number of technical factors that can inadvertently contribute to volume contrast between surrounding material and commercial inserts. But it also recognized deliberate loudness, including delivery in a “loud, rapid and strident manner.” Because of the mildness of the commission’s statement, which amounts to little more than a plea for “good faith efforts” on the part of licensees, the loudness and stridency of commercials continue to be subjects of complaint.

A number of other factors contribute to the saliency of advertising material (see §15.3), but the FCC has not treated them explicitly; only the gross minutes-per-hour measurement appears in license application forms.

Disclosure of payments The communications act requires that the source of advertising be disclosed (§317). Ordinary commercial advertising requires no explicit announcement since it automatically identifies the advertised product or service by name. But announcements that could be misconstrued as something other than advertising must carry a notice of who is responsible for them: such familiar program credits as “promotional fees paid by so-and-so” mean that an airline (for example) paid to have its aircraft used in connection with the program for the sake of promoting the airline’s name (see §15.6).

Program-length commercials The FCC found it necessary to issue a special primer on a form of evasion known as “program-length commercials” (39 *FR* 4042, 1974). As noted in §15.2, this term refers to programs that interweave commercial messages so closely with noncommercial material that the programs as a whole become in effect commercials.

The commission makes an exception to this rule for syndicated religious programs whose sponsors buy time and spend much of it either promoting the sale of religious artifacts or exhorting the audience to send in donations (39 *FR* 4043, 1974). In this ruling, as in other ways, the FCC leans over backward to avoid a confrontation with the constitutional freedom of religion, even though syndicated programs of this type are often even more commercially exploitative than ordinary commercial programs.

By and large it seems fair to say that the FCC intervenes in the commercial realm as little as possible. It goes more than halfway to acknowledge that as far as commercial licensees are concerned, broadcasting exists to make money. Even the mild regulations adopted by the commission expose it to charges that it is undermining free enterprise and promoting socialism. These time-honored catch phrases tend to bring Congress down on the FCC, most of whose members feel they have problems enough.

Regulation: Enemy of Freedom

Under the First Amendment there is no such thing as a false idea. However pernicious an opinion may seem, we depend for its correction not on the conscience of judges and juries but on the competition of other ideas. (Mr. Justice Powell, 418 US 339, 1974)

We turn now from the pragmatic, day-to-day regulation considered in the preceding chapter to a larger question: the significance of the First Amendment to broadcasting in America. Virtually every important legal and social issue concerning broadcasting eventually leads back to this one great constitutional principle and to the vexing question as to how it applies to a government-licensed medium.

19.1 Danger! First Amendment ahead

The First Amendment to the Constitution protects four fundamental private rights that governments in all ages have had the most reason to fear and the most inclination to violate: freedom of religion, freedom of speech, freedom of assembly, and freedom to petition the government for redress of grievances.¹ The First Amendment covers the most dangerous right of all in only 14 words (*italicized*):

*Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.*²

¹ In this context, references to the First Amendment mean specifically the freedom of speech and of the press. According to convention, “speech” or “utterance” will signify any channel of dissemination; “publish” will signify “broadcast” or make public by other means.

² Although the First Amendment restrains only the federal government, the Supreme Court interprets the Fourteenth Amendment as extending its prohibitions to the state governments (283 US 359, 1931). In addition, all state constitutions include similar provisions.

Of the three branches of the government, the founders most feared the power of the legislature to curtail freedom by passing repressive laws; hence the First Amendment singles out Congress for restraint. The potentialities of the executive branch for repression, though insignificant at the time the Constitution was framed, have since grown enormously. With startling prescience, Thomas Jefferson foresaw this possibility even at the outset, writing in a letter to Madison, “The tyranny of the legislature is the most formidable dread at present, and will be for many years. That of the executive will come in its turn” (Padover, 1946: 50).

Two centuries later the Nixon administration fulfilled Jefferson’s prophesy. It sought, by a highly organized campaign of intimidation and by manipulating public opinion and federal agencies, to destroy public confidence in the news media and to undermine their freedom to perform the very functions the First Amendment was designed to guarantee. These efforts included attempts to use the FCC, the Internal Revenue Service, the Justice Department, the Federal Bureau of Investigation, the Corporation for Public Broadcasting, the Office of Telecommunications Policy, and the power of presidential advisors to weaken and divide the media (see §21.6).

In staking their future on the Bill of Rights,³ the framers of the Constitution knowingly embarked on a dangerous experiment. They rejected the hypothesis that government requires a specially ordained ruling family, class, or caste. They banked on the ability of people to rule themselves, as long as they had the means — the unhampered flow of information, ideas, and opinions essential for making political judgments and the freedom to criticize those in office without hindrance or fear of reprisal.

Jefferson recognized the hazards of such freedom when he wrote to a friend,

I have lent myself willingly as the subject of a great experiment, which was to prove that an administration, conducting itself with integrity and common understanding, cannot be battered down, even by the falsehoods of a licentious press. . . . This experiment was wanting for the world to demonstrate the falsehood of the pretext that freedom of the press is incompatible with orderly government.⁴

So much does the theory of the Constitution remain an experiment that even after 200 years a sizable portion of the American people remains unconvinced. Many fear the contemporary excesses of the press, to this day regarding it as “incompatible with orderly government.” From time to time opinion polls disclose an alarmingly high proportion of disbelievers.

Who could possibly quarrel with the basic freedoms guaranteed by the U.S. Constitution? Most Americans, according to a poll conducted by CBS News. A majority

³ These are the first ten amendments to the Constitution — in the absence of which a number of states said they would not ratify the document — and were adopted at the first session of Congress in 1789 “in order to prevent misconstruction and abuse of [the Constitution’s] powers.”

⁴ Letter to Thomas Seymour, 1807; in Padover, 1946: 95.

of 1,136 people polled in a representative sampling of Americans in effect do not now support five of the ten protections of the Bill of Rights. (*Time*, 1970)

Three-quarters of the respondents answering a question aimed at testing whether or not they accepted the fundamental thesis of the First Amendment said, “No.” Like results have invariably been obtained from similar surveys. A 1974 survey disclosed that of those who supported the Nixon administration, 55 percent believed “the President has the right to bend the law a little — or even break the laws — if he is acting in the best interests of the nation” (*Time*, 3 June 1974).

President Nixon, in turn, seemed to feel he should be beyond criticism in matters of state. He castigated media leaders and others for failure to “understand the importance of the great decisions and the necessity to stand by the President of the United States when he makes a terribly difficult, potentially unpopular decision.” Such a statement, the *New York Times* editorialized, betrayed the president’s “ignorance of and indifference to the meaning of a free press and a free opinion. It is precisely when the decisions are ‘terribly difficult,’ whether popular or unpopular, that it is most incumbent on a free people in a functioning democracy to express its views” (18 Oct. 1972).

19.2 Broadcasting and the system of free expression

Although the immediate motive for adopting the First Amendment was political — to “prevent misconstruction and abuse” of its constitutional powers by Congress — freedom of expression has other important roles to play as well.

Mankind prizes the right to free expression because it fosters individual self-fulfillment. Emerson regards it as “essential to the realization of man’s character and potential as a human being” (1972: 163).⁵ It also plays a vital role both as the facilitator of peaceful social change and as the essential tool of the inquiring mind in search of objective truth.

Although the First Amendment puts the right to free expression in negative form — “Congress shall make no law” — several positive rights can be deduced as logical implications of the fundamental proposition. They include the rights to develop one’s own beliefs and opinions, to have access to the means of communication, to obtain needed information, and to associate with others for purposes of securing and exercising these rights.

That owners of broadcasting stations should benefit from the protection of the First Amendment was made clear by the communications act, which states that “no regulation or condition shall be promulgated or fixed by the Commission which shall interfere with the right of free speech by means of radio

⁵ The exposition of basic functions and rights in the “system of free expression” in this section relies on concepts elaborated by Thomas I. Emerson, professor of law at Yale University and author of *The System of Free Expression* (1970).

communication” (§326). Nevertheless, the position of broadcasting in the system of rights and privileges conferred by the First Amendment cannot help being colored by the fact that broadcasting, unlike any other public medium, exists only by virtue of a license from Congress — that same Congress that the Constitution prohibits from making any law that abridges freedom of speech and press.

Abridgement can be of two kinds — control over *what* people say and control over *how* they say it, that is, over the means or channels of expression. The licensing of broadcast stations falls under the second heading.

It is accepted as necessary and reasonable that the government must exercise control over some aspects of the facilities used for self-expression — whether streets, public parks, or the public airways. This type of control is called the *traffic management* function, a term often used to describe the FCC’s role in managing the physical aspects of broadcasting. “Rules to effect this purpose are entirely manageable and, if they are nondiscriminatory, either promote, or at least do not seriously impair, the system of freedom of expression” (Emerson, 1972: 168).

In the traditional “freedom of the press” perspective, the freedom of publishers to use the means of expression they own occupies center stage. The First Amendment protects the publishers’ right to report what they please and to comment as they see fit. The First Amendment imposes no obligation on them to be fair, balanced, or even truthful — although they must be prepared to face libel suits should they give cause. The theory assumes that if one publisher is unfair or prejudiced or venal, other publishers and other voices will provide a balancing corrective. (This “self-righting” process is discussed in more detail in §20.1).

In broadcasting, however, “publishers” are not owners in the complete sense. They serve only as temporary licensees acting on behalf of the public. This puts them in a different position from that of traditional publishers. They are not entirely free to use their stations as they wish. Their role is that of a *fiduciary* — one who holds something in trust for another. The Supreme Court put it this way:

A license permits broadcasting, but the licensee has no constitutional right to be the one who holds the license or to monopolize a radio frequency to the exclusion of his fellow citizens. There is nothing in the First Amendment which prevents the Government from requiring a licensee to share his frequency with others and to conduct himself as a proxy or fiduciary with obligations to present those views and voices which are representative of his community and which would otherwise, by necessity, be barred from the airwaves. (395 *US* 389, 1969)

In broadcasting, then, we must consider First Amendment rights in the special perspective imposed by the nature of the medium. Licensees have the right to use their channels at their own discretion, free of censorship; but their absolute right to control their channels must yield to some extent, giving access to others.

On the other hand, it is clearly impracticable to give each and every member of the public access to a broadcasting station. The FCC resolves this dilemma by shifting attention to another facet of First Amendment rights — the right of the public to receive communications. This it accomplishes by means of the fairness doctrine, which, except for the special case of personal attacks, is issue oriented rather than person oriented. It seeks to ensure that licensees will make time available on their stations for the discussion of all sides of controversial public issues. (We will discuss the machinery of this doctrine in §20.7.)

This requirement of sharing is unique to broadcasting. The First Amendment has not been interpreted as imposing any such requirement on newspaper owners. Indeed, the Supreme Court declared unconstitutional a Florida state law that required newspapers to allow political candidates the right of reply to newspaper criticism. In his concurring opinion striking down the Florida statute, Mr. Justice White wrote, “The balance struck by the First Amendment with respect to the press is that society must take the risk that occasionally debate on vital matters will not be comprehensive and that all viewpoints may not be expressed” (418 US 260, 1974).

The fairness doctrine brings us back to the content aspect of First Amendment rights — to the question of *what* is said rather than *how* it is said.

The FCC, as we saw in chapter 17, does more than act as a traffic officer preventing collisions on the highways of the spectrum; it also exercises certain controls over content itself. Some are specific controls, such as the sponsor identification rule and the §315 rules on political broadcasting; some are general, such as the fairness doctrine and licensing policies that seek to ensure the broadcasting of certain types of programs. The Supreme Court, in affirming this prerogative of the FCC in the *NBC* (chain broadcasting) case said,

We are asked to regard the Commission as a kind of traffic officer, policing the wave lengths to prevent stations from interfering with each other. But the Act does not restrict the Commission merely to supervision of the traffic. It puts upon the Commission the burden of determining the composition of that traffic. (319 US 215, 1943)

Existence of lawful FCC controls over the “composition of the traffic” means controls over content, imposed in the name of Congress. Clearly, the command of the First Amendment against such laws must be somewhat less than absolute.

19.3 Restraints on freedom

The constitutional prohibition against government censorship mentions no exceptions to the rule, stating flatly that “Congress shall make no law . . .”. Although the prohibition seems absolute, we do nevertheless have laws to penalize those who commit slander and libel. Fraudulent utterances may be punished; the state abridges freedom to disclose trade secrets as well as state secrets; we are not at liberty to plagiarize with impunity, to invade privacy, to

publish obscene materials, to incite an insurrection. How do we explain these exceptions if the law provides for no exceptions?

One way of looking at this question is to draw the line implied by the folk wisdom of “Sticks and stones will break my bones, but names will never hurt me.” Laws may punish actions but not mere words. Advocacy must be distinguished from incitement, teaching from doing, preparing from attempting.

Some forms of expression verge so closely on action, however, that even this broad distinction at times becomes blurred. Supreme Court Justice Oliver Wendell Holmes gave us a classic analogy: The First Amendment does not require us to tell the truth, but that does not mean we have the right to falsely cry “Fire!” in a crowded theater. “The character of every act,” wrote Holmes, “depends upon the circumstances in which it is done” (249 US 52, 1919).

The symbolic speech devices frequently used in the 1960s, such as public draft card burning as a protest against the Vietnam war, were practical cases of “speech” linked to action. In finding such actions criminal the courts were forced into punishing speech as well. This puzzling issue has relevance to broadcasting because to be effective, “street theater” needs an audience that only the media — particularly television — can supply. The very point of using these dramatic, symbolic forms of expression is to gain access to the media that would otherwise be denied.

Holmes attempted to draw the words-versus-action distinction in an earlier wartime situation. His solution was the “clear and present danger” test of permissible government restraint on freedom of expression. It first appeared in the *Schenck* opinion, written by Holmes in 1919. The case involved a wartime attempt to obstruct the military draft by means of a circular intended to incite direct resistance. Said Holmes,

We admit that in many places and in ordinary times the defendants in saying all that was said in the circular would have been within their constitutional rights. But the character of every act depends upon the circumstances in which it is done. . . . The question in every case is whether the words used are used in such circumstances and are of such a nature as to create a clear and present danger that they will bring about the substantive evils that Congress has a right to prevent. It is a question of proximity and degree. (249 US 52, 1919)

The clear-and-present-danger principle works best in the context of war or of other dangerous circumstances that involve potentially catastrophic physical hazards. It is more difficult to use the test in assaying other dangers against which society seems to have a legitimate need to protect itself, but which cannot be said to pose as clear or as present a danger as imminent and violent overthrow of the government.

A test that may be appropriate in the area of publishing asks if the material alleged to be dangerous has any “redeeming social value.” Would the social value of publishing it offset the damage it might cause? This test stresses the social function of speech. Freedom to communicate has meaning only in a

social context. No one suppresses anything a lone castaway wants to say, but in the absence of anyone else to talk to, what would be worth saying? “The hermit is free to sing but not to sing in a chorus or opera” (Hocking, 1947: 67). If society confers value on the freedom to speak, by the same token society requires that speakers avoid certain types of social injury this side of complete and immediate chaos.

The classes of injurious expression of this type that particularly concern broadcasting include some that harm specific individuals (personal attacks and libel) and others that allegedly harm society indiscriminately (obscenity and certain other types of noxious content). Not all such supposed harms can be defined clearly enough to avoid the charge of unconstitutional vagueness. Still, the courts have upheld the right of society to override the First Amendment in order to protect itself and its individual members from well-defined noncatastrophic injuries. Such abridgements rely on the concept of judicious balancing, the choosing of the lesser of two evils. The case of obscenity offers the prime example.

19.4 Obscenity

The history of obscenity laws shows that much harm can be done in the name of protecting society from an imaginary threat. Until a series of court decisions starting in 1933 with the vindication of James Joyce’s literary masterpiece, *Ulysses* (5 F Sup 182), the nineteenth-century Comstock law severely curtailed circulation of literature and art in the United States. Local and state censorship boards imposed arbitrary restraints, and the personal whims of the Postmaster General determined what publications would be allowed to have low-rate mailing privileges.

After being clandestinely circulated for years, *Ulysses* won respectability on the grounds that a work had to be considered as a whole and in the light of the artist’s creative intention. No longer could censors suppress an entire work because of isolated passages they found objectionable.

Following *Ulysses*, a series of court decisions eroded the obscenity laws almost to the vanishing point. In the *Roth* case in 1957 the Supreme Court gave its fullest analysis of the grounds by which obscenity could be tested. In upholding a conviction for the mailing of indecent books, the court outlined a sixfold test. It was necessary to ask whether (1) to the average person, applying (2) contemporary standards, the (3) dominant theme of the material (4) taken as a whole appeals to (5) prurient [lascivious, lustful] interest in sex and (6) is utterly without redeeming social value. Mr. Justice Brennan, for the majority, wrote,

All ideas having even the slightest redeeming social importance — unorthodox ideas, controversial ideas, even ideas hateful to the prevailing climate of opinion — have the full protection [of the First Amendment], unless excluded because they

encroach upon the limited area of more important interests. But implicit in the history of the First Amendment is the rejection of obscenity as utterly without redeeming social importance. (354 *US* 484, 1957)

The question of whether the yardstick of “contemporary standards” should be local or national became an issue in later cases. In 1964 the Court decided in the *Miller* case that standards should be national (378 *US* 577); ten years later it decided instead to leave the standards to local authorities (413 *US* 15, 1973). This decision opened the gate to a flood of repressive local rulings, which resulted in new appeals and reversals.

The issue of national versus local standards has direct relevancy to broadcasting. The doctrine of localism (§17.7) seems to argue that broadcasters should rely solely on local standards. But experience shows that on the whole local standards tend to be more repressive, more subject to the pressures of special interest groups, and more narrowly sectarian than national standards.

Defining obscenity remains an unresolved riddle, but a growing body of public opinion opposes the extremes of permissiveness represented by X-rated movies, porno shops, and exploitative sexual publications. That broadcasting has not gone to such extremes demonstrates the impracticability of lumping all media together for purposes of First Amendment theory. The FCC summarized the reasons for treating broadcasting differently from other media as follows:

Radio and TV programs enter the home and are readily available not only to the average normal adult but also to children and to the emotionally immature. . . . Thus, for example, while a nudist magazine may be within the protection of the First Amendment . . . the televising of nudes might well raise a serious question of programming contrary to [the obscenity statute]. . . . Similarly, regardless of whether the “four-letter words” and sexual description, set forth in “Lady Chatterley’s Lover,” (when considered in the context of the whole book) make the book obscene for mailability purposes, the utterance of such words or the depiction of such sexual activity on radio or TV would raise similar public interest and [obscenity statute] questions. (Quoted in 25 *FR* 7292, 1960)

Because of its conservatism, broadcasting has not yet precipitated a test case of the federal radio obscenity statute, although the FCC has sought such a test. In 1970 the commission imposed a \$100 token fine on WUHY-Philadelphia, a noncommercial educational fm station, for airing indecent language. The program in question included an interview with an inarticulate rock musician who constantly used well-known four-letter words. The station had admittedly violated its own rules in letting the tape go on the air. It chose not to challenge the commission and paid the fine.

In 1973 a “topless radio” fad swept the country. Capitalizing on the trend toward open discussion of intimate sexual experiences, disc jockeys began inviting calls from women who welcomed a chance to describe sexual episodes in candid detail on the air. The FCC received 3,000 complaints in three months. In the *Sonderling* (WGLD-FM) case it levied a \$2,000 fine on an Illinois fm

station, and the topless fad promptly died (41 *FCC 2d* 919, 1973). The station chose not to contest the legality of the FCC's action. A citizen's group took up the challenge, but the appeals court supported the FCC (Case No. 73-1652, 20 Nov. 1974).

These examples show that broadcasting does respond to the generally permissive tenor of the times but without going to the extremes of some of the other media. We can expect more frequent challenges to the innate conservatism of broadcasting and probably an eventual test of the federal obscenity statute. The statute makes no attempt to define obscenity, stating merely that no one shall utter by means of radio communication "obscene, indecent, or profane language" (18 *USC* 1464). Any challenge to legal action taken under the statute would immediately raise the perennial problem of definition.

Cable television has so far differed markedly from broadcast television with respect to obscenity standards. Access channels (§11.5) carry material that would not be remotely possible in broadcasting — the "Underground Tonight Show" in New York City, for example, which carried explicit scenes of sadomasochism, fetishism, masturbation, and the like.

The FCC's rules prohibit cable companies from exercising control over program content on access channels (47 *CFR* 76.251, a, 9). Operators have therefore tended to assume the role of common carriers with respect to access programs, that is, to take no responsibility for program content. On the other hand, the rules forbid cable systems from either transmitting or permitting to be transmitted "material that is obscene or indecent" in their nonbroadcast originations (47 *CFR* 76.215). Cable origination and access material seem nevertheless destined to be less inhibited than broadcast materials, but the field is too new and too restricted geographically to predict the degree of freedom such non-broadcast cable programs will eventually enjoy.

19.5 The social value test

The doctrine in obscenity cases that there may be redeeming social value in a work otherwise thought to be subject to prohibition rests on the assumption of bad effects. The sense of *redeem* in this context seems to be "to make up for" or, as a moralist might say, "to save from a state of sinfulness." But if in fact obscenity does no serious social harm, there is nothing to make up for or be saved from and hence no need to demonstrate redeeming social value. From a conservative First Amendment viewpoint the preferred course would be to opt for freedom if no compelling need for repression can be demonstrated.

We constantly make judgments about social values in other areas of expression — in the labeling and advertising of foods and drugs, for example. We base these judgments on tests of the physiological effects of such products. Can we test the psychological impact of communications and arrive at comparable judgments of good or bad social effects? In the *Roth* case previously cited Mr.

Justice Harlan pointed out, “There is a large school of thought, particularly in the scientific community, which denies any causal connection between the reading of pornography and immorality, crime, or delinquency” (354 *US* 501, 1957).

This school of thought was later supported by the federal Commission on Obscenity and Pornography. After two years of study and research, the majority reported, “The Commission cannot conclude that exposure to erotic materials is a factor in the causation of sex crime or sex delinquency.” Similar commissions in European countries “all concluded that consensual exposure of adults to explicit sexual materials causes no demonstrable damaging individual or social effects.”⁶

The trend is toward asking questions about media effects outside the obscenity field and toward using social science methods for determining what they are. The ban against cigarette advertising in broadcasting, put into effect by a 1972 act of Congress, reflects the view that specific types of “speech” have harmful effects that justify suppression.

An analogous case is that of the supposedly harmful effects of references to drugs in popular song lyrics. In 1971, at a time when the national administration was mounting a concerted campaign against drug abuse, the FCC put out a public notice that warned licensees of their duty — as part of their general responsibility for all aspects of programming — to check on the content of song lyrics prior to broadcast (28 *FCC 2d* 409).

This seemingly innocuous notice was interpreted as a veiled threat, another repressive move against the counterculture by the administration in Washington. Commissioner Nicholas Johnson dissented from the notice, calling it “an attempt by a group of establishmentarians to determine what youth can say and hear . . . [and] an unconstitutional action by a Federal agency aimed clearly at controlling the content of speech” (28 *FCC 2d* 412, 1971). In response to several petitions for reconsideration, the FCC softened the impact of the notice by reassuring licensees that it “did not intend to pass judgment on the desirability of broadcasting any song” (31 *FCC 2d* 377, 1971). Two years later an appeals court refused to consider the plea of an fm station in New Haven that the FCC should withdraw the notice (478 *F 2d* 594, 1973).

With the growth of the consumer protection movement (see §22.6), still other types of program content have been challenged as socially harmful, in particular, violence and advertising in children’s programming. These attacks brought

⁶ Commission on Obscenity and Pornography, 1970: 32, 50. These majority conclusions came from 12 of the 18 commissioners. Three commissioners filed a vigorous dissent in which, among other things, they accused the majority of relying on “shoddy” scholarship (p. 456) and of misrepresenting the law (p. 490). They also asserted that society’s interest in suppressing obscenity is “the prevention of moral corruption, and not to prevention [sic] of overt criminal acts” (p. 457). And they characterized the social value test as “pernicious” (p. 497) and the cause of a flood of pornographic films and publications (p. 499). The White House evidently agreed with the minority; like so many other commission studies of this era, the report was ignored.

about some voluntary self-regulation by the industry (§22.7) but have not yet precipitated a court test of their First Amendment implications.

One of the innovative features of the new consumer protection movement is that it no longer rests its case on hunches, gut reactions, and isolated case histories. Instead, it has turned to social science research to build its case. The U.S. Surgeon General's office reflected this trend when it financed a million-dollar research project aimed at establishing whether or not there was a "causal connection between televised crime and violence and antisocial behavior by individuals, especially children" (Surgeon General, 1972: 1. See §24.6).

Some types of communication may contain no apparent social harm but at the same time may have no recognizable social usefulness in terms of freedom of expression goals. For example, the FCC once tried to ban giveaway programs on the ground that they constitute lotteries. An appeals court rejected this argument, saying, "The fact that radio and television 'giveaway' programs might have little possible value to society does not deprive the producers of such programs of their constitutional protections of free speech" (333 *US* 510, 1948).

Advertising, when it consists entirely of expression designed to advance commercial interests, would seem not to involve the social values contemplated by the First Amendment. But nowadays, advertising is increasingly used as a vehicle for expressing views about social issues. Traditionally, the broadcasting industry has sought to confine advertising to commercial discourse, but the trend toward editorial advertising runs counter to this policy (§20.6).

19.6 Libel and "the right to defame"

It requires no research to show that libel and slander have adverse effects on individuals, but again a balancing test between the two goals of protection and freedom applies.

Libel (or slander, the spoken form of libel) has as many jurisdictions as there are states. In brief and in general it means using words that defame, exposing their object to public hatred, shame, contempt, ostracism, and the like. It can cause loss of employment (see the Faulk blacklisting case, §16.4) as well as mental anguish. In most jurisdictions, truth is an absolute though often unprovable defense against libel. News media, however, can in addition plead certain types of "privilege." These exemptions rely on the principle that the value to society of free and fair comment by news media outweighs risk of damage to individuals owing to incorrectness of the facts, as long as no deliberate malice is involved.

The best way to test whether or not genuine freedom of speech exists is to criticize those in power — if necessary, to criticize them harshly and vociferously. Is an officeholder believed to be dishonest, incompetent, ignorant, lazy,

unprincipled? If so, there must be an opportunity for publicly exposing him. Even if the accusations are mistaken, there should at least be an opportunity to bring them into the light and test them. The first act of a dictator on seizing power is to forcibly suppress freedom of the opposition to criticize his regime. But in a democratic system, “the right to censure is the right to *defame*” (Caldwell, 1935: 183).

During a period of racial disturbances arising from a bus boycott in Montgomery, Alabama, supporters of the boycott bought a full-page advertisement in the *New York Times*. The advertisement criticized Montgomery officials. Sullivan, one of the officials, brought suit for libel and won a half-million-dollar judgment, which was affirmed by the state supreme court. But the U.S. Supreme Court unanimously reversed the verdict, holding that criticism of government officials has broad First Amendment protection. Even if the allegations had been untrue (and many statements in the advertisement were incorrect), they would constitute libel only if published with malice or reckless disregard of the facts. The court commented,

The constitutional guarantees require, we think, a federal rule that prohibits a public official from recovering damages for a defamatory falsehood relating to his official conduct unless he proves that the statement was made with “actual malice” — that is, with knowledge that it was false or with reckless disregard of whether it was false or not. (376 US 279, 1964)

We cannot, after all, expect polite and gracious refinement in the midst of intense controversy; as the court continued, “Debate on public issues should be uninhibited, robust, and wide-open. . . . It may well include vehement, caustic, and sometimes unpleasantly sharp attacks on government and public officials” (376 US 270, 1964).

The court extended the risks inherent in being a public official to “public figures” when it reversed an award of damages to Edwin Walker, a retired army general. The Associated Press reported that Walker had assumed a leading role in fomenting and personally leading violent opposition to the admission of James Meredith to the University of Mississippi. Walker was no longer on active duty and had no official connection with the events at the university, but the court held that he had injected himself into the controversy in such a way as to become a self-appointed “public figure” (388 US 130, 1967).

Broadcasting was the catalyst for the next important development in First Amendment protections for the press in the *Rosenbloom* case (403 US 29, 1971). A Philadelphia radio station in a 1963 news report about the arrest of a nudist magazine distributor referred to him as a “smut distributor.” Rosenbloom won initial damages of \$750,000 but was reversed on appeal, and the Supreme Court upheld the reversal. The court argued that the standard of the *New York Times* case applied because the news about Rosenbloom reported

an event of general public concern, irrespective of the anonymity of the complainant.

By a five-to-four decision in 1974, the court withdrew slightly from the *Rosenbloom* position. In the *Gertz* case, a *John Birch Society* magazine had accused Gertz, a lawyer, of being, among other things, a "Communist-fronter." An appeals court upheld an initial award of damages, but the Supreme Court reversed (418 US 323, 1974). The majority opinion emphasized that as a private citizen, Gertz could expect more protection from defamatory statements than could officials and public figures.

Libel actions such as *Rosenbloom* occur only infrequently in broadcasting because the FCC has introduced balancing restraints of its own. The commission's personal attack rules require that the broadcast of any attack on "the honesty, character, integrity or like personal qualities of an identified person or group" during discussion of a public issue requires the licensee to notify the attackee within one week, advising of the content of the program and offering a chance to reply (47 CFR 72.123).⁷ The fact of such a reply constitutes a legal defense against libel charges.

The fairness doctrine principle involved in the personal attack rules received confirmation in one of the most important of all Supreme Court broadcasting decisions, the *Red Lion* case. It concerned tactics of personal attack similar to those of which the *John Birch Society* was found guilty in *Gertz*.

In 1964 a radio station in *Red Lion*, Pennsylvania, refused to give time to Fred J. Cook for reply to a personal attack. Cook, author of a book critical of one-time presidential candidate Barry Goldwater, had been charged with communist affiliations in the Rev. Billy James Hargis's right-wing syndicated radio series, *The Christian Crusade*.⁸ When Cook requested time to reply, the station demanded that he either pay for the time or offer proof that he could neither find a sponsor nor afford to pay for the time himself. The FCC ruled that the fairness doctrine required a station to make time available for reply to a personal attack — if necessary, without charge.

The station appealed, but the appellate court upheld the FCC's decision (381 F 2d 908, 1967). The Supreme Court unanimously supported the lower court. "It is the purpose of the First Amendment," said the court in *Red Lion*, "to preserve an uninhibited marketplace of ideas in which truth will ultimately

⁷ Certain exemptions are made regarding attacks on foreign groups or public figures, candidates for public office, and persons in the news. Personal attacks in news-related programs, however, are subject to the fairness doctrine (see §20.7).

⁸ Long after the *Red Lion* case had been settled, investigative reporting by Fred Friendly disclosed that Cook's suit may have been linked to a systematic campaign financed by liberal political interests to discredit right-wing extremists like Hargis (Friendly, 1975). Although it was embarrassing to liberal critics who had been denouncing the Nixon administration for using similar tactics, this disclosure did nothing to change either the fundamental issue or the validity of the court's opinion in *Red Lion*.

prevail, rather than to countenance monopolization of that market, whether it be by the Government itself or by a private licensee” (395 US 390, 1969).

19.7 Previous (prior) restraint

The FCC’s intrusions on broadcast licensees’ freedom to say whatever they want whenever they want as described in previous sections, stop short of censoring particular programs. For example, the FCC requires licensees to seek out public issues for discussion but leaves the choice of the issues and advocates to the licensees.

The FCC receives a constant stream of complaints about specific programs, particularly those involving news judgments. But the commission carefully avoids taking any action that could be construed as censorship. Such complaints, it says, “should be referred to the licensee for its own investigation and handling” (20 FCC 2d 143, 1969).

This policy is dictated by the doctrine that the most virulent kind of censorship imposes *prior restraint* — suppression in advance of publication. The classic common law commentary establishing this point was given in the eighteenth century by the noted British jurist, William Blackstone.

The liberty of the press is indeed essential to the nature of a free state; but this consists in laying no previous restraints upon publications, and not in freedom from censure for criminal matter when published. Every freeman has an undoubted right to lay what sentiments he pleases before the public; to forbid this is to destroy the freedom of the press, but if he publishes what is improper, mischievous, or illegal, he must take the consequences of his own temerity. (quoted in Hachten, 1968: 41)

For the first time in recent history, the U.S. government attempted prior-to-publication newspaper censorship in the *New York Times-Washington Post* (“Pentagon Papers”) case. Newspapers were enjoined by court order from publishing classified documents on the history of the government’s Indochina policy. The government alleged no clear and present danger in the traditional sense but relied on the catchall threat of damage to national security. By implying that only those with access to top-secret information really know what national security involves, this maneuver automatically cuts off rational debate. “Once freedom of expression is subordinated to the vague demands of ‘national security,’” wrote Emerson, “there is no end to the chain of restrictive measures that are certain to follow” (1972: 168).

The Supreme Court reversed the lower court by a six-to-three margin, and the Pentagon papers were published after a two-week delay with no discernible damage to the country (although whether or not damage may have been done at top-secret levels we cannot tell). The court wrote a simple three-paragraph majority decision, without discussion. But each justice, including the three dissenters, then went on to give his own reasoning. Mr. Justice Douglas, with

the concurrence of Mr. Justice Black, wrote, “Secrecy in government is fundamentally anti-democratic, perpetuating bureaucratic errors. Open debate and discussion of public issues are vital to our national health” (403 *US* 724, 1971).

The threat of the imposition of literal previous restraint was thus pushed into the background.⁹ There remains, however, a more insidious danger: the “chilling effect” of threatened future retribution.

A documentary in the CBS Reports series, “The Selling of the Pentagon,” had attempted to show how the military establishment spends millions of dollars propagandizing for further military spending. Since defenders of such Pentagon spending could not attack the basic premise of the program, they leveled their criticism at lapses of editing judgment and used these errors to cast doubt on the overall truth of the presentation. They cited, for example, instances of filmed statements taken out of context in the course of editing.

The objectors created such a furor that the House Special Committee on Investigations (part of the Interstate and Foreign Commerce Committee, which oversees the FCC) held a hearing and subpoenaed the material that had been edited out of the original footage. Appearing before the subcommittee, CBS President Frank Stanton declined to turn over the material, declaring, “There can be no doubt in anyone’s mind that the First Amendment would bar this subpoena if directed at the editing of a newspaper report, a book, or a magazine article” (House CIFIC, 1971: 73). He testified that any “official effort to compel evidence about our editing processes has an unconstitutional chilling effect” (House CIFIC, 1971: 75). The subcommittee recommended that Stanton be cited for contempt of Congress, but the House did not act on the recommendation and thereby avoided a confrontation on the issue of broadcasting’s position under the First Amendment.

Queried by the subcommittee as to what it proposed to do about the alleged misrepresentations, the FCC politely declined to intervene. Although diplomatically deploring any misrepresentation that might occur in broadcast news, the commission steadfastly maintained its position that it “should not dictate the particular response to thousands of journalistic circumstances” (30 FCC 2d 153, 1971).

In this instance the treatment of broadcasting on an issue of First Amendment protection closely paralleled the traditional treatment accorded to the print news media — and precisely because the issue concerned the journalistic function of broadcasting. We can discern, then, flexibility in FCC policy on regulation of freedom of expression in broadcasting: a relatively high degree of

⁹ But it was by no means eliminated. In 1974 the Central Intelligence Agency succeeded in getting an injunction to prevent two of its former employees from saying everything they wanted to in a book called *The CIA and the Cult of Intelligence*. A judge restored many of the passages the CIA had tried to delete, and their innocuousness gives some idea of the extent to which “national security” as a justification for suppression is abused. The court did agree to the censorship of other passages, however, and these were represented by blank spaces in the published text (Marchetti & Marks, 1974). On appeal, the Supreme Court in 1975 let the lower court order stand.

interference when it comes to certain general aspects of content, such as personal attacks, localness, and program balance, but a hands-off policy when it comes to the specific journalistic decisions of the medium.

First Amendment purists deplore such a “rubber yardstick” approach to regulation. For example, the Reverend Hargis claimed that a drastic drop in the number of radio stations carrying his syndicated right-wing “crusade” occurred after the courts upheld a demand for the right to reply to a personal attack (see §19.6). First Amendment purists regard this cutback as evidence of chilling effect.¹⁰ It could, on the other hand, be regarded simply as evidence that stations began meeting their obligations more fully by scrutinizing such programs for irresponsible personal attacks.

There appeared to be a surge of sympathy among responsible critics in the early 1970s for what came to be called First Amendment “media parity.” Nevertheless, the trend of First Amendment decisions by the courts had given impressive support to the FCC’s long-standing practice of treating broadcasting differently from the printed press. The introduction of media parity, if it comes, would represent a radical departure. As Lee Loevinger, a former FCC commissioner, said in concluding a critical review of this issue, “The legal status of broadcasting with respect to the First Amendment seems to be clearly established now. The First Amendment has simply been rewritten for the Twentieth Century” (1974: 72).

19.8 Alternative views

Not everyone agrees with the traditional, libertarian view of the role of free expression and its mechanisms described in this chapter. At one extreme are those who fear the excesses of the press (§19.1). They cannot agree with Mr. Justice Douglas, who argued in an eloquent dissent that free expression is “the first article of our faith”:

We have trusted the common sense of our people to choose the doctrine true to our genius and to reject the rest. This has been the one single outstanding tenet that has made our institutions the symbol of freedom and equality. We have deemed it more costly to liberty to suppress a despised minority than to let them vent their spleen. We have above all else feared the political censor. We have wanted a land where our people can be exposed to all the diverse creeds and cultures of the world. (341 US 584, 1951)

By a strange irony, political conservatives make bedfellows with political radicals on this issue. For example, radical student groups have frequently shouted down or otherwise imposed previous restraints on campus speakers —

¹⁰ See for example the vigorous dissent of Judge David Bazelon of the appeals court in the *WXUR* case discussed in §18.10 (473 F 2d 63, 1972).

a shocking posture to libertarians accustomed to thinking of the campus as one place where freedom of expression is most revered.¹¹

Herbert Marcuse, one of the leading philosophers favored by student radicalism, joins in the attack on conventional First Amendment theory. Because the media are not ideally free, tending as they do to give easier access to establishment ideas than to radically opposed ideas, he rejects the traditional justification for maintaining the system of free expression. What poses as tolerance, he argues, is merely a rationalization for repression because minorities cannot afford to buy access to the media: “Free competition and exchange of ideas have become a farce. The Left has no equal voice, no equal access to the mass media and their public facilities — not because a conspiracy excludes it, but because, in good old capitalist fashion, it does not have the required purchasing power” (Marcuse, 1969: 119).

From the New Left perspective, the mass media seem hopelessly undemocratic, representing merely one-way communication. Summarizing what he conceives as “repressive” versus “emancipatory” uses of the media, a writer in *New Left Review* poses the following antitheses: central control versus decentralization of programming; one transmitter to many receivers versus each receiver a potential transmitter; isolation of individuals versus mass mobilization; passive consumption versus interaction and feedback; depoliticization of audience versus political learning; production by professionals versus collective production; control by property owners and bureaucrats versus social control by “self-organization” (Enzensberger, 1972: 115). It is interesting that, without mentioning cable or apparently intending to imply it, the writer succinctly describes on the “emancipatory” side of these antitheses several of the advantages usually claimed for cable television over conventional broadcast television.

Repression, however, seems no less frightening in the name of “the people” or in the name of Marcuse’s elite “rational, autonomous thinkers” than it does in the name of “national security” and “majority rule.” Modern philosophers have not succeeded in refuting the nineteenth-century libertarian, John Stuart Mill, who wrote in his 1859 essay, *On Liberty*,

The peculiar evil of silencing the expression of an opinion is, that it is robbing the human race; posterity as well as the existing generation; those who dissent from the opinion, still more than those who hold it. If the opinion is right, they are deprived of the opportunity of exchanging error for truth; if wrong, they lose, what is almost

¹¹ A Yale University committee issued a report in 1975 reasserting the traditional view. “A significant number of students and some faculty members,” noted the report, “appear to believe that when speakers are offensive to the majority opinion, especially on such issues as war and race, it is permissible and even desirable to disrupt them.” The committee rejected this view, declaring that “banning or obstruction of lawful speech can never be justified on such grounds as that the speech or the speaker is deemed irresponsible, offensive, unscholarly, or untrue” (Yale University, 1975: 27, 31). However, one student member of the 13-member committee dissented from this conclusion, citing Marcuse’s argument.

as great a benefit, the clearer perception and livelier impression of truth, produced by its collision with error. (1946 ed.: 14)

Not an easy ideal to practice, for although no one has difficulty in recognizing the importance of freedom for himself, it requires an unusual measure of self-restraint and tolerance to always grant the importance of that same freedom to those with whom we violently disagree. "The last acquisition of civilized man," Justice Learned Hand remarked, "is forbearance in judgment and to it is necessary one of the highest efforts of the will" (1952: 27).

Nevertheless, the difficulty of providing fair access to modern means of expression is real. Barron, a legal scholar who specializes in problems of media access, characterizes the Marcusean notion of repressive tolerance as a false paradox. At the same time he concedes that Marcuse's critique "accurately illuminates some contemporary problems in freedom of expression and common reactions to them" (1973: 75). How some of these problems of fairness and access are dealt with is the subject of the next chapter.

Regulation: Ally of Freedom

The notion that the sole concern of a free society is the limitation of governmental authority and that that government is best which governs least is certainly archaic. Our object today should not be to weaken government in competition with other centers of power, but rather to strengthen it as the agency charged with the responsibilities for the common good. That government is best which governs best.
(Robert M. Hutchins, 1959)

In chapter 19 we viewed the First Amendment in its negative aspects — its command that the government should make no law to abridge freedom of speech. The amendment also has a positive corollary: while doing nothing to hinder speech, government should also actively prevent its hindrance by non-government sources of repression.

20.1 The marketplace of ideas

Fear of the absolute power of government dominated the thinking of the statesmen of 1776. All political experience had taught that the state, unless held in check, inevitably uses its collective force to restrict the individual liberties of its citizens. The state's coercive resources of law, police, and military force inevitably prevail against the puny strength of the private individual. The Constitution — in particular the Bill of Rights — arms the individual citizen with a counterbalancing power. The First Amendment therefore views the government as the source of power from which suppression of freedoms may be expected and hence forbids Congress to abridge those freedoms.

Suppression, however, can likewise come from private, nongovernmental sources of power. Mill warned of the “despotism of custom” and the intolerance of majorities. Protection against the government is not enough:

There needs protection also against the tyranny of the prevailing opinion and feeling; against the tendency of society to impose, by other means than civil penalties, its own ideas and practices as rules of conduct on those who dissent from them; to fetter the development, and, if possible, prevent the formation, of any individuality not in harmony with its ways, and compels all characters to fashion themselves upon the model of its own. (Mill, 1946 ed.: 4)

Closely linked to the despotic potentialities of “prevailing opinion and feeling” is the coercive power of large economic concentrations. The technological revolution of the nineteenth century and its twentieth-century economic consequences have given rise to private domestic empires far more powerful than any conceivable by the eighteenth-century standards of the Constitution’s authors.

According to the eighteenth-century economic doctrine of *laissez faire*, unrestricted competition will *automatically and inevitably* result in the greatest good for the greatest number. Then-prevailing conditions of communication, transportation, merchandising, purchasing power, and business organization tended both to keep domestic industries localized and to impose limits on growth. But under modern conditions of distribution and growth potential, competition can produce results quite opposite to those predicted by the *laissez-faire* theory. The passage in 1890 of the Sherman Act, the first U.S. antitrust law, reflected the fact that under modern conditions an unregulated competitive economic system is not necessarily self-perpetuating.

Libertarian philosophers based their faith on a theory of free exchange of ideas analogous to the *laissez-faire* theory of economics. The analogy continues to be used today:

It is the purpose of the First Amendment to preserve an uninhibited marketplace of ideas in which truth will ultimately prevail, rather than to countenance monopolization of that market. (395 US 390, 1969)

The communications of the eighteenth-century “marketplace of ideas” were largely those of small traders in ideas competing on fairly equal terms. The marketplace consisted mainly of face-to-face discussions, town meetings, pamphlets, and small periodicals that counted their circulation in the hundreds. Virtually anyone with something to say could make his voice heard, one way or another.

20.2 Preservation of competition

In the modern marketplace, however, giant corporations sell ideas through the media of print, film, and broadcasting to millions on a national scale. The number of separate marketing entities shrinks as corporate conglomerates grow. Syndication turns outlets into mere transmission belts for materials centrally assembled or manufactured.

Economic factors favor some classes of ideas over others, as shown in chapter

16; limited variety combines with inequality of entry into the marketplace to impede competition and the “self-righting” process. The very speed with which national media can saturate the whole country with a given idea raises the question as to whether or not there is enough time for the hypothesized sorting-out process to take place, even if other conditions are favorable.

Increasingly, therefore, students of the subject have come to doubt the validity of the unsupervised-marketplace concept, although the courts continue to rely on it, as shown by the quotation from the Supreme Court’s *Red Lion* decision on page 390.

The media frequently appeal to the letter of the First Amendment to gain protection from government interference not only with freedom of expression but also with business practices that violate the spirit of the amendment. The Associated Press, for example, provided a leading case. It argued that the government could not restrain it from using monopolistic business practices in franchising and news distribution because that would violate freedom of the press. But the Supreme Court replied,

Surely a command that the government itself shall not impede the free flow of ideas does not afford non-governmental combinations a refuge if they impose restraints upon that constitutionally guaranteed freedom. . . . Freedom of the press from governmental interference under the First Amendment does not sanction repression of that freedom by private interests. (326 US 20, 1945)

Thus, under modern conditions of communication, the government emerges sometimes as the ally of freedom instead of the enemy. Just as changed conditions in the literal marketplace of goods call for measures to preserve competition, so do changed conditions in the figurative marketplace of ideas seem to call for some comparable intervention.

In broadcasting two major impediments to the self-righting process can be discerned: monopolistic or oligopolistic concentrations of control, which reduce the diversity of communication sources, and unfair practices that distort or selectively screen the material that does get through. We can summarize the chief manifestations of these impediments as follows:

- A. Monopolistic concentrations through control of
 - 1. Patents on media technology
 - 2. Facilities (superior frequencies, power)
 - 3. Media and other enterprises under group ownership
 - 4. Centralized program production resources
- B. Unfairness resulting from
 - 1. One-sided presentation of controversial issues
 - 2. Avoidance of serious or provocative program content
 - 3. Private censorship and intentional distortion of facts

The FCC and the courts have sought, as allies of freedom, to interpose the First Amendment as a protection against these private restraints.

20.3 Monopolistic media concentrations

Having decided in 1920 not to keep radio a government monopoly (§7.1), Congress almost immediately faced the possibility that it would become a private monopoly.

In 1923 the Federal Trade Commission, after an extensive study, published a report indicating that a monopolistic patent situation existed in radio (FTC, 1924). This report influenced Congress to include antimonopoly provisions in subsequent radio legislation. Antitrust suits eventually forced the release of essential patents to rival manufacturers on reasonable royalty terms.

Broadcasting itself is quasi-monopolistic by nature. A license confers a monopoly, within a limited area, on the use of a particular channel; limits on the number of channels usable in a given area without interference impose similar limits on the total amount of competition in that area.

The potentialities for aggravating this inherent monopolistic tendency by granting unusually favorable technical advantages were illustrated by an experiment with “superpower” in 1934. The FRC granted WLW-Cincinnati a Special Temporary Authorization to operate at 500,000 watts — 10 times the prevailing maximum am power.

The tenfold increase gave WLW an overwhelming competitive advantage. According to an official survey, WLW became the station of first choice among the listeners of 13 states (FCC, *Annual Report*, 1936: 61). The outcry from WLW’s competitors inspired a “sense of the Senate” resolution that 50,000 watts should be the maximum power allowed.¹ The FCC reduced WLW’s power accordingly; ever since, 50,000 watts has remained the maximum power allowed U.S. domestic am stations.

Nevertheless, the very nature of radio precludes licensee equality. Physical factors (favorable frequency, good propagation conditions) combine with historical factors (for example, obtaining a license before the television freeze) and economic factors (obtaining a channel in a rich market) to make some licenses immensely more valuable than others. These inherent inequalities become exaggerated when more than one station comes under common control or when common ownership combines stations with other media. This monopolistic tendency may take several forms:

1. Ownership of two or more stations covering the same service area. The FCC rules out this form of monopoly on stations of the same type by its duopoly rule (§18.11). Am-fm-television combinations in the same area are common, however.²

¹ S. Res. 294, 75th Cong. (June 13, 1938). The Senate may also have been influenced by the fact that WLW’s owner, Paul Crosley, Jr., allowed his antilabor bias to affect the station’s news reporting (see Barnouw, 1968: 130).

² The commission limits new licensees to either one am/fm or television station per market (the “one to a customer” policy); however, the usual “grandfather” clause precluded disturbing existing multiple ownerships, making the rule virtually meaningless (35 FR 5948, 1970).

2. Ownership of two or more stations located in *different areas*. The FCC limits such multiple ownership to seven stations of each type, with a ceiling of five vhf stations.
3. Ownership of both stations and other communications media outlets in the same service area.
4. Ownership of both stations and other communications media in different service areas.
5. Ownership of stations by conglomerate corporations.

The FCC considers *diversification* of media control an important factor in making comparative decisions (§18.5). Multiple ownership does have arguments in its favor. As in other businesses, size has economic advantages that can enable better service from a group of stations than any one of the group might be able to render independently. The multiple owner can realize savings in overhead, employ high-caliber supervisory personnel, bargain effectively with networks and other sources of supply, and take advantage of shared experience and know-how from one market to the next.

On the other hand, the doctrine of localism makes it more important to ensure the viability of the small, local broadcasting firm than that of other types of enterprise. Standardization of consumer goods has no socially detrimental effects, whereas standardization of ideas does. Whether toothpaste is manufactured locally or shipped from the other end of the country makes no difference, since there is no need for local flavor in toothpaste. There is, though, a need for local flavor in ideas, opinions, and information.

Whether multiple ownership has good or bad effects has not been clearly demonstrated. A study financed by the National Association of Broadcasters compared single-owner with multiple-owner stations in three matched markets, obtaining data from interviews with media personnel and from business and community leaders. Among the conclusions: Multiple-owner stations (1) have larger news staffs and more news programs; (2) tend to hire more professionally oriented managers; (3) depend less on short-term profit making; (4) resort to fewer undesirable business practices (Litwin and Wroth, 1969). The methods used in this research have been challenged (Rosse et al., 1970). And Harvey Levin, a specialist in the study of multiple ownership, concluded that its effects are, on the whole, undesirable (Levin, 1960). On the other hand, Peter Steiner, who has also investigated the economics of media ownership, concluded that Levin's evidence is thin: "It is not clear that the basic character of U.S. broadcasting [is] significantly influenced by the degree of joint ownership or that [it] would be appreciably altered by a vigorous drive for diversification" (1961).

More complex issues arise when multiple ownership combines broadcasting with other media ("cross-channel affiliation") and other types of business enterprise ("conglomerates"). In 1969 the FCC announced an inquiry into ownership of broadcasting stations by conglomerate corporations (34 FR 2151).

Among the topics to be investigated the commission listed fairness and freedom in presenting program material, lack of supervision by top officials, siphoning off broadcast profits to serve other units in the corporate group, undue competitive “leverage,” and possible impediments to technical development.

We have already referred to the merger once planned between the American Broadcasting Company and the International Telephone and Telegraph Company (§10.4). Had this merger gone through, ABC would have become part of a conglomeration of over 400 boards of directors with holdings worth \$2.5 billion in some 40 foreign countries, and interests in consumer finance, life insurance, investment funds, loan companies, car rentals, book publishing, and U.S. defense and space contracts. “The mere awareness” of these high-level involvements, an FCC commissioner contended, would have made it impossible for news staffs to objectively cover stories that affected those subjects (Johnson, 1970: 53).

20.4 Newspaper-broadcasting cross-ownership

Newspaper-broadcast station combinations have created one of the most intricate and controversial problems in ownership regulation. The underlying dilemma again comes from conflicting public interest claims: Which matters more, diversification of media ownership or quality of program service? Every license granted to a publisher automatically reduces diversification. On the other hand, an established publisher may well appear to be the best qualified applicant by virtue of experience, knowledge of the community, financial resources, and proven record of service.

In the 1951 *Scripps Howard* case, an appeals court supported the FCC’s reliance on diversification as the reason for denying a Construction Permit to a newspaper applicant. The court cited *Associated Press* (§20.2), in which the Supreme Court had emphasized the role of the First Amendment in encouraging “the widest possible dissemination of information from diverse and antagonistic sources”:

In considering the public interest the Commission is well within the law when, in choosing between two applications, it attaches significance to the fact that one, in contrast with the other, is dissociated from existing media of mass communication in the area affected. (189 *F 2d* 683, 1951)

The most conspicuous case concerning newspaper ownership, that of *WHDH* (§18.10), resulted in the loss not only of the license but of the newspaper as well. An ironic feature of this strange case is that the decision to divest the *Boston Herald-Traveler* of its television station was intended to increase diversification of news sources in Boston; instead, the loss of revenue put the newspaper out of business, thereby actually reducing diversification. More significant from the present perspective, though, is that the owners were skim-

ming off the television station's profits in order to prop up a different business enterprise, the commonly owned newspaper. The use of a broadcasting station for this purpose raises, as a public interest issue, the question whether the licensee does not have a higher obligation to plow back surplus earnings into improving the broadcasting service that earns the profit (see §18.9).

Dating as far back as 1941 the FCC has repeatedly considered rules intended to break up or limit newspaper-broadcasting combines. But any move in that direction is such a political hot potato that the FCC had always backed off from arriving at a decision. The 1941 inquiry ended in the withdrawal of proposed rules "in view of the grave legal and policy questions involved" (9 FR 702, 1944). Prodded by the Justice Department, the commission reopened the inquiry in 1970 (35 FR 5963, 1970). This time the study resulted in a proposal to divest newspapers of broadcast holdings in the same market within five years, but again no final decision was made. The Justice Department itself began to intervene in renewal applications of newspaper owners, apparently in a move to revive the FCC's reluctant interest in the subject. Finally, early in 1975 the commission made its move, ruling that in the future newspapers would not be allowed broadcast licenses in their home markets. Seven existing newspaper-television combinations and nine radio-newspaper combinations would have to be broken up within five years (10 FR 6449, 1975). All are in small towns, mostly in the south and midwest.

20.5 "Equal time" for political candidates

It will be recalled that the Communications Act of 1934 imposes its most substantial specific limitations on the licensee's programming freedom as it pertains to the treatment of candidates for public office, who must be given "equal opportunities" (§17.8). Time made available to one candidate must be made available on the same terms to all other candidates for that same office. Moreover, during the period just before elections, candidates must be afforded certain preferential rates. Further, licensees must willy-nilly provide candidates for federal offices with "reasonable access" or "permit purchase of reasonable amounts of time" (§312, a, 7 of the act).

These laws obviously compromise the First Amendment's command that Congress shall make no law abridging freedom of speech. Congress's intent, however, was to obey the spirit of the First Amendment, which above all else aims at making available to the voters the information they need to make political decisions. Without equal opportunities to use this most important medium of public information, candidates and parties not already in office or in the majority would never have a chance to persuade voters to their cause, and democratic government would be at an end.

As originally written the law took no account of the fact that equal opportunities do not necessarily mean equal abilities to take advantage of such

opportunities. Only after broadcasting became the major cost item in campaigns did Congress move also to equalize that factor too; it did so in the Federal Election Campaign Act of 1971. The commission received so many requests for interpretation of Sections 315 and 312(a) that it issued a series of political broadcast primers.³ FCC interpretations of some sample questions follow in summary form:

- Q. Does the equal time rule apply to spokesmen for candidates?
 A. No, only to candidates in person.
- Q. If a candidate speaks in some capacity other than his capacity as a candidate, must his opponents still be given equal time?
 A. Yes.
- Q. One candidate was nominated by three parties, A, B, and C; he was opposed by a candidate nominated by Party D. Does the first candidate have the right to claim equal time for each of the three parties he represents as against the candidate for Party D?
 A. No.
- Q. Does §315 apply to supporters and opponents of public questions to be voted on in public elections?
 A. No, it applies only to candidates for political office.

The requirement that stations must bill candidates at the “lowest unit charge,” added by the campaign reform act, created many novel problems of interpretation. It means that during the period just before the election, a station must give a candidate the benefit of all applicable discounts and rate advantages, whether or not he has earned them. For example, if the station gives a maximum quantity discount for the purchase of 1,000 spots, it must give that same discount to a candidate who buys only one spot. If the station has both a local and a national rate it must give even a national candidate the local rate.

The §315 equal-time requirement refers specifically to legally qualified candidates for public office. It confers on such candidates a special status shared by no other users of broadcast facilities. Deciding when a candidate officially becomes a candidate is not always easy. In 1967, when President Lyndon Johnson broadcast an end-of-the-year national network interview, Senator Eugene McCarthy, an announced candidate for president, claimed the right of reply under §315. The FCC rejected his claim. Though obviously “legally qualified” (in the words of the statute), Johnson had not actually announced his candidacy. McCarthy pointed out that merely by withholding formal announcement, an incumbent president could effectively deny opponents the protection of the equal-time rule. The appeals court upheld the FCC (390 *F 2d*

³ 3 *FCC 2d* 463, 1966, supplemented in 24 *FCC 2d* 832, 1970. Clarifications of the Election Campaign Act amendments were issued in 37 *FR* 5796, 1972. See also NAB, 1972.

471, 1968). As it turned out this was the correct decision because Johnson, to everyone's surprise, later decided not to run.

Although the communications act limits the applicability of §315 to legally qualified candidates, the FCC in effect extended it to the supporters and spokesmen of candidates in the *Zapple* rule (23 FCC 2d 707, 1970). Known as the "quasi-equal opportunities" rule, it requires licensees to offer "comparable time" to spokesmen for opponents of spokesmen. *Zapple* thus falls midway between the stringent requirements of §315 and the much more flexible requirements of the fairness doctrine.

20.6 Editorializing by licensees

In view of the fiduciary position of licensees, their use of their temporary access to the channels they control for editorializing raises a touchy public interest question. Newspapers editorialize as a matter of course. But as we pointed out in §19.2, their position is different from that of broadcast licensees. Editorializing by licensees would, on the face of it, seem to give them undue leverage in their personal ability to influence public debate.

This was the view first taken by the FCC in what became known as the *Mayflower* decision. About 1940, radio station WAAB-Boston adopted a policy of editorializing, i.e. expressing views on political candidacies and other controversial public questions in the name of the station itself.⁴ The commission took the view that such editorializing was not in the public interest, holding that "a truly free radio cannot be used to advocate the causes of the licensee. It cannot be used to support the candidacies of his friends. It cannot be devoted to the support of principles he happens to regard most favorably. In brief, the broadcaster cannot be an advocate" (8 FCC 340, 1941). WAAB submitted affidavits showing that it had discontinued its editorials and would never revive them in the future, in consideration of which the commission renewed the license. That "the broadcaster cannot be an advocate" became, in effect, the law, without having been challenged.

Mayflower caused much adverse comment among thoughtful critics, and in 1949, after eight days of hearings, the FCC reversed itself. The new opinion acknowledged the inconsistency of regulating broadcasting in the interests of free speech and at the same time denying that freedom to those who happened to be broadcast licensees. Editorializing, the FCC now thought, could be regarded as part and parcel of that "affirmative duty" of the licensee to provide coverage of controversial issues of public importance — not so much in the interest of the licensee's right to speak as in the interest of the public's right to hear.

⁴ As distinguished from opinions expressed by news commentators in their own name, long a common practice (see §9.5).

It is the right of the public to be informed, rather than any right on the part of the Government, any broadcast licensee or any individual member of the public to broadcast his own particular views on any matter, which is the foundation stone of the American system of broadcasting. (13 FCC 1249, 1949)

Open editorializing, the commission reasoned, would put the licensee on record, and “the public has less to fear from the open partisan than from the covert propagandist.”

The newly granted right to editorialize carried with it the obligation to present opposing views. This obligation gave broadcasters pause, even though they had advocated reversal of the *Mayflower* decision. Few took immediate advantage of the opportunity. In the 1960s, however, with urging from FCC Chairman Newton Minow, substantial numbers of stations began to editorialize (Minow, 1964: 146).⁵

The annual survey conducted by *Broadcasting Yearbook* indicates that in 1973 about 62 percent of the commercial am stations editorialized at least occasionally, as did 44 percent of the fm stations and 51 percent of the television stations. Few, though, scheduled regular daily or even weekly editorials (1974: 37). A sample survey of television stations made in 1972 disclosed that 62 percent of the sampled stations carried editorials, 13 percent of them daily. They were usually 1½ or 2 minutes long, most often about local issues, but rarely in support of candidates for public office. Few viewers made demands for the opportunity to reply to editorials (Fang & Whelan, 1973).

The communications act expressly forbids public broadcasting stations from editorializing (§309, a). Congress feared that government funds devoted to supporting public broadcasting might also be devoted to supporting candidates for office who voted the funds. The law has not been challenged in the courts, but the constitutionality of drawing such a line between the rights of commercial and noncommercial licensees seems questionable (see Toohy, 1972).

20.7 Development of fairness doctrine

The FCC’s 1949 policy statement on editorializing formed the conceptual basis for a broader application of the principle it embodies, now known as the fairness doctrine. This doctrine says, in essence, that licensees have an obligation to use their facilities fairly and that fairness entails both devoting some attention to controversial issues of public importance and offering opportunities for varying opinions on these issues to be expressed.

These underlying principles had been implicit from the beginning of broadcast regulation. In 1931 a pioneer CBS foreign correspondent managed to get George Bernard Shaw to speak by radio to the United States — at the price of

⁵ Whether or not a station editorializes can figure as an element in comparative license hearings. In the WHDH case (§18.10) the losing station was faulted for not having used editorials.

agreeing not to edit his script. “Hello, America! How are all you dear old boobs who have been telling one another for a month that I have gone dotty about Russia?” Shaw went on at length in fulsome praise of communism. Not all American listeners saw the humor in it, and CBS gave a clergyman time to reply to that “licensed charlatan of English letters” (Barnouw, 1966: 248).

Fairness, long informally observed, assumed the status of an official doctrine with the report on editorializing, in which the commission spoke of the

affirmative responsibility on the part of broadcast licensees to provide a reasonable amount of time for the presentation over their facilities of programs devoted to the discussion and consideration of public issues. . . . And the Commission has made clear that in such presentation of news and comment the public interest requires that the licensee must operate on a basis of overall fairness. (13 FCC 1249, 1949)

Originally purely an administrative interpretation of the public interest principle, the fairness doctrine received indirect congressional blessing in the 1959 amendment to §315 of the communications act, which, after enumerating the types of bona-fide news appearances that need not be considered as equal-time appearances, went on:

Nothing in the foregoing sentence shall be construed as relieving broadcasters, in connection with the presentation of newscasts, news interviews, news documentaries, and on-the-spot coverage of news events [i.e. the four previously enumerated exceptions], from the obligation imposed upon them under this Act to operate in the public interest and to afford reasonable opportunity for the discussion of conflicting views on issues of public importance. (Emphasis added)

This provision is regarded by the FCC as statutory confirmation “by necessary implication” that the licensee has an affirmative duty to schedule programs dealing with public issues (25 FR 7294, 1960).

Finding that in practice discussion of controversial issues frequently degenerates into name calling, the FCC developed special rules governing personal attacks. Adopted in 1967, these rules provide that if an attack on “the honesty, character, integrity, or like personal qualities of an identified person or group” occurs, the station must send a notice to those attacked within one week, along with a tape or transcript, and offer time for reply (47 CFR 73.300).

The fairness doctrine received its fullest vindication in 1969 in *Red Lion*, the most important of the recent Supreme Court broadcasting decisions (the case is described in §19.6). Although *Red Lion* arose from a personal attack ruling,⁶ the court took advantage of the occasion to issue a broad and unanimous endorsement of the fairness doctrine principle:

⁶ In the same decision the court reversed a lower court finding that the personal attack rule, along with a companion rule regarding the right of political candidates to reply to editorial endorsements of other candidates by licensees, violated the First Amendment rights of stations. This suit had been initiated by the Radio and Television News Directors Association.

The people as a whole retain their interest in free speech by radio and their collective right to have the medium function consistently with the ends and purposes of the First Amendment. It is the right of the viewers and listeners, not the right of the broadcasters, which is paramount. . . . It is the right of the public to receive suitable access to social, political, esthetic, moral, and other ideas and experiences which is crucial here. (395 US 390, 1969)

Thus the fairness concept brings to the forefront the special responsibility of the broadcast licensee as a fiduciary — a trustee of the public interest. The requirements of being fair to the ultimate owners of the frequency spectrum may impose restraints on licensees to say (or to refrain from saying) whatever they like. Avoidance of serious and provocative program content may be viewed as an unfair use of broadcast facilities. Licensees may not justify excluding significant and relevant program material because of their own personal fears, prejudices, or indifference.

In 1971 the commission instituted a broad inquiry into “the efficacy of the fairness doctrine and related public interest policies.” The report growing out of this inquiry (39 FR 26372, 1974) reasserted the original concepts, adding some new interpretations and conclusions, especially with regard to special areas of fairness that had more recently come into prominence: its application to advertising and to political broadcasts, and the general question of access to the medium. These specialized applications will be treated in subsequent sections.

20.8 Fairness in practice

Though simple in concept, the fairness doctrine created an extraordinary number of dilemmas for licensees. The FCC tried to provide clarification in a set of guidelines issued in 1964 (29 FR 10416). Following are some examples of typical problems and their solutions in specific cases.

When is an issue an issue? A station broadcast a number of statements opposing pay television but gave no time to the other side because it regarded the issue as primarily national and not important locally. Ruling: The station thought it sufficiently important locally to allow one side to be presented, so why not the other? “A licensee cannot excuse a one-sided presentation on the basis that the subject matter was not controversial in its service area.”

Controversy concealed in noncontroversial program format A program called “Living Should Be Fun” ostensibly dealt objectively with nutrition but actually contained attacks on fluoridation of water, defense of a controversial drug, and the like. Ruling: Licensees have “the obligation to know what is being broadcast over their facilities.” Anyone who actually listened to the program could recognize that it contained controversial material despite its title.

Alleged absence of support for the other side A program called “Communist Encirclement” contained such statements as “Socialist forms of government [are] transitory forms of government leading eventually to Communism.” The licensee claimed that only communists could represent the other side and he knew of none in the community. Ruling: “There are responsible contrasting viewpoints on the most effective methods of combatting Communist infiltration.”

Affirmative responsibility to seek out the other side A station replied to allegations of one-sidedness that it was ready to make time available for opposing views “on request.” Ruling: Licensees must play a “conscious and positive role in bringing about balanced presentation,” not merely wait for requests.

“Equal time” to reply not required A spokesman for one view complained that the air minutes allowed his view amounted to less than the time allowed the opposing view. Ruling: The fairness doctrine requires a “reasonable opportunity” to present contrasting views, not equal time.

May the station choose the spokesman for the other side? Ruling: Yes and no; the licensee may exercise good-faith discretion in choosing a spokesman, except that personal attacks entitle the individual attacked to the right of personal reply.

Most fairness complaints addressed to the FCC fail to meet the criteria for consideration and are not even forwarded to the licensees. To be seriously considered, a complaint must specify the facts clearly: when and where did what occur? In addition to specifying a station, a time, an issue, and a basis for the claim of unfairness, the complainant must state whether the station has given, or plans to give, an opportunity for airing contrasting viewpoints. The complainant need not monitor the station 24 hours a day but must produce reasonably solid evidence that the accused station has in fact been unfair.

In fiscal 1973 the FCC received 2,400 fairness complaints, only 94 of which the commission forwarded to the licensees for explanation (39 FR 26375). Of these only 5 resulted in rulings unfavorable to licensees. A detailed study of all fairness doctrine and political candidate equal-time complaints actively considered by the FCC in the first six months of 1970 found that 78 had received FCC follow-up (Geller, 1973: 114). Only 9, most of them involving crude violations of the personal attack and political candidate rules, resulted in punitive action. The FCC dismissed most complaints on the grounds that reasonable opportunities for reply had in fact been afforded or that no legally definable controversial issue or personal attack had been cited by complainants.

Widespread misunderstanding of the fairness doctrine accounts for the high proportion of ill-founded complaints. Many people have the idea that anything they see or hear in broadcasting that strikes them as one-sided or contrary to

their own viewpoint is necessarily unfair, equating the doctrine with a presumed right to reply. But the doctrine applies only to issues of public importance or to damaging personal attacks — and even then only if reasonable opportunities for reply have not been offered by the station. The fairness doctrine requires neither that every single program or series of programs be balanced within itself nor that each side of a controversy be granted exactly the same amount of time in exactly the same part of the broadcast day.

Nevertheless, the filing of fairness doctrine complaints against licensees, even when unfounded, can be a source of harassment and financial loss. As a rather extreme example, perhaps, KREM-TV-Seattle spent 21 months defending itself against charges that it had been unfair regarding a controversy over the issuance of bonds for Expo 74. Although completely exonerated in the end, the station spent \$20,000 in legal fees and an estimated 480 man-hours of executive and supervisory time defending itself (Geller, 1973: 42). Subjects of complaint are usually more emotion laden than the Seattle bond issue. Judging by the previously cited analysis of all complaints handled in the first half of 1970, the typical complainants tended to be zealous about such issues as gun legislation, the biblical version of creation, integration, women's liberation, birth control, withdrawal from Vietnam, and media "news bias."

Political uses of broadcasting outside the election periods covered by the §315 equal opportunities rule cause some of the most difficult fairness doctrine issues. Though a problem of long standing (note, for example, the case of Senator McCarthy's suit mentioned in §20.5), it became especially acute during the Nixon administration. In that period the White House used every resource of broadcasting and the other media for calculated political advantage (see §21.6). Virtually every public appearance by Mr. Nixon or his spokesmen became a political ploy, whatever the occasion. Opponents of the administration's policies kept the FCC almost constantly busy with petitions and suits for the opportunity to reply.

A Twentieth Century Fund study traces FCC official concern with the problem back to 1950 but asserts that it "ignored the issues implicit in presidential television until 1970" (Minow et al., 1973: 86). In that year the commission, responding to widespread complaints, agreed that although the various points of view on the Vietnam war had been balanced fairly in other types of coverage, they had not been balanced with respect to presidential prime-time addresses to the nation (25 FCC 2d 283, 1970). It decided that five prime-time presidential television addresses created an obligation to provide at least one prime-time reply.

In keeping with its general policy under the fairness doctrine, the FCC did not grant a "right to reply" to any particular person, group, or party. It left the networks to select an appropriate spokesman to ensure that the opposing views got a hearing. The Twentieth Century Fund study concluded that "the regulatory law and doctrines that have evolved over the years do not meet the

problems created by presidential television. . . . None of this legal machinery makes broadcast time available to party and congressional opposition to balance the president's automatic access to the television audience" (Minow et al., 1973: 89, 90).

20.9 Editorial advertising

In 1967 John Banzhaf III complained to the FCC that WCBS-TV-New York violated the fairness doctrine in refusing time for rebuttal of cigarette advertising on television. CBS contended that by carrying a number of programs on the health hazards of smoking it had already fulfilled its fairness obligation. The FCC rejected Banzhaf's demand for "roughly approximate" time for reply but did agree that the licensee must give "a significant" amount of time to the anticigarette argument.

An appellate court upheld the FCC (405 F 2d 1082, 1968). The court pointed out that where one side has a compelling economic interest as well as large financial resources, it may be necessary to redress the balance. Said the court: "Not all free speakers have equally loud voices, and success in the marketplace of ideas may go to the advocate who can shout the loudest or most often" (p. 1102).

The FCC lived to regret its decision. It had intended the Banzhaf ruling to apply exclusively to cigarette advertising, which it regarded as a unique case in view of the surgeon general's report about the hazards of smoking. Later, Congress passed an act barring cigarette advertising in broadcasting, removing the motive for Banzhaf's complaint and the fairness doctrine requirement for antismoking spots. Nevertheless, a flood of novel fairness claims involving advertising ensued. These fall into three types: (1) anticommernials, directed against controversial products, typified by the antismoking spots; (2) argumentative commercials furthering specific points of view, whether directly expressed or implied; (3) countercommercials — spots aimed at countering the specific claims of commercial announcements or pointing out negative aspects of products passed over in their regular advertising.⁷ The FCC discussed each of these types in detail in the 1974 report on its fairness doctrine hearings (39 FR 26372).

Anticommernials The FCC tried to dissociate the cigarette ruling from other products in the *Friends of the Earth* case. It ruled that the complainants could not claim time to combat advertisements glorifying large, powerful cars. An appeals court, however, overruled the commission, saying that it could not logically ignore the cigarette ruling. The court instructed the FCC to determine

⁷ Countercommercials should be distinguished from corrective commercials. The FTC sometimes orders an advertiser to run corrective ads to undo deceptive advertising previously aired for the same product (discussed in §21.9).

whether or not, under the usual fairness doctrine standards, the station complained of had given enough time in other ways to the anti-big-car point of view (449 F 2d 1164, 1971).

The FCC's objection to this type of editorial commercial is that it involves "the trivial task of 'balancing' two sets of commercials which contribute nothing to public understanding of the underlying issue." It announced that it would apply the fairness doctrine only to commercials "which are devoted in an obvious and meaningful way to discussion of public issues" (39 FR 26382).

Argumentative commercials This is the only type the commission considers truly "editorial advertising," and it holds such advertisements fully subject to the fairness doctrine procedures. The FCC does not, however, take the view that stations must necessarily sell time for argumentative commercials. Since the early days of radio, both networks and stations have had policies against selling time for purposes of argumentation rather than for purposes of selling goods and services. The Business Executives' Move for Vietnam Peace (BEM) asked the FCC to declare illegal such a flat policy against selling time for editorials.

The commission turned down the petition, but BEM won a reversal from the appeals court, which had some interesting points to make about advertising and its role. Said the court: "For too long advertising has been considered a virtual free fire zone, largely ungoverned by regulatory guidelines. . . . Thus we must decide whether the substantial block of the broadcast day devoted to advertising is but a vacuum, devoid of First Amendment constraints" (450 F 2d 646, 654, 1971).⁸ The Supreme Court, however, agreed with the FCC, pointing out that if a broadcaster were forced to accept unwanted advertising, he would be "largely precluded from rejecting editorials advertisements that dealt with matters trivial or insignificant or already fairly covered by the broadcaster" (412 US 124, 1973).

Aside from the clearly recognizable argumentative antiwar spots of the type proposed by BEM, the FCC has to deal with the problem of institutional commercials that are ostensibly concerned with products or services but in fact inject controversial issues indirectly. In the wake of the 1971 petroleum shortage, oil companies used their advertisements to defend their policies and promote their views on controversies rather than to sell nonexistent gasoline. For example, the FCC agreed that Standard Oil Company spots asserting indirectly that the Alaska pipeline could be built without causing ecological damage were subject to fairness doctrine rebuttal (30 FCC 2d 643, 1971). Such

⁸ Although advertising has not always been considered as coming under the protection of the First Amendment, the court pointed out that six courts had held that "once a forum subject to First Amendment constraints, has been opened up for commercial and 'noncontroversial' advertising, a ban on 'controversial' editorial advertising is unconstitutional unless clearly justified by a 'clear and present danger'" (450 F 2d 659).

arguments can be so subtly interwoven as to be indistinguishable from ordinary commercial sales talk, but the FCC expects the licensee to make “a reasonable, common sense judgment as to whether the ‘advertisement’ presents a meaningful statement which obviously addresses, and advocates a point of view on, a controversial issue of public importance” (39 FR 26381, 1974).⁹

20.10 Access: For issues or people?

The controversies over editorial advertising represent an aspect of the broader issue of access to the means of expression. The government, as an ally of freedom, can legitimately seek to keep the avenues of expression open and available to all. “Freedom of speech can be as effectively denied by denying access to the public means of making expression effective — whether public streets, parks, meeting halls, or the radio — as by legal restraints or punishment of the speaker” (11 FCC 374, 1946). Ironically, the FCC said this in the course of refusing to force stations to open their facilities to a man who complained that his point of view was not being heard.

The contradiction arises because the FCC tries to serve two opposite purposes simultaneously: (1) to refrain from censoring broadcasters, leaving them solely responsible for what they put on the air; (2) to ensure that broadcasters use their facilities in the public interest. The FCC’s solution to this paradoxical demand is the fairness doctrine.

The fairness doctrine revolves around questions of access — access of ideas and of spokesmen for ideas to the media, and access of the audience to those ideas.¹⁰ The FCC’s philosophy of access lays principal stress on the right of the people to have access to ideas; as a corollary to this, it stresses the right of ideas rather than of persons to have access to broadcasting facilities. This ordering of priorities, the FCC believes, is necessary to maintain the licensee’s responsibility for content while at the same time guaranteeing that the licensee will not exercise undue personal control over that content.

The FCC’s philosophy of access attempts to solve the dilemma of scarcity. Although the licensee acts as a fiduciary for the general public, not every individual member of the public can be granted personal access to the medium. Every issue that meets certain limiting criteria, on the other hand, can be granted access. The FCC uses two criteria: (1) controversiality and (2) public

⁹ In 1974 the three major television networks refused to accept Phillips Petroleum Company spots extolling the company’s contributions to public welfare and stressing the values of the free enterprise system. The company thereupon placed the spots directly on 103 stations in 43 markets. No station declined the offer (*Broadcasting*, 18 March 1974).

¹⁰ The term “access” is sometimes used in a broader sense to cover all the strategies used to give the public more say about broadcasting, such as standing to intervene in renewals and the consequent power to get licensees to agree to alter programming and employment policies (see Zeidenberg, 1971; Schwartz & Woods, 1972; Barron, 1973).

importance. An idea that is both controversial and of public importance has a right of access to broadcasting.

In the Scott case an atheist claimed that he should be allowed to reply to attacks made on atheism in religious programs. The FCC denied Scott's petition for personal access, leaving it to the accused stations to decide whether or not he offered an issue that deserved access. In doing so, the commission cautioned the broadcasters:

Every idea does not rise to the dignity of a "public controversy," and every organization, regardless of membership or the seriousness of its purposes, is not per se entitled to time on the air. But an organization or idea may be projected into the realm of controversy by virtue of being attacked. The holders of a belief should not be denied the right to answer attacks upon them or their belief solely because they are few in number. (11 FCC 376, 1946)

Issues, however, cannot be entirely separated from persons. An issue does not bring itself up or argue its own case. People raise issues and people take sides on them. This was the reason the Twentieth Century Fund study of presidential television (§20.8) found the FCC's solution to the problem of overrepresentation of the president's viewpoint unsatisfactory. In that situation the overrepresentation of one branch of government implied a right of access not merely on the part of the issues involved but also on the part of members of another branch of government — Congress.

We do have precedent for a person-oriented right of access in the limited cases of the right of reply to personal attacks and the right of political candidates to receive equal opportunities. Could these individual access rights be extended further, in keeping with the spirit of the First Amendment?

The argument against broadening access rights is that it strikes at the heart of broadcasting as now defined (§17.6). Aside from the practical problem of scarcity, if licensees had to give access to all comers they could no longer be held responsible for programming. Broadcasting would become a common carrier. Access need not be pushed to that extreme, however. A certain amount of time could be set aside for public access, as suggested by former Commissioner Nicholas Johnson (25 FCC 216, 1970, dissenting opinion).

A number of stations have voluntarily adopted a policy of such limited access. Some public broadcasting stations have set aside weekly time periods for public access on a first-come first-served basis. Commercial stations have tried the same idea on a more limited scale. Cable television, however, has had the most experience with public access programming (§11.5). One of the most attractive features of cable television is that it eliminates the scarcity factor that inhibits access in broadcasting. With its potential for unlimited numbers of channels, cable could give access to literally every individual willing to sign up for an allotment of time and to prepare a message.

20.11 Private censorship: "Bias" and "balance"

Finally, just as the government can properly intervene to ensure access to facilities of communication, so can it intervene to prevent more literal censorship by nongovernmental forces.

In a 1969 address Spiro T. Agnew, then vice president, made an unprecedented (for a high government official) public attack on network television news, accusing the leading networks of one-sidedness, monopoly, and (by implication) conspiring to misrepresent the national administration.

I'm not asking for Government censorship or any other kind of censorship. I'm asking whether a form of censorship already exists when the news that 40 million Americans receive each night is determined by a handful of men responsible only to their corporate employers and is filtered through a handful of commentators who admit to their own set of biases. (*EBR*, 1970: 15)

The answer is "no." A handful of people filtering news through a handful of commentators who admit to biases does not constitute censorship in any meaningful sense.

A distinction must be made between censorship and the essential journalistic functions of selecting, editing, and commenting on news. Without such a distinction, every reporter, every editor, every station news director becomes a censor, which makes the term so broad that it becomes meaningless. Licensees have undelegatable responsibility for programming their stations so as to serve the public interest. This responsibility involves blue penciling some programs and some parts of programs; yet it would be absurd to regard this exercise of legally imposed responsibility as censorship.

The exercise of the journalistic editing function has long been recognized as compatible with the First Amendment. "For better or worse," said the Supreme Court, "editing is what editors are for; and editing is selection and choice of material. That editors — newspaper or broadcast — can and do abuse this power is beyond doubt, but that is no reason to deny the discretion Congress provided. Calculated risks of abuse are taken in order to preserve higher values" (412 *US* 124, 1973).

The First Amendment leaves room for mistakes — not only honest ones but even careless and ignorant ones. It leaves room for personal bias. Absolute objectivity is not only impossible but also undesirable. As Elmer Davis put it, when carried too far objectivity "often obscures the truth instead of revealing it" (1963: 63).

Authentic cases of news censorship in the most literal sense have not often come to light in broadcasting. In the 1948 *Richards* case, the licensee of stations in Detroit, Cleveland, and Los Angeles was accused by professional newsmen of trying to force them to systematically slant news in keeping with his personal political beliefs — a clear case of censorship by a private agent. Hearings

on the charges went on for seven months, and Richards is said to have spent nearly a million dollars defending himself. He died in 1951, before the case was decided, and the FCC dropped the investigation upon receiving assurances that the alleged censorship would be discontinued by those who succeeded to the licenses (14 *FR* 483, 1949).

Charges of a more subtle and pervasive form of prior censorship by broadcasters arise with regard to alleged overall “bias” in news coverage and one-sidedness in public affairs documentary programs. For example, a *TV Guide* writer studied a sample of prime-time television network newscasts prior to the 1968 elections. She professed to find overwhelming evidence of bias in the treatment of the presidential candidates (Efron, 1971). Subsequent analyses of the methods she used suggest, however, that the writer herself had been biased in her judgment as to which statements favored which candidates (see e.g. Stevenson et al., 1973).

Content analysis of news in search of news bias can always disclose what the analyst seeks. A large bureaucracy grew up within the Nixon administration devoted exclusively to sifting through the daily news for any hint of “enmity” in the media. Its way of looking at the news, so completely different from that of the ordinary reader, viewer, or listener, inevitably distorted White House perceptions of what the news reports signified. Moreover, like all bureaucracies, this one had to create work to justify its own expansion. Internal White House memoranda and transcribed conversations released during the Watergate hearings reveal a bureaucracy seizing on every sign of media hostility to justify mounting yet another counterattack (see §21.6).

From their inception, news documentaries have drawn accusations of bias and misrepresentation.¹¹ On several occasions broadcasters have been charged with rigging news documentaries — helping to stage an “invasion of a foreign country” (“Project Nassau,” 1966), mislabeling a key picture offered as “proof” (“Hunger in America,” 1968), staging a pot-smoking party at a university (1969), using interview replies out of context (“The Selling of the Pentagon,” 1971). These have been taken seriously enough to justify congressional investigations. Although the investigations disclosed evidence of indiscretion and bad judgment on the part of individual employees, they never produced evidence of deliberate dishonesty on the part of broadcast management. Nevertheless, the inquiries had the desirable effect of making producers more keenly aware of the possibilities of abuse. CBS, for example, revised and tightened its operating standards for news and public affairs programs after the criticism of its documentary about Pentagon public relations spending (CBS, 1971).

Standards of television necessarily differ from those of print. As H. V. Kaltenborn discovered long before there were television documentaries, the very fact of broadcasting a statement rather than printing it alters the way the

¹¹ See Friendly (1967) for notable examples from his experience with Edward R. Murrow at CBS.

statement is perceived (§9.5). Noting the furor aroused by the editing in "The Selling of the Pentagon," a news magazine commented on the "vital difference between print and television journalism":

Newspaper and magazine readers as well as their editors understand that what is printed is a comprehensible reordering of reality; written stories normally can and do make clear, through both words and punctuation, where significant reordering has occurred. By its immediacy, TV creates the illusion of verisimilitude. . . . Because television material is digested more easily and has greater emotional impact than news in print, distortions in editing cut especially deep. (*Time*, 12 April 1971)

The FCC carefully skirts the danger of being drawn into a First Amendment confrontation over intervention in the process of making news judgments and editorial decisions. In the "*Hunger in America*" case the FCC stated its basic position with regard to allegations of misrepresentation in news documentaries.

We do not intend to defer action on license renewals because of the pendency of complaints of the kind we have investigated here — unless the extrinsic evidence of possible deliberate distortion or staging of the news which is brought to our attention, involves the licensee, including its principals, top management, or news management. (20 FCC 150, 1969)¹²

The FCC appeared to depart from this policy, however, in its ruling on a complaint about an award-winning NBC program on company pension plans. Accuracy in Media, a conservative watchdog organization, charged NBC with having given a one-sided presentation in "Pensions: The Broken Promise," an NBC Reports documentary about the large number of workers who never benefit from private industrial pension programs because of various failings in the pension system. The FCC agreed with AIM that NBC had violated the fairness doctrine. It requested the network to notify the commission as to how it proposed to ensure balancing comment (40 FCC 2d 958, 1973).

NBC objected that the FCC and AIM had assessed "Pensions" as though it had been intended as a survey of the pros and cons of the subject. On the contrary, the network argued, the program had been avowedly built around the theme that many industrial pension plans turn out to be broken promises. Although the program devoted 86 percent of its time to that topic, it nevertheless clearly acknowledged that there are good pension plans as well as bad. No one could deny that broken pension promises constituted a major abuse — indeed, in 1974 Congress passed a sweeping pension reform law.

NBC saw the FCC's decision as a major setback to the freedom of broadcasters

¹² Chief among complaints about the 1968 CBS documentary was that it had shown a baby alleged to have died later of starvation, whereas the death certificate cited other causes. CBS had photographed the infant only incidentally, in the course of shooting general background footage in a pediatric ward where, the crew had been told, most of the babies suffered from malnutrition. See F. Smith, 1974, for an analysis of such problems of interpretation.

to engage in vigorous investigative reporting and documentary presentation. Accordingly, although it could have settled the matter by giving the complainants a brief appearance on a program like *Today*, the network appealed. The case was widely regarded as a significant test for broadcast journalism (see for example Bagdikian, 1972). The appeals court gave the case priority because it had to do with pending congressional legislation, handing down its decision late in 1974.

The court did not base its judgment squarely on the First Amendment issue; instead, it found that the FCC had failed to adhere to its own fairness doctrine principles. The commission had substituted its judgment for that of the broadcaster/journalist.

The Commission's error of law is that it failed adequately to apply the message of applicable decisions that the editorial judgments of the licensee must not be disturbed if reasonable and in good faith. The licensee . . . has wide discretion and latitude that must be respected even though, under the same facts, the agency would reach a contrary conclusion.¹³

"Pensions" underlined an unfortunate by-product of the fairness doctrine — a demand for artificial "balance" in news and commentary. The First Amendment emphatically rejects such a government-imposed restraint on freedom of journalistic judgment. The FCC itself normally makes no such claim for the doctrine:

The fairness doctrine will not insure perfect balance in debate and each station is not required to provide an "equal" opportunity for opposing views. Furthermore, since the fairness doctrine does not require balance in individual programs or series of programs, but only in a station's overall programming, there is no assurance that a listener who hears an initial presentation will also hear a rebuttal. (39 FR 26376, 1974)

The only constitutional justification for the fairness doctrine or any other intervention by a government agency is that such intervention must enhance First Amendment freedoms. Arbitrary compulsion to maintain an artificial "balance" would have the opposite effect.

¹³ Court of Appeals for the District of Columbia Circuit, Slip Opinion, No. 73-2256, decided 27 September 1974, p. 29. The opinion reprints the entire script of "Pensions." The court was divided two to one, with the dissenting judge offering a vigorous contrary opinion.

Regulation and the Public Interest: Facts and Fictions

So great, in truth, is the gap between the theory of the regulatory agency and the operation of such an agency in practice that the entire regulatory process today is founded upon a series of basic fictions.
(Bernard Schwartz, 1959: 114)

21.1 Defects of the regulatory agencies

The federal independent regulatory agency — that administrative device that Congress first adopted in 1887 with the creation of the Interstate Commerce Commission — has proved seriously defective as a means of protecting the public interest. The older agencies, such as the ICC and the Federal Trade Commission, aimed originally at protecting businesses from each other. An amendment in 1935 extended the FTC's responsibility to consumer protection, and the Administrative Procedure Act of 1946 attempted to modernize all the regulatory agencies and to involve the public more than previously. Still, they remained largely unresponsive to the needs of the public relative to the needs of the businesses they are charged with regulating.

In mid-twentieth century, the rise of “consumerism” contributed to public impatience with the defeatist attitude implicit in the cliché, “You can’t fight city hall.” More and more people began to believe that citizen activism could actually help to bring promise and practice in American political and commercial life closer together. An atypical FTC commissioner declared,

We must institutionalize the means whereby the public may be aware of, and participate in, political and governmental processes that affect the quality of all our lives. We must open wide the doors and windows of government agencies, so that the public may see for itself what is or is not being done, and demand an accounting from those in charge. (Elman, 1970: 22)

The FCC and the FTC have been among the most frequently analyzed and adversely criticized of the regulatory agencies. Official investigations and private studies of the FCC have regularly concluded with charges of (1) endless red tape that causes unconscionable delays; (2) inconsistency and vacillation; (3) *ex parte* interventions and fraternization with the industry; (4) the appointment of commissioners who have no outstanding qualifications and who are prone to accept high-paying jobs from the industries they have been regulating after they resign or their terms of office expire.

21.2 Decisional inconsistency

Former Chairman Newton Minow described the FCC as working “in a jungle of procedural red tape that flowers wildly out of the quicksands of constantly changing public policy” (1964: 8). Judge James Landis, in an official report to President-elect Kennedy, said the commission “has drifted, vacillated, and stalled in almost every major area” (1960: 53).

In his letter of resignation to President Kennedy, Minow referred to the commission’s decision making as having an “unpredictable, crazy-quilt pattern” (1964: 282). Judge Landis saw little relation between decisions and putative standards and observed, “The anonymous opinion writers for the Commission pick from a collection of standards those that will support whatsoever decision the Commission chooses to make” (1960: 53). Unlike judges, he noted, commissioners rarely write their own opinions. Instead, they hand their decisions on to the Office of Opinions and Review (see FCC organization chart, exhibit 18.1). One investigator reports that the office once dutifully wrote up a hundred-page opinion justifying a competitive television grant, only to have the commission change its mind and award the license to another applicant. The office went back to work and came up with another hundred pages, equally convincing in reaching an opposite conclusion. The investigator echoes Judge Landis: “The Commission juggles its criteria in particular cases so as to reach almost any decision it wishes and then orders its staff to draw up reasons to support the decision” (Schwartz, 1959: 191, 151).

21.3 Lobbying and *ex parte* intervention

“The agencies,” says one student of their performance, “have institutionalized industrial protectionism. They are umpires not of the consumer interest versus business but of competing business interests” (Kohlmeier, 1969: 93). The commissioners work in a milieu permeated by those who are regulated — their legal counsel, public relations advisors, lobbyists, often compliant congressmen. Judge Landis reported that the FCC appeared to have been more susceptible to *ex parte* influences than any other agency — though there surely

must have been rivals for this dubious distinction (1960: 53).¹ Many *ex parte* approaches come from lawyers, according to Landis: “Indeed, one of the worst phases of this situation is the existence of groups of lawyers, concentrated in Washington itself, who implicitly hold out to clients that they have means of access to various regulatory agencies off the record.” (1960: 13).

Occasionally, investigations give fleeting glimpses into the shadowy recesses of this Washington jungle. In 1957, for example, the House Interstate and Foreign Commerce Committee hired a young university professor, an expert on government administrative agencies, to head the investigative staff of its Special Subcommittee on Legislative Oversight. The professor, Bernard Schwartz of New York University, understood that the subcommittee intended to check on the sort of job the independent administrative agencies were doing. As soon as he began to uncover evidence of misconduct in the agencies, however, he learned that the parent commerce committee and its chairman, Representative Oren Harris of Arkansas, had no such intention. Schwartz then realized that he had been hired as a “harmless, academic type” who could be counted on to confine himself to ivory tower legal theory without delving into embarrassing practical matters (Schwartz, 1959: 3).

Refusing to be overawed and unwilling to suppress the damaging information he had already unearthed, Schwartz went to the newspapers with his story and forced a public hearing. The committee managed to get rid of him in early 1958, after seven months. But even in that short time and despite harassment and sabotage from the commerce committee, Schwartz managed to uncover enough evidence of misconduct to cause the resignations of two FCC commissioners and a high-ranking White House official.

Schwartz lifted the curtain briefly on a scene he characterized as an “all-pervasive system of personal fraternization between commissioners and those whom they regulated” (1959: 77). The commissioners refused to respond to a committee questionnaire dealing with their financial involvements. Schwartz uncovered evidence suggesting reasons for this reluctance. Some accepted color television sets and free maintenance contracts, luxury vacation trips, and similar favors from regulated companies. Commissioners made trips all over the country to inspect stations — at the expense of licensees. They not only accepted payment of expenses for these trips from the companies but sometimes also submitted duplicate expense vouchers to the government and collected a second time. In one instance Schwartz was able to show that FCC Chairman John C. Doerfer had collected *three* times for part of a trip on which he had attended both a station dedication in Oklahoma and an NAB meeting on the West Coast.

The accused commissioners and their congressional apologists on the sub-

¹ *Ex parte* communications are unethical private contacts with judges designed to influence their actions on pending cases.

committee pooh-poohed such peccadilloes — much as so many in broadcasting had lightly dismissed the rigging of the quiz programs (§16.3). The taxpayer outside this mutual benefit circle might wonder, though, what else could be going on if so much questionable activity could be uncovered in such a short time by such an inexperienced investigator, working with an unsympathetic staff and over the opposition of his employers.

In the course of his truncated investigation, Schwartz unraveled the classic *ex parte* scandal, the Miami Channel 10 case — one of the series of scandals that occurred in the late 1950s during the intense battles for the few remaining vhf channels in major markets, each worth millions of dollars (§18.10). The FCC's hearing examiner, after prolonged hearings and delays, had finally awarded channel 10 to a local radio station owner, who scored high in terms of local ownership, integration of management with ownership, and experience. To everyone's amazement (except those who knew what was going on backstage), the commission reversed the examiner. It awarded the grant to National Airlines, to which the examiner had given the lowest rating of the four contestants.

The radio station operator cried "foul," alleging that the vote of a recently appointed commissioner from Florida, Richard A. Mack, had been pledged to the airline in advance. Schwartz's investigation showed that Mack had received a number of checks as well as highly profitable business favors from a Miami lawyer who had been retained by the airline only because of his longstanding friendship with the commissioner. These links formed part of a maze of interlocking business and political relationships stretching between Florida and Washington. Ultimately, three of the four contestants were disqualified for *ex parte* activities involving a number of prominent senators as well as FCC members. Mack resigned under pressure, as did the FCC chairman some time later (see Rosenblum, 1962).

21.4 FCC commissioners — Before and after appointment

The Channel 10 case raised the question of the quality of appointments to the commission. The White House often uses the regulatory commissions simply as a means of paying off minor political debts.² Despite the tremendous powers commissioners wield over commercially valuable rights and vital aspects of national life, the positions do not rank high in the Washington pecking order; few outstandingly able and ambitious men would be satisfied with a career as a commissioner. Yet the underlying theory of the regulatory agencies is precisely

² In 1974 the White House sifted through some 100 candidates before settling on 4 nominees for the FCC. A White House aide described some regulatory agency nominations as "throwaways used to score political brownie points or to seduce an industry important to the administration" (Zeidenberg, 1974: 36).

that they will be manned by career-minded people especially endowed with long experience and expertise in the highly technical activities they oversee.

In fact, few commissioners have had significant background in the field of communications, nor do most of them stay in office long enough to develop a high level of expertise. They usually have a background of political party loyalty and come either from other government administrative jobs or from the legal profession. No communications scholar, as such, has ever been appointed.

A study of commissioners of the years 1927–1961 indicated that none had come from high-level broadcasting management, although 6 went to such jobs; 14 went into law practice — mostly communications law. One commissioner, Sam Pickard (1927–1929), became a CBS vice president and also a part owner of a radio station in reward for helping it obtain network affiliation. The station later lost its license because of his concealed part in its ownership (Bendiner, 1957: 26). Another study disclosed that of 33 commissioners who left the FCC during the 1945–1970 period, only 4 had come to the commission with prior communications industry affiliations, but 21 acquired such affiliations following their service as commissioners (Noll et al., 1973: 123).

Commissioner Charles Denny (1945–1947) resigned not long after having participated in some FCC decisions highly valuable to RCA to become an NBC vice president. “The move, like earlier metamorphoses of this sort, caused a hue and cry. When had the subject of a network executive first been hinted?” (Barnouw, 1968: 174). Commissioner Frederick Ford (1957–1965) became president of the National Community Antenna Association at more than double his government salary. Kenneth Cox (1963–1970) became senior vice president of a large common carrier subject to FCC regulation. Even that critical gadfly, Chairman Newton Minow, became a CBS counsel following his resignation, thus finding himself “paid to defend the same practices he had latterly been criticizing” (Kendrick, 1969: 477).

Intense political and lobbying pressures have generally tended to force commissioners, once appointed, into one of two extreme camps — the apologists for unrestrained business control of broadcasting or the crusading do-gooders allegedly bent on destroying the American system of free broadcasting. Commissioners George McConaughy (1954–1957), Robert E. Lee (1953–), and Rosel Hyde (1946–1969) are often cited as leading examples of the “hands-off” school of regulation. Commissioners like these were so outspoken in their opposition to government interference with commercial broadcasters that they inspired the description “a system of regulation by anti-regulators” (Bendiner, 1957: 26).

Commissioners James Fly (1939–1944), Newton Minow (1961–1963), and Nicholas Johnson (1966–1973) may be cited as representatives of the crusading type. Fly was a Roosevelt appointee, former general counsel for the Tennessee

Exhibit 21.1
Landmark FCC appointees



Frieda B. Hennock (1904–1960), the first woman commissioner, was appointed by President Truman and served from 1948 to 1955.

Source: Complex of United Press International.

Valley Authority. “He was a disturbing phenomenon. No other FCC chairman had even faintly resembled him. He put a certain passion into his work. When the NAB adjourned a meeting at which he was attacked before he could reply he later said it reminded him of a ‘dead mackerel in the moonlight — it both shines and stinks’” (Barnouw, 1968: 174). Fly inspired such intense hostility that Representative Eugene Cox of Georgia tried to have him impeached. Not until another liberal commissioner, Clifford Durr, came up with documentary evidence that Cox had been paid to help get a license for a Georgia station (a criminal offense) did Cox relinquish his vendetta against the crusading commissioner.

Minow was another Democratic appointee (President Kennedy) and another phrase maker (the “vast wasteland”; §10.7). Nicholas Johnson, the most outspoken critic of the FCC itself, was a frequent and pungently vocal dissenter to FCC decisions. A trade journal entitled its editorial celebrating Johnson’s de-



Benjamin L. Hooks was appointed by President Nixon and, as first black commissioner, joined the FCC in 1972.

Source: Compix of United Press International.

parture from the commission “Good Riddance.” It charged that while in office he had trained about a hundred young people as “guerrillas against the system” and asserted, “We cannot point to a constructive word or deed bearing his imprimatur” (*Broadcasting*, 17 Dec. 1973).

It should be obvious from the foregoing that consumers, women, and members of racial minorities have been underrepresented on the commission. The first woman commissioner, Frieda Hennock (exhibit 21.1), adopted public broadcasting as her specialty and had much to do with the ultimate success of

the drive to reserve television channels for education. The next woman commissioner, Charlotte Reid, was not appointed until 1971. The first black on the commission, Benjamin Hooks (exhibit 21.1), a former judge from Tennessee, also received his appointment in 1971.

It goes without saying that the FCC rises to no higher level than that of the commissioners. They have varied from people of the highest probity to political hacks. The collegial system dilutes the impact of the individual commissioners, tending always toward the lowest common denominator. This can be deplorable when it frustrates the good works of the better commissioners but also admirable when it frustrates the designs of the lesser commissioners. In avoiding the extremes of either good or bad, however, the collegial system tends to settle for mediocrity in overall performance.

21.5 Congressional intervention

In extenuation of the commission's vacillation and weakness, it must be conceded that it operates in the eye of a storm system of intense pressures — from Congress, from the executive branch, from the industry, from consumer groups. Commission decisions must often be made “under pressures that would not be tolerated in a traffic court” (Bendiner, 1957: 29).

Congress gave the commission the communications act as its mandate and turned it loose to carry out that mandate independently. But Congress has a continuing role — assessing the president's nominations for the commission, appropriating the FCC budget, and monitoring its performance generally. In practice, Congress second-guesses the commission on virtually every issue that gets publicity, large and small. It has kept the commission under constant cross-examination ever since the pioneering days of the FRC (Emery, 1961: 294). As one critic described the effect on the commission, “Much of the effort of the FCC resembles the launching of trial balloons, only to find them punctured by a congressional committee. The common technique of a committee or its chairman who opposes a proposed rule is to say the Commission is exceeding its authority” (Carey, 1967: 45).

Since members of Congress depend heavily on broadcasting both for electioneering and for keeping themselves before the electorate between campaigns, they tend to be responsive to requests from their home state station owners.³ The trade press nourishes the myth that broadcasters live in fear and trembling of an all-powerful FCC. But the industry's success in neutralizing the more activist of the commissioners and lobbying out of existence the more sweeping reforms proposed in Congress belies the myth.

The FCC cannot fail to be acutely aware of the broadcasting interests of

³ The president too feels these political pressures and rarely appoints a commissioner not certified as acceptable to the broadcasting industry.

members of Congress and the executive branch (reaching all the way to the top during the Johnson administration). No improper conduct, no *ex parte* intervention, need take place for powerful figures in the political hierarchy to secure “courtesies” from the commission (see Krasnow and Longley, 1973: 55).⁴

The ownership of broadcast properties by politicians directly concerned with overseeing the commission raises serious conflict-of-interest questions. During the brief period when Bernard Schwartz was employed by the Special Legislative Oversight Subcommittee, it came to his attention that Representative Oren Harris, Chairman of the parent House Commerce Committee — chief House watchdog of the FCC — had received a quarter interest in a television station for a mere \$500 plus a promissory note for \$4,500. Shortly thereafter, according to Schwartz, the FCC, having previously turned down a similar request, granted the station a sizable increase in power (1959: 96). It is safe to assume that the congressman never had to say a word to the commissioners about favorable treatment.

21.6 Executive branch intervention

The FCC represents a delicate balance between the legislative and executive branches (§17.1). The executive branch has an obviously legitimate interest in an agency designed to carry out (i.e. “execute”) functions delegated to that agency by Congress. The legislature acknowledged this interest by giving the president the power to appoint the commissioners and to name the chairman. Presidents did not, however, become heavily involved in the actual workings of broadcast regulation until they began to perceive public relations and news management as major functions of the executive branch. These functions became a primary preoccupation of the Nixon White House, precipitating a power struggle with Congress over control of broadcasting.

During the Nixon administration a new agency appeared within the White House bureaucracy — the Office of Communications. This was separate and independent from the press office, normally part of the presidential staff. Among other things, it ran a kind of booking and talent agency. Under its direction, administration officials from cabinet members on down fanned out across the country with prepared speeches embodying the latest White House strategies — first for electing President Nixon, later for saving him from impeachment.

Another White House unit, the Office of Telecommunications Policy, had been set up ostensibly to advise the president on broad policy questions (§17.1). It became instead an active agent in day-to-day regulatory matters that had

⁴ President Lyndon Johnson entered politics almost penniless and left a \$20 million estate, said to have been the product of a \$17,500 investment by Mrs. Johnson in a small radio station. The Johnson family went on to acquire major holdings in radio, television, and cable television (Waldron, 1973).

already been assigned by Congress to its own agent, the FCC. Congressman Torbert Macdonald, chairman of the House Communications and Power Subcommittee, described the OTP as “the most serious, continuing threat to the free broadcasting system in this country” (1972: 5). The brash young head of OTP, Clay Whitehead, roamed the country stirring up antagonism against the networks, both commercial and noncommercial (on the latter see §10.11).

The administration attacked the networks at their weakest point — affiliate clearance. As described more fully in §12.3, clearance is the process whereby affiliates voluntarily make time available for network programs. Stations always have the option of refusing to clear time, and any wholesale refusal could be fatally damaging to a network. The administration drafted an amendment to the communications act that proposed to revise renewal criteria (see §18.9).

The administration bill contained what came to be called “carrot and stick” or “good news, bad news” provisions. The good news carrot for the stations was the proposal to extend the license term from three to five years; the bad news stick was a provision that network affiliates would be made responsible for removing or compensating for network “ideological plugola” and “elitist gossip,” as Whitehead expressed it in one of his controversial speeches. He warned broadcasters that affiliates who fail to “correct imbalance or consistent bias in the network or who acquiesce by silence can only be considered willing participants, to be held fully accountable at license-renewal time” (see O’Connor, 11 Jan. 1973).⁵

In an analysis of this and other administration ploys designed to weaken the networks, Fred Friendly wrote,

The most alarming and mischievous weapon in the Administration’s strategy is its transparent attempt to exploit the worst of the broadcaster’s instincts. . . . The timid station manager, afraid of the local gun lobby or political boss, has an ally to comfort his timidity — the Executive Branch of the government. If the Whitehead plan becomes law it would mean that stations which reject the nightly network news or hard-hitting controversial documentary would get points where they once got demerits. (1973: 18)

A second major front opened by the executive branch in its war against the media consisted of threatened legal actions of various kinds. The president himself, as revealed by the White House tapes, discussed with his aides the possibility of silencing one of his most relentless critics, the *Washington Post*, by challenging renewal of its lucrative television station licenses. Even the former Office of Telecommunications Policy head later called this conversation “stupid” (*Broadcasting*, 26 Aug. 1974).

⁵ The speech is printed in Barrett, 1973: 228. Two years later, on the television program *Face the Nation*, Whitehead disavowed “using the processes of government to coerce the press into providing the kind of coverage that the administration in power wants.” When questioned about his own role in this coercive process, he said he had been deceived by the White House: “They were lying to me and they were lying to you” (CBS, 1974: 12, 14).

The major administration attack on the legal front, however, was an antitrust suit, launched in April 1972. The Justice Department alleged that the national networks monopolized entertainment programming and should be barred from any control over it (network news, public affairs programs, and documentaries were exempted). The White House tapes revealed that the president had discussed such a suit a full year before the Justice Department took action. The inconsistency could hardly be overlooked. Although the president had been accused of interfering with the Justice Department's prosecution of alleged antitrust actions of large industrial conglomerates friendly to his administration, no one could accuse him of similarly protecting the network companies from antitrust action.

The networks reacted aggressively, charging that the suit was politically inspired. In an unprecedented move, ABC demanded to see government documents that might show that the administration had sought to "inhibit or otherwise affect or harass ABC or the television networks in the reporting of news or public affairs, or as a reprisal against ABC or the television networks for their reporting of news or public affairs" (*Broadcasting*, 14 Jan. 1974: 14). CBS alleged that a presidential aid had threatened to bring the network "to its knees," that FCC Chairman Dean Burch had telephoned for copies of commentaries on a presidential speech at the behest of the White House, and that many other harassing calls and visits had been made.⁶

The effectiveness of these and scores of less sweeping efforts at cooling the ardor of the media for political criticism is hard to gauge. A few specific responses, though, can be cited. According to one critic, ABC "adapted many of its news policies to conform with the Administration's prescription for 'better' journalism" after one of the vice president's attacks. He also points out that the networks refused to cover the well-attended Vietnam moratorium rally in Washington but on request did carry the much smaller "Honor America Day" rally (Brown, 1971: 221). In 1973 CBS dropped commentaries immediately following presidential speeches after they had been condemned as "instant analysis." The network soon reconsidered its decision, however, and reinstated the commentaries five months later. The refusal of some CBS affiliates to carry *Sticks and Bones* (\$16.5) must have been due at least partly to the emotional climate created by the administration. The full effects of such efforts at media control are impossible to assess because no one who was influenced would be likely to admit it. Moreover, most such effects took place behind the scenes as subjective editorial judgments about which the outsider could know nothing.

In the longer term, the legacy of attempts to stifle media criticism seems both

⁶ The networks won their appeal to the extent that the court threw out the suit, but it did so "without prejudice." This allowed the Justice Department to reinstate the suit, presumably no longer tainted with suspicion of White House intervention — and this it promptly did, late in 1974. For a detailed discussion of the type of executive intervention discussed in this section, see Whiteside, 1975.

good and bad: On the one hand, a segment of the population has apparently acquired abiding mistrust of the media; on the other, the media themselves have had their consciousnesses raised and have become more sensitive to the possibilities of unfairness in the exercise of their First Amendment rights.

21.7 Mythology of regulation

With surprising frequency, commentators on the federal regulatory agencies use words like “myth,” “fiction,” “formality,” and “ritual” to describe their operations. Judge Landis called their methods “Alice-in-Wonderland procedures” (1960: 54). After analyzing 60 contested television decisions, Schwartz concluded that the adversary hearings had turned into a “ritual” that has no necessary connection with the “real process of administrative decision” (1959: 169). Another commentator called the hearing procedure “ritualistic, formalistic, wasteful and inefficient; it’s an antipoverty program for very affluent Washington lawyers” (Goldin, 1965: 168).

By tacit agreement, all parties — the commission, the lawyers, the applicants — appear to go through a prescribed set of expensive motions without for a moment believing in what they are doing. Certainly, the numerous instances of licensee failure to live up to program promises or to conduct their stations according to the theoretical requirements of public interest testify to the truth of this description.

The following lists briefly some of the major public-interest tenets that ostensibly govern FCC decisions but in practice often turn out to be empty formalities.

Consumer representation Theoretically, the FCC acts for the people on behalf of Congress. We saw in §21.4 how little representation the consumer as such has on the FCC. In practice the FCC too often acts for the broadcaster on behalf of special interests. “The FCC normally finds itself exercising a quasi-judicial role in an issue that pits the special interest of the strong, well-represented broadcasting industry against the general public interest. The latter is represented sometimes by staff members of the agency assigned to the task, and sometimes not at all” (Noll et al., 1973: 121).

Diversification The great majority of the largest television stations in the United States belong to multistation owners or to newspaper-broadcasting combines. An FCC study of stations in Oklahoma revealed that although 73 different firms owned stations in the state, the 4 top companies took in 88 percent of the broadcast income (14 FCC 2d 14, 1968).

Such concentrations of control have come about despite the major underlying assumption of the American system that media ownership and control should be as diversified as possible and that the FCC supposedly considers diversification of media ownership as one of the major criteria in comparative

hearings. The commission has appeared glaringly inconsistent in the application of this criterion. “The most vexing problem in the diversification area,” says Judge Friendly, “has been the award of radio and television licenses to newspaper publishers.” He ascribes the failure of the FCC to adopt a hard-and-fast policy with regard to newspaper-owner applicants to congressional pressures (H. Friendly, 1962: 65).

The rule limiting single owners to no more than seven of each class of station makes little sense if the FCC’s real intent is to prevent undue concentration of control or gross inequalities among licensees. Owning the theoretical maximum of 21 major stations in the top seven markets would give a single licensee tremendous power in terms of audience impact; on the other hand, 21 minimum-facility stations in minor markets could reach no more than the audience of only one major-market station. If ownership of more than one station can be justified at all, the limitation should logically be based on coverage rather than on numbers of stations, regardless of their power, frequency, and location. Apparently the commission adopted the latter method to avoid having to require networks to dispose of their owned-and-operated stations.

Fiduciary responsibility The communications act, the Rules and Regulations of the FCC, and innumerable court decisions make it clear that licensees have no property right in the frequency spectrum, that their use of channels is justified only insofar as they serve the public interest, that their personal gain is secondary to the public benefit. Many broadcasters appear to regard this theory with complete cynicism. They find it impossible to conceive that voluntary investment and risk taking do not entitle them to unrestricted freedom to seek profit. Judge Warren Burger of the District of Columbia Appellate Court (later Chief Justice of the Supreme Court) came directly to the point in his WLBT opinion:

After nearly five decades of operation the broadcast industry does not seem to have grasped the simple fact that a broadcast license is a public trust subject to termination for breach of duty. (359 F 2d 1003, 1966)

Enforcement of rules In §16.1 we pointed out that marginal commercial stations with insufficient income to operate ethically tend to linger on, dragging down the standards of other stations in their area. One reason for continued existence of such stations has been the commission’s extreme reluctance to apply its own rules with vigor.

Even those stations cited in the “Blue Book” as cautionary examples of substandard practices all received renewals (FCC, 1946). The commission majority refused to revoke the license of an owner accused of “not paying his employees, stealing news, ordering his engineer to make fraudulent entries in the station’s logbook, operating with an improperly licensed engineer, and 87 other technical violations over a three-year period” (Johnson, 1969: 17). One reason for the FCC’s reluctance to vigorously enforce its own rules is the almost

certain knowledge that any move to do so will provoke immediate repercussions in Congress.

Localism and "ascertainment" In §18.5 we discussed the heavy emphasis that the commission and courts place on the element of "localness" in program and operating plans. Applicants dutifully interview the general public and local community leaders, consult educational and public service institutions, and promise substantial local programming. Often such program plans are on their face impracticable. The "Blue Book" study revealed the most cynical disregard for such pledges, even in some cases after licensees had been warned of their dereliction (FCC, 1946).

Every subsequent study of local programming promise and performance has turned up similar evidence. For example, after a detailed analysis in 1968 of all stations in one state, Commissioners Cox and Johnson concluded that in practice "the concept of local service is largely a myth." Their analysis indicated that "with a few exceptions Oklahoma stations provide almost literally no programming that can meaningfully be described as local expression" (14 FCC 2d 12, 1968).

A statistical analysis of 45 applications for 16 licenses in the 1967–1970 period showed that the FCC itself gives little real weight to localism in deciding among competing applicants. The analysis concluded that, in the case of the 16 contested licenses, "the FCC has abandoned its stated policy objectives in granting licenses. Local ownership, news and public affairs programming, and local program origination all detract from the likely success of an application" (Noll et al., 1973: 113).

Apart from licensee failure to live up to the localism principle, the FCC itself struck a serious blow against the principle by deciding to mix vhf and uhf channels in the television service (§10.2). An all-uhf system could have vastly increased the opportunities for local service stations, but the commission apparently foresaw that divestiture of the powerful vhf interests as politically impossible. Similar, if less dramatic, instances of expediency can be cited in the radio spectrum management field (see Geller, 1974: 3).

A 1969 study of the "ascertainment of community needs" exhibits in over 200 applications on file with the commission revealed that only 30 percent of the applicants had made an actual canvass of the general public, as required by the commission. Many used unsound methods of research and biased methods of selecting "community leaders" to give them guidance. Some applicants revealed complete ignorance of what they were supposed to do, and few showed any evidence of relating those community needs that they did identify to program proposals designed to respond to those needs (Baldwin & Surlin, 1970). Some 40 years of licensing nominally based squarely on an obligation to ascertain and satisfy local community needs had not sufficed to build up an understanding either of what this obligation means or of ways for meeting it.

The FCC brought increased pressure to bear by requiring commercial television licensees to prepare annual statements of community needs and to show how their programming has served those needs (47 CFR 1.526, a, 9). It will be interesting to analyze the results of this further effort to secure licensee compliance with this responsibility.

Although the FCC does not require educational stations to make the survey of local needs required of commercial stations, one of the advantages claimed for noncommercial broadcasting has always been its potentiality for fuller development of local programming. In practice, localness in noncommercial operations has too often been used as an excuse to evade provocative national programming and to justify mediocrity (see §16.5).

Preservation of competition The communications act explicitly instructs the FCC to prevent monopoly (§313). "In a number of cases," according to Schwartz "it has simply refused to take account of relevant antitrust considerations." The FCC's patent advisor of many years told him that the FCC majority voted a hands-off policy with regard to allegations of patent monopolies on the part of licensees (Schwartz, 1959: 130).

When the ABC-ITT merger was proposed in the late 1960s, the FCC gave approval by a four-to-three vote, only to have the Justice Department step in and hold up the merger by filing an appeal. The delay and uncertainty caused the companies to drop their proposal. It can be imagined what problems such a corporate base would have caused for ABC when the media were exposing ITT political skullduggery a few years later.

An appeals court opinion expressed the general conclusion that the history of regulatory agencies and monopoly shows

an ever growing absence of the spirit required for vigorous enforcement of the antitrust laws. Rather, it seems to demonstrate that shortly following the establishment of administrative procedures the regulatory agency usually becomes dominated by the industry which it was created to regulate. (433 F 2d 273, 1970)

Program responsibility Licensees have nondelegatable responsibility for their programming. Yet networks, which are not licensed, in practice assume most of the responsibility for most of their affiliates' television program time. The FCC itself used the familiar word "fiction" concerning this situation.

If we are to have network sales and programming [the] responsibility of the licensee to choose and select programs must primarily remain a legal fiction and a virtual practical impossibility with respect to network programs. The indulgence of any fiction cannot help but spread its mockery to other areas of the law, with the result that respect tends to break down all along the line. (FCC, 1960: 109)

Promises versus performance Every investigation has shown that many licensees disregard their promises as soon as they get on the air. The commission has made "virtually no use" of derogatory information disclosed in license renewal forms (14 FCC 2d 4, 1968), although individual commissioners have

on occasion become disturbed at this abdication of regulatory responsibility. The “Blue Book” investigation in 1946 was launched for just this reason.

The licensee asks for a three-year renewal and the record clearly shows that he has not fulfilled the promises made to the Commission when he received the original grant. The Commission in the past has, for a variety of reasons, including limitations of staff, automatically renewed these licenses even in cases where there was a vast disparity between promises and performance. (FCC, 1946: 3)

A quarter-century later, another commissioner could say,

The typical station’s license renewal proceeding goes like this. The FCC gathers at ringside and offers to referee. At the sound of the bell the licensee jumps into the ring and begins shadow boxing. At the end of three minutes he is proclaimed the winner by the FCC majority, found to have been serving the public interest and his community, and given a three-year license renewal. (Johnson, 1970: 176)

As a notorious recent example, consider the *Moline* case. The Moline Television Corporation won a comparative hearing for a vhf television channel, promising to produce 12 prime-time public service programs as part of its service to the community. It presented none of the promised programs. The FCC designated its renewal application for hearing on that and other issues but nevertheless renewed the license, denying a competing application. A former general counsel of the FCC explained this surprising decision this way:

If the Commission had denied the renewal of Moline Television Corporation and preferred its challenger, this would have been an indication that challenges to renewal applicants can be successful; coming after the WHDH decision, it would have unsettled the VHF broadcasting industry. The Commission’s action, while arbitrary on the facts, is understandable as a further protection of the vested industry interests. (Geller, 1974: 17)

Trafficking The entire licensing procedure rests on the assumption that the applicant intends to provide a broadcasting service to the public. Yet applicants have frequently had in mind merely trafficking in licenses — snapping up promising channels with the sole intent of selling them off to the highest bidders. The trafficking issue has primarily historical interest. Now that all the desirable channels have been awarded, investors find no opportunities to make a killing from a quick license turnover. During the postfreeze television years, though, trafficking was a major issue.

In a 1952 amendment to §310(b) of the communications act, Congress appears to have encouraged trafficking in licenses by tying the FCC’s hands. The amendment prevents the FCC from adopting measures to ensure that a new owner will be as carefully scrutinized in terms of the public interest as was the original owner. This produced what one legal commentator has called “the absurd spectacle wherein a considered selection of the applicant who can best serve the public interest, made after much travail and expense [by the FCC], can be rendered nugatory by private arrangements among the very persons who

have submitted themselves to the Commission's determination" (H. Friendly, 1962: 72).

21.8 Proposals for FCC reform

The practices outlined in the previous section indicate that to a large extent the communications act serves as no more than a façade of pious theories. Expediency and crass cynicism rule events behind the façade. No serious investigator of the FCC has offered a favorable diagnosis; all agree on the need for drastic reforms. Perhaps the commission system itself is unworkable. That is the conclusion of economist R. H. Coase:

We cannot expect a regulatory commission to act in the public interest, particularly if we have regard to its actions over a long period. . . . However fluid an organization may be in its beginning, it must inevitably adopt certain policies and organizational forms which condition its thinking and limit the range of its policies. Within limits, the regulatory commission may search for what is in the public interest, but it is not likely to find acceptable any solutions which imply fundamental changes in its settled policies. The observation that a regulatory commission tends to be captured by the industry it regulates is I think a reflection of this, rather than, in general, the result of sinister influences. It is difficult to operate closely with an industry without coming to look at its problems in industry terms . . . (1966: 441)

Taking politics and big-business influence out of broadcasting regulation is clearly impossible. But it should be possible to get better insulation from special interests, more representation for the public, and generally more effective regulation. All critics agree that one key to reform lies in somehow restructuring the FCC. The following summarizes some of the major changes that investigators have proposed.

Quality of commissioners Some have suggested lifetime appointment of commissioners to eliminate rapid turnover and susceptibility to political pressures. A longer delay between the termination of service as commissioners and their appearance before the commission representing clients they recently regulated seems essential to lessen the temptation to start forming industry alliances while still in government service.

Henry Geller sees the problem from the perspective of his considerable experience as FCC general counsel. In a study done for the Rand Corporation he suggested reducing the number of commissioners to 5, appointing them for 15 years, and forbidding employment in communications-related industries for 10 years following separation from the commission (Geller, 1974). This arrangement, he insists, would go a long way not only toward improving the quality of commissioners but also toward ameliorating other problems, such as the commission's hypersensitivity to congressional and presidential pressures.

Separation of functions A special and separate court to adjudicate cases would relieve commissioners of their most time-consuming task, leaving them

free to formulate policy and to administer the law more effectively. Judges expert in the law of communication would write their own opinions.

Geller agrees with the proposal by one-time FCC Chairman Dean Burch that the commission might well be divided into subgroups, each with special responsibilities. One would handle broadcasting and cable, another the common carrier and other nonbroadcast services. As it is, few commissioners can achieve the degree of expertise required to function equally well in both areas, as is shown by Nicholas Johnson's narrative of a typical day in the life of the commission (Johnson & Dystel, 1973).

Single administrator Regulation by commission "produces a dangerous de-personalization and invisibility of agency activity," according to Philip Elman, a former FTC commissioner (1970: 12). A single administrator could be an outstanding person, with clear-cut authority, able to act quickly and decisively, accountable for consistency in decisions.

On the other hand, in 1971 a presidential advisory council recommended retaining the collegial (commission) form of administration for the FCC and FTC, while changing to a single administrator for the other regulatory agencies. The council reasoned that the political implications of the power to regulate broadcasting demanded a system that avoided "suspicion of improper political influence" (President's Advisory Council on Executive Organization, 1971: 118).

Insulation from executive branch Longer terms for commissioners might make them less subservient to the president, Congress, and the industry. More critical review of nominees by Congress could help prevent the "packing" of the commission by appointees nominally of the party out of power but actually obligated to the president. Congress could also exert its influence to keep the Office of Telecommunications Policy from usurping the FCC's role.

Insulation from legislative branch The commission should be given some insulation from petty congressional pressures, especially from members of Congress who have financial interests at stake. At the very least, the chief watchdog congressional committees should be free of broadcasting interests.

More realistic licensing and renewal policies Most knowledgeable critics argue that the empty licensing rituals described in §21.7 should be replaced by realistic procedures and clearly stated standards, rigorously enforced. Among the changes that might help in this direction are the following: requiring licensees to pass a test demonstrating a minimum degree of knowledge of the theory of broadcasting law and the principles of the public interest concept; adopting definite and stringent rules limiting multiple ownership and cross-channel affiliation; systematic comparison between performance and promise in granting or withholding renewals; more rigorous enforcement of rules, with much higher penalties for infractions determined by the licensee's ability to pay; licenses for networks; open application, when stations are sold, to all who

meet the minimum acceptable financial standards; requirement of reinvestment of surplus income (over and above reasonable profit) in improved program service.

Better representation of public interest The public should be ensured enough presence and representation within and before the commission to balance out the extensive public relations and lobbying activities of the industry.

Sell right to use channels to highest bidder Perhaps the most radical reform proposed, this idea has been put forward by economists who find it hard to justify a commercial system that operates entirely outside normal pricing mechanisms. Licensees get an extremely valuable right for virtually nothing (fees amount to no more than tokens); yet they can turn around and sell that right at great profit.

21.9 FTC's concern with advertising

Another federal regulatory agency with important broadcasting responsibilities, the Federal Trade Commission (§17.12), has also been charged with failure to protect the public interest. A committee appointed by the American Bar Association to study the performance of the FTC reported in 1969 that the agency had been deemed inadequate by a series of investigations that stretched back half a century. The committee concluded that without far-reaching changes, the FTC might just as well go out of business. Among the derelictions listed by the committee were mismanagement of resources, incompetence of personnel, preoccupation with inconsequential matters, and extraordinary delays (ABA, 1969).

An even more damning indictment came the same year from a group of investigators organized by Ralph Nader, the consumer protection activist. The Nader study group confirmed the faults already noted by the Bar Association committee, adding that the FTC is "itself one of the most serious and blatant perpetrators of deceptive advertising in America" (Cox et al., 1969: 38). It noted that the FTC failed even to protect businesses. Like the marginal station operator, the unethical businessman infects his competitors. "Under the present régime at the FTC, a businessman who suffers because of a competitor's unethical practices must either adopt the same practices or commit economic suicide."

The FTC has a remarkable record of long-drawn-out cases. The Nader study group found that the average case took 4 years to settle, and some took as many as 20. The Carter case, for example, took 16 years. In 1943 the FTC held 149 days of hearings regarding claims of a heavily advertised patent medicine, Carter's Little Liver Pills. The pills contained two chemicals known as "irritative laxatives" but were advertised as affording treatment for a "vast array of common human ailments" (268 F 2d 470, 1959). According to the FTC hearing

examiner, this misrepresentation had been going on for 70 years. Evidence came to over 2,000 exhibits and 1,500 pages of record. The case went all the way to the Supreme Court, back down to the FTC, and back to the Supreme Court again before the misrepresentation was finally forbidden.

Second only to Carter in complexity and longevity is the *Geritol* case, a textbook example of “the procedural and enforcement deficiencies of the FTC” (Gillmor & Barron, 1971: 172). The FTC’s investigation of Geritol, initiated in 1959, resulted in a complaint issued in 1962, a cease-and-desist order in 1964, an appeals court decision in 1967, a new complaint in 1968, a renewed complaint in 1969, and finally a \$1 million suit against the firm by the Justice Department in 1971.

During these delays the J. B. Williams company spent some \$33 million on Geritol advertising (Gillmor & Barron, 1971: 172). By falsely implying that all forms of tiredness could be traced to iron deficiency, the company capitalized on universally experienced symptoms. In 1973 the court imposed a fine of \$812,000 — the largest fine yet assessed in such a case.

The Geritol fine may have been symptomatic of a changing FTC policy in the field of consumer protection. In 1970 Miles W. Kirkpatrick, chairman of the American Bar Association committee that had reported so negatively on the trade commission, was given the opportunity to do something about it: the president appointed him chairman of the FTC. Under his leadership the agency came back to life (see *Broadcasting*, 26 April 1971). Kirkpatrick resigned after little more than two years, but his successor, Lewis A. Engman, turned out to be equally innovative and carried forward the reforms already under way (Duscha, 1974).

Among the reasons for the FTC’s ineffectiveness was that fraudulent advertising could not easily be suppressed pending adjudication. As illustrated by the Carter and Geritol cases, this meant that frauds could continue for years. Indeed, many a fraudulent patent medicine crash-merchandised on radio and television has earned millions for its promoters while under attack by the FTC, only to have fled the market by the time the FTC could close the barn door. Another FTC weakness has been the absence of substantial penalties for bilking the public. Typically, the FTC relied on informal methods for obtaining compliance — industry guides, advisory opinions, and voluntary agreements. None of these imposes any penalty. Voluntary compliance entails no admission of guilt; the accused advertisers merely agree to discontinue the objectionable practice without admitting any wrongdoing, without retracting the information previously given out, and without making any restitution.

The FTC faces a problem quite different from that of the FCC. The FCC regulates a new field for which no specific legal precedents existed. The FTC deals with trade laws that have a long history behind them. And much of the law in the trade field is archaic, suited to the “public be damned” style of nineteenth-century robber barons.

Two of the most controversial and innovative devices introduced by the FTC

since 1970 involve the use of advertising itself to give the consumer countervailing power. Corrective advertising requires the sponsor of misleading advertising to spend some of his future advertising budget to publicly set the record straight. Previously, advertisers had had no obligation to compensate for the misinformation they had assiduously given out.

The purpose of corrective advertising, as described by an FTC official, is “to dispel residual consumer deception, to help restore competition to the stage that prevailed before unfair practices or deception improperly influenced the market, and to deprive companies engaged in illegal advertising from any ill-gotten gains such advertising may have obtained for them” (testimony of Gerald Thain in House SCSB, 1971: 556).

The first such corrective campaign took place in 1971, when, under an agreement with the FTC, a subsidiary of ITT began a 12-month campaign of corrective commercials. A quarter of the year's advertising budget for Profile bread was devoted to corrective advertising. The corrective commercial went in part as follows:

Does Profile have fewer calories than other breads? No, Profile has about the same per ounce as other breads. To be exact, Profile has seven fewer calories per slice. That's because it's sliced thinner. But eating Profile will not cause you to lose weight. A reduction of seven calories is insignificant. It's total calories and balanced nutrition that counts. (*Broadcasting*, 20 Sept. 1971)

Not exactly sackcloth and ashes but a start toward redressing consumer disadvantage in the advertising marketplace.

Far more controversial was the FTC proposal that broadcasting stations accept counteradvertising as distinguished from corrective advertising. Such advertising would enable consumer groups to use the media to counter the claims of sponsors, for example by pointing out undesirable ecological side effects of advertised products or by rebutting exaggerated or unfounded claims.

The FCC explicitly rejected an FTC proposal to enlarge the fairness doctrine so as to require stations to accept counteradvertising (§20.9). The FCC objected on the ground that the trade commission's definition would make virtually all advertising subject to countercommercials. This, the FCC believed, would have an adverse economic effect on commercial broadcasting and “might seriously divert the attention and resources of broadcasters from the traditional purposes of the fairness doctrine” (39 FR 26382, 1974).

Whatever methods may in the long run turn out to be fair to consumers and tolerable to advertisers, it seems clear that consumers need more countervailing power than they have had in the past. Experience has shown that previous methods of regulation have had no appreciable deterrent effect. The persuasiveness and reach of the modern media enable false and misleading advertising to do vast damage. Fully commensurate penalties might be excessive, but fitting the punishment to the crime — and imposing it promptly — remain the FTC's most challenging problems.

Beyond the FCC: Nonregulatory Social Controls

In the preceding chapters we discussed government regulation as a form of social control over broadcasting. We turn now to consider a group of organized activities that, although outside the compulsions of government regulation, also exercise varying degrees of control over broadcasting.

22.1 Industry self-regulation

Self-regulation by businesses and industries arises, obviously, from the need to cultivate good public relations and to forestall regulation by government. Broadcasting has its own internal self-regulatory mechanisms and in addition is influenced to some extent by the self-regulatory activities of the advertising industry.

Even though self-regulation originates *within* the commercial medium, in this context we will regard it as a form of social rather than economic constraint. Codes tend to follow rather than lead public opinion. The broad principles announced in the preambles of the broadcasters' self-regulatory codes give ample warrant for seeking out and correcting abuses before they become notorious. In practice, however, the "thou shalt nots" of the codes usually appear only after adverse publicity has already imperatively called attention to the need. For example, in 1974 the NAB Code Authority adopted more stringent rules for advertising in children's programming but not until a deluge of argument and evidence by consumer groups had triggered extensive hearings before both the FCC and Congress (see §22.6). Similarly, in 1975 the code authority accepted "family standards" for early prime-time hours as a result of the commission chairman's "jawboning" (§18.9).

Every department head at every level of broadcasting constantly makes decisions based on personal assessments of what public opinion will welcome, tolerate, or condemn. Smaller stations cannot afford to assign a special officer or department to this assessing role, but in large broadcasting enterprises it is a

major and highly technical function. Networks occupy an especially exposed position since they must devise a national standard equally acceptable to south, north, east, and west. Network departments of “standards and practices” clear every commercial announcement and every program. They struggle to please the entire spectrum of public opinion and to avoid offending innumerable special interests. The dean of broadcast self-regulators, formerly with NBC and later director of the Code Authority of the National Association of Broadcasters, described the latter problem:

We are looked to for fair treatment of and consideration for the gas interests (if a death was caused by same), the meat interests (if a high cost of living reference or adlib suggests that rising prices pertain only to lamb chops), florists (if a line admonishes “Please omit flowers”), the bowling and billiard people (if gangsters are depicted as collecting only in poolrooms), the warehouse interests (if clichéd writing suggests that night watchmen are invariably eighty years old, invariably sleepy, invariably assigned to dirty and abandoned warehouses in the worst section of towns where murders invariably occur). (Letter from Stockton Helffrich, 24 May 1955)

The NAB, formed in 1923 (see §9.4), is a voluntary membership trade association. In 1974 a little more than half the commercial radio stations and three-quarters of the television stations belonged to the organization (exhibit 22.1). The association’s major function is to lobby for commercial broadcasting interests in Washington, but it also performs many useful direct services for its members, as a glance at the items under NAB in the bibliography of this book suggests. Among its important ancillary roles is that of the code authority, a largely autonomous unit within the organization that has its own separate boards for radio and television and its own secretariat.

When the NAB adopted its first radio code in 1929, however, it failed to set up adequate machinery to implement it. An attempt to secure a “pledge of adherence” to implement a new code in 1958 drew signatures from only 14 percent of the radio stations on the air (Linton, 1967: 11). Finally, in 1960–1961, the imposition of fees for setting up the code authority with a permanent staff enabled the NAB Radio Code to have practical effect.

The NAB Television Code, adopted in 1952, also remained virtually dormant until the NAB’s 1960–1961 move to set up an authority to oversee implementation of both codes. Until 1976 stations could join the NAB without subscribing to the codes, and a higher proportion of both radio and television stations subscribed to the association than to its codes (exhibit 22.1).

The NAB radio and television codes differ considerably in detail but cover essentially the same ground under two main divisions — advertising standards and program standards. Under advertising, the codes deal with time standards (§15.3) and rules governing acceptability of particular types of advertising and methods of presenting advertising. The program division of the codes includes, in addition to general statements about programming as a whole, special

Exhibit 22.1
NAB membership and code subscribership

	Radio		Television	
	No.	%	No.	%
Total stations on air	6,876	100	696	100
Members of NAB	3,930	57	529	76
Code subscribers	2,842	41	410 ^a	59

^a In 1974 the Television Code Board resolved that starting in mid-1976 television members of NAB must also subscribe to the television code.

Source: National Association of Broadcasters Code Authority, 5 Aug. 1974.

provisions concerning children's programs, news, controversial public issues, political broadcasts, and religious programs.

The television code is more restrictive than the radio code. Television not only has more ways of offending, it also arouses more sensitive reactions than radio. Moreover, the economic position of marginal radio stations (\$16.1) inhibits their subscribing, as suggested by radio's lower level of both NAB membership and code subscribership, shown in exhibit 22.1.

Many provisions of the two codes simply restate already existing legal requirements. To this extent they overlap previously discussed FCC regulations, in effect merely adding the admonition "Don't break the law." Most of the explicitly proscriptive statements in the codes have to do with advertising — time standards for commercials and types of commercials not acceptable. Both codes, for example, forbid accepting advertising of hard liquors.

Aside from the specifics of advertising regulation, the codes concern themselves mainly with the maintenance of acceptable social values. For example: "Respect is maintained for the sanctity of marriage and the value of the home" (radio), and "Presentation of marriage, the family, and similarly important human relationships, and material with sexual connotations, shall not be treated exploitatively or irresponsibly, but with sensitivity" (television). A study of code changes over the years (the radio code went into its 18th edition in 1974, the television code into its 17th in 1973) would give an interesting index to changing social standards since the 1920s. The earlier versions of the codes struck a didactic, moralizing tone that has been much softened in recent versions (see Helffrich, 1974).

One of the main tasks of the code authority is interpretation, which is made difficult by the inexhaustible ingenuity of advertising agencies. The code authority publishes *Code News*, a monthly advisory for members that often includes questions and answers about the handling of particular advertising problems. For example, the radio code speaks euphemistically of "products and services of a personal nature" that must be handled "with emphasis on ethics and the canons of good taste." In practice, this means that the phrases "that time of month," "special time," and "women's special needs" may not be

used, nor may references to “softness” and “absorbency” in commercials for “sanitary protection products” (NAB, Code News, July 1974). Restaurants may not evade the ban against liquor advertising by referring to bargain drinks during a “happy hour,” or by adding “and other beverages” to the phrase “beer and wine” (NAB, Code News, December 1973).

The code authority reviews some 2,000 new commercials a year, including advertisers’ documentation of claims put forward in their commercials. Research reports on claims often include technical data, and the code authority uses a panel of medical and scientific experts to evaluate such reports. Although the networks assume the major responsibility for clearing their own program materials, the code authority also reviews network programs for compliance (networks as well as stations subscribe to the codes).¹

Other functions of the code authority include maintaining liaison with over 20 Washington bureaucracies concerned with advertising, following up complaints, alerting subscribers to release of noncompliant commercials, and monitoring member stations.

The self-regulatory system suffers from two obvious weaknesses. First, not all stations subscribe. And second, even those that do are not compelled to comply. An erring subscriber loses the right to display the code seal — hardly a compelling sanction. The move of the television code board to make subscription to the code a mandatory condition of NAB membership strengthens its hand somewhat; but in the final analysis, trade associations remain powerless to force compliance because antitrust laws forbid coercive control by trade associations over their membership (see the AAAA’s experience in attempting to police advertising agencies, mentioned in §15.8).

The antitrust laws reflect unhappy past experience with industrial self-regulation, which industries often used as a front to conceal monopolistic practices. The report on 1971 hearings by a congressional committee on advertising practices declared, “Self-regulation too often becomes a means by which to stifle competition and conduct business in a manner that is injurious to the consumer” (House SCSB, 1971: 5). The report deplored the fact that most self-regulatory organizations fail to make provision for representation from the constituency most vitally interested — the consumer. The NAB Code Authority, for example, consists exclusively of broadcasters.

It may be a measure of advertisers’ concern for mounting criticism that they did make provision for consumer representation when in 1971 they set up a new National Advertising Review Board aimed at advertising generally, not broadcast advertising alone. The 50-member board draws on advertisers for 60 percent of its members, on advertising agencies for 20 percent, and on the public for 20 percent. This was at least a start, although the congressional report of 1971 advocated 40 percent public representation. Consumer repre-

¹ See Gerbner (1972b) for a description of network self-regulatory procedures.

sentation does, of course, pose a problem of selection. Who is best qualified to speak for consumers, and how should representatives be made accountable to their constituency? The review board chose mainly attorneys and academics as its consumer representatives.

22.2 Professional self-regulation

A curiosity of broadcasting in America is that although a technician has to pass a formal test and earn an FCC license in order to operate even a very small transmitter, a licensee can own and manage a string of multimillion-dollar broadcasting stations without having to demonstrate any special knowledge either of broadcasting in general or of the special responsibilities of licensees in particular.

In the practical terms of day-to-day operations, however, it is the private conscience and sense of responsibility not of the licensee but of the individual worker — writer, salesman, air personality, control operator, editor — that to a great extent govern what goes out over the air. Legal regulation and institutionalized self-regulation can govern only a small proportion of their decisions; most remain personal. Lewis Hill, originator of the unique listener-sponsored Pacifica Foundation stations (§9.12), based his programming philosophy on the concept of the individual worker's responsibility.

Even if someone else has decided why there should be a broadcast and what should be in it, these are the people who make it. Yet we never hear these people mentioned in any serious social or moral criticism of American radio. They do not appear in the demonologies of the advertiser and the mass. They constitute most of the radio industry, but are perhaps the last people we would think of in trying to place final responsibility for what radio does. (McKinney, 1966: 20)

Ideally, each individual worker in broadcasting should bear a special and compelling public responsibility. Full understanding of this responsibility would certainly require specialized study and training, yet none is required. Former Commissioner Nicholas Johnson contrasted this absence of required preparation for broadcasters with the formal credentials required of an applicant for the post of third-grade teacher:

The applicant may have to have a college degree from a school of education. She must be qualified under standards established by the state for a teacher's certificate. She must meet the standards of the local school board. She probably must have spent some time as a supervised practice teacher . . . she must meet these standards because she is going to spend time with a group of perhaps twenty-five children for several months out of the year. . . .

Contrast these concerns and standards, if you will, with those we associate with broadcasters, with their access to millions of young minds for far more hours every year. (1970: 183)

Professionalism implies individual self-regulation — the voluntary adoption of high standards of ethical personal conduct in the pursuit of an occupation

fraught with social responsibility. The state may administer and enforce standards, but they originate within the profession itself. Only the practitioners are presumed to have the necessary specialized training and knowledge to set appropriate standards for licensing.

“A rough-and-ready way to decide whether you have a profession,” wrote Harold Lasswell, “is to find out if people will turn down jobs” (1952: 160). We have pointed out that broadcasters who can afford the luxury of integrity do in fact turn down business, but more on an institutional than on an individual level (§16.1). Truly professional personnel would, as individuals, refuse to participate in broadcasting material they judged not in the public interest, as defined by their own application of their own professional code of ethics.

Refusal to accept work that runs contrary to the public interest is one response; another is to call public attention to hidden betrayals of the public interest. A book called *Whistle Blowing* describes a number of examples of such action, citing as a rare broadcasting instance the case of the one-time manager of the NAB Code Authority's New York office. In 1969 when cigarette advertising was under attack the NAB testified before a congressional committee about the effectiveness of its code, whereupon the NAB's representative in New York revealed confidential information to the committee that purported to show that the code on cigarette advertising in broadcasting had not in fact been enforced (Nader et al., 1972: 156).²

Perhaps the Radio Television News Directors Association comes closest to meeting the test of professionalism as a broadcast employee group. The RTNDA Code of Broadcast News Ethics includes, as part of Article Six:

Broadcast journalists shall seek actively to present all news the knowledge of which will serve the public interest, no matter what selfish, uninformed or corrupt efforts to color it, withhold it or prevent its presentation.

However, the code takes no stand on such problems as overclose identification of news with advertising, which at one time troubled the consciences of radio journalists. Nor does there seem to be any record to indicate the effectiveness of the code in terms of “turning down jobs.” On this point the RTNDA president stated, “This matter of ethics is a highly personal thing and we have found very few members who have been willing to admit that they ever had real confrontations with management in regard to the code. This is particularly true where newsmen resign positions on grounds of conscience” (letter from J. W. Roberts, 2 Sept. 1970).

Bruce Linton, after an exhaustive study of professionalism and its implications for broadcasting, concluded that although there had been “a tremendous growth of professional spirit” in broadcasting during the 1960s, at best it could still be considered only a “quasi-profession” (1967: 17, 3).

² For the former code authority representative's testimony, see House CIFIC, 1969: 1. He later attacked the efficacy of the NAB codes in testimony before another congressional committee (House SCSB, 1971: 208).

22.3 Education for broadcasting

One prerequisite for developing a profession is a recognized, communicable body of knowledge essential to the occupation. Such a body of knowledge has been evolving along with broadcasting itself. A 1971–1972 survey indicated that at least 180 U.S. colleges and universities offered degrees in broadcasting; they had over 12,000 undergraduate majors and over 2,000 graduate majors working toward degrees in the field (Niven, 1972).

The number of people studying broadcasting is clearly disproportionate to the small size of the industry work force (§12.6), but the users of the public media represent a much larger potentiality for employment than do the media themselves. Virtually every organization that deals with the public in any way, whether it is educational, religious, public service, political, fraternal, or commercial, has use for personnel with at least some training in mass media.

Initially, broadcasting as an academic discipline became confused with speech because most of the earliest radio courses were courses in announcing. This initial linkage of broadcasting education with performance skills was unfortunate, for it led to underemphasizing the economic, social, and technical aspects of the medium. In the academic community, the implication that performance was at the heart of broadcasting studies also impeded development of the subject by arousing suspicions that it was too vocational to merit academic status.

The fact that broadcasting impinges on so many different prior disciplines also caused difficulties. It has links with speech, drama, journalism, advertising, public relations, marketing, management, economics, law, engineering, creative writing, psychology, sociology, education, art, music, and still other fields. Yet each field deals with just one facet of the medium, largely neglecting the rest. One justification for autonomous broadcasting studies is that the medium is greater than the sum of its parts.

Confining broadcasting studies to an existing department such as speech, drama, or journalism tended to have one of two bad effects — either the natural growth of broadcasting studies was artificially hampered, or unrestrained growth soon overshadowed the host discipline. The broadcast tail was threatening to wag the dog. The advent of television, however, greatly enhanced the significance of broadcasting as an academic subject. During the 1950s more and more autonomous broadcasting departments emerged.

A more recent trend has been the development of a “communications” approach, emphasizing common principles that underly all the mass media. Surveys of colleges and universities conducted by the Broadcast Education Association document the trend toward autonomous broadcasting departments (often combined with film) with an even stronger current trend toward the communication orientation. Of the 180 department titles listed in the 1971–1972 BEA survey, about 34 percent still had a speech-drama orientation, 10

percent a journalism orientation. About a quarter had broadcasting titles, and 34 percent had communications titles — albeit often qualified by the word “arts” (Niven, 1972).

In 1955, when the trend toward autonomous broadcasting curricula began to accelerate, a group of college teachers of broadcasting formed the Broadcast Education Association,³ in cooperation with the National Association of Broadcasters. The National Association of Educational Broadcasters and several other academic groups already existed, but their focus was on educational station operation and the use of broadcasting as an educational tool. The BEA struck a new note with its emphasis on education for broadcasting. In the long run, it was hoped, the association might make a contribution to the improvement of American broadcasting — both commercial and educational — by helping to develop a “body of communicable knowledge” essential for professionalizing broadcasting occupations. The BEA’s first accomplishment was to found in 1956 a professional publication, the *Journal of Broadcasting*, which became a valued source of information for teachers of broadcasting, broadcasters, and other specialists in mass communication.

22.4 Professional criticism

If broadcasting critics have influence, it probably affects news and public service programming more than routine, mass appeal entertainment.⁴ And it probably directly affects producers of programs much more than it does consumers. Les Brown asserts that the *New York Times* has significant impact on network news departments: “Its favorable recognition of a network news effort is a source of elation within the company and held up as proof of distinguished achievement, its criticism a cause of anguish” (1971: 223).

When Jack Gould, the *New York Times* critic for 25 years, retired, Fred Friendly assessed Gould’s influence on producers:

His comprehensive reaction to the “See It Now” McCarthy broadcast and, later, to “Harvest of Shame,” and in 1971 to Peter Davis’s “The Selling of the Pentagon” stiffened backs that might easily have been bent. His early interest in “Omnibus,” “See It Now” and other prime-time documentaries kept them alive long after the destruct button was intended to go off. The number of jobs he saved in those 25 years are legion. . . . His best work as a reporter, and his interpretive analysis about the life and death of quality programming, the quiz scandals, program practices, the rating sweepstakes, the FCC, compatible color, satellites, video cassettes and public television were always bright, searching and usually accurate. (1972)

More recently, in 1973 the *New York Times* relieved broadcast reviewer John J. O’Connor of covering industry news, assigning those duties to Les

³ First called Association for Professional Broadcasting Education. See Head & Martin, 1957.

⁴ A study of the effect of criticism on program longevity indicated no significant correlation (Shelby, 1973).

Brown, formerly a writer for *Variety*. The *Times* broadens even this dual coverage still more with occasional features by free-lance writers.

Few if any other publications can afford broadcast criticism in such depth. The major problem for most critics, as indicated in Friendly's tribute above, is the necessity of spreading themselves too thin. A theater or cinema critic deals with a particular art form, as do book reviewers; a broadcast critic reviews not only drama but also news, editorials, documentaries, biographies, music, sports, hobbies, games, science, medicine, children's programs — programs that take in the whole range of human interests and activities. Book reviewers seldom involve themselves in the corporate structure of the publishing industry, nor do theater critics concern themselves much with government regulation or backstage technology. According to Lawrence Laurent of the *Washington Post*, a broadcast critic

must be something of an electronics engineer, an expert on our governmental processes, and an esthetician. He must have a grasp of advertising and marketing principles. He should be able to evaluate all of the art forms; to comprehend each of the messages conveyed, on every subject under the sun through television . . . [to] stand above the boiling turmoil while he plunges into every controversy as a social critic and guardian of standards. (1962: 156)

In practice, broadcast critics appear to devote relatively little space to program reviews. A content study of newspaper columns by three well-known critics broke their subject matter down into 14 categories (Mayeux, 1970); only one critic, Jack Gould, devoted most of his attention to reviews (just over half). Hal Humphrey of the *Los Angeles Times* stressed personalities (40 percent), whereas Larry Wolters of the *Chicago Tribune* devoted the largest proportion of his space (31 percent) to advance information on programs. Each of these critics felt that one of his major functions was "to serve as a catalyst for better programming and the full use of the potential of the television medium." Thus critics at least see themselves as playing an active role in the social control of the medium.

22.5 Influence of public broadcasting

We have treated public broadcasting as an aspect of social control in this chapter first because it offers an alternative to the dominant private, commercially supported service and second because its policies as a primarily public, tax-supported service represent a conscious effort at social control, a calculated counterpoise to the biases of the commercial service.

We have explored the internal conflicts and political interference that clouded the future of public broadcasting, even as it began to emerge as a meaningful alternative service (§10.11 and §16.7). That public broadcasting was meant to function as an alternative service in the minds of its major early proponents seems hardly open to question. The FCC, for example, noted in its

Sixth Report and Order that in the course of the hearings on reservation of noncommercial channels, it had taken into consideration evidence of “the potential of educational television both for in-school and adult education, and as an alternative to commercial programming” (17 FR 3909, 1952. Emphasis added). The commission’s operating rules authorized the stations to carry “cultural and entertainment” as well as educational programs (47 CFR 73.621, c). Initially, station activation depended almost solely on the support of the Fund for Adult Education. As pointed out in §16.7, the FAE firmly linked its millions of support dollars to the philosophy of an alternative service for the general public, aimed at preserving noncommercial broadcasting as “a social force rather than merely a visual aid.”

Both the Carnegie Commission and Congress carried forward this concept in establishing the Corporation for Public Broadcasting. The commission talked about the role of public broadcasting in such terms as these:

It should show us our community as it really is . . . a forum for debate and controversy . . . bring into the home meetings, now generally untelevised, where major public decisions are hammered out, and occasions where people of the community express their hopes, their protests, their enthusiasms, their will . . . provide a voice for groups in the community that may otherwise be unheard. . . . [Public television] can increase our understanding of the world, of other nations and cultures, of the whole commonwealth of man . . . should have the means to be daring, to break away from narrow conventions, to be human and earthy . . . should be an innovative laboratory for the analysis of the intellectual, artistic, and social substance of our culture. (CCET, 1967: 92)

Nevertheless, a deep suspicion of such broad goals remained, nourished by the fact that many states had no hope of financing public broadcasting other than through the state public educational systems. These suspicions surfaced in the House Report on the Public Broadcasting Act of 1967, in which several members of Congress offered a negative minority view:

An oversimplified definition would call [public television] “cultural uplift.” It is visualized by its most enthusiastic supporters as the great and overshadowing element in noncommercial broadcasting. It will be the highbrow answer to mundane commercialism. It will sparkle, it will soar, it will also sear and singe. It will be a force for social good (as Mr. Friendly and his fellow enthusiasts see the social good). It will bite at the broad problems of national policy and make timid men (such as Presidents, Governors, and legislators) cringe. It could, and in the opinion of some witnesses, should and will crusade.

We know we are not alone in feeling some misgivings about creating a mechanism for the kind of broadcasting which might result from ambitions such as these. (House CIFIC, 1967: 59)

It has become increasingly obvious, however, that broadcast channels do not constitute an efficient and suitable means of distributing in-school instruction. For most instructional television applications, broadcast television offers too little flexibility while at the same time wasting valuable spectrum space. Edu-

cational situations call for more individualized instruction than open-circuit television can efficiently furnish. Closed-circuit systems, interconnected by ITFS (§4.6) relay networks, and integrated with other learning aids such as libraries of recorded material randomly accessible to individual students, make more sense educationally. The Carnegie Commission concluded that such integrated systems “promise to return to the classroom the flexibility that the present use of open-circuit broadcasting denies it” (CCET, 1967: 82).

Once national interconnected public broadcasting was introduced, it began to exert its leavening effect on commercial broadcasting. This is precisely what its more far-sighted proponents had hoped to see. There has been a healthy exchange of personnel, for example. A number of outstanding commercial broadcasters have moved over to noncommercial broadcasting. Fred Friendly has been the most controversial among the commercial dropouts because of his advocacy of a strong news and public affairs component in public broadcasting. But there has also been a reverse flow from the public stations. Public broadcasting influenced its commercial counterpart to show more hospitality toward imported programs and to cover minor sports such as tennis, soccer, and chess. And the example of *Sesame Street* incalculably strengthened the hand of critics who insisted that commercial broadcasting should improve children’s programming. The commercial networks could no longer argue that educationally effective programs for children would never appeal to a mass audience.

The broad picture can as yet be seen only dimly, but eventually, public broadcasting will have major impact, both in terms of providing services not otherwise available and in terms of influencing commercial practices. The rate of development depends on the presence or absence of a strong national public broadcasting network.

This is the conclusion reached by Les Brown in the chapter on public broadcasting in his book *Televi\$ion*. Noncommercial broadcasting can learn from the success of commercial networks without necessarily compromising its integrity as an alternative medium. Brown advocates freeing public broadcasting from the “vested interests and petty fears of its member stations.” He proposes a 180-degree turnabout from the direction public broadcasting took in the early 1970s:

I am suggesting that PBS become a full-fledged noncommercial correlative of CBS, NBC, and ABC — a head-on competitor, without the cash motive. . . . If the network came first in the public television scheme, it should be mandatory for all stations to carry its programs off the line. Not democratic? Okay, then make it as democratic as the commercial system. The stations would be paid compensation for what they carried off the line. The more they carried, the better they would be funded. (1971: 342, 343)

There is more to Brown’s proposal than this, but the heart of it is the conception of a fourth network capable of functioning as a network — that is, offering not

just a random choice of syndicated programs, but a genuine program service, able to respond to national competition from the other networks and to promote its offerings on a national scale. This function of structuring and organizing a coherent service is the most underestimated feature of the national network concept. Until the public broadcasting network performs this function well, the noncommercial service will probably never have the strength to offer a viable alternative to commercial broadcasting.

22.6 Broadcasting and consumerism

Until recently, those most affected by broadcasting had the least opportunity to participate in its regulation. This changed with the new consumerism of the 1960s, which swept up broadcasting along with everything else in a new wave of concern for consumer welfare. We can speak of the “new” consumerism because although there have been consumer welfare movements in the past, none has proved so pervasive as the present one (see Herrmann, 1970). Contemporary consumerism has become so institutionalized — politically, legally, and socially — that unlike previous movements of its kind, it probably will remain a permanent feature of our economic system.

Why should this consumerism differ from that of previous times? One of the ironies of the emerging affluent society was that as the consumer's buying power went up, his ability to protect himself went down. The more numerous and complex consumer goods became, the less the consumer could understand their qualities, their hazards, and their upkeep. Reforms came slowly, partly because often the most vocal consumer blamed the system itself rather than its abuses. This made it easy for opponents to use accusations of disloyalty to the American system as a red herring to distract attention from real consumer grievances.

But by mid-century, the problems of the mass consumer in a technologically complex society could no longer be brushed off in the name of free enterprise. A U.S. Senator could write, “The economic issues of consumer protection . . . are so outrageous and explosive that they can be ignored only with serious threat to the fiber of society” (Magnuson & Carper, 1968: xiv). The old saying “Let the buyer beware” may have made sense in an age when buyer and maker were neighbors and both skilled in judging the quality and worth of the goods to be traded. But the twentieth-century consumer cannot possibly put up defenses against the infinite varieties of harm and deception that may lurk in the contemporary array of consumer goods and services. The modern consumer depends of necessity on such protections as laws about pure foods and drugs and about truth in packaging, labeling, lending, and advertising.

Laws alone do not solve all problems, of course. The contemporary consumer also needs organized action to use the laws, to ensure that consumer interests get adequately represented wherever decisions affecting them are made. These interests go beyond immediate living space. They extend to the general envi-

ronment and its ecology. The new consumerism gains immensely in significance and strength from its identification with broad environmental issues.

Broadcasting has a peculiarly complex relationship with consumerism. The classic consumer welfare interest centers on consumable goods and services. The typical issues involve questions about advertising and packaging, pricing and selling, safety and reliability, credit and interest rates, performance and warranties. The broadcaster-consumer relationship begins with the investment in a receiver. Is it advertised honestly and priced fairly? Does it work as promised, without producing shocks or dangerous radiation? Does it give good, reliable reception? Are maintenance costs reasonable?

The purchaser, on taking the set home, may find it completely satisfactory by every standard of consumer interest. The moment the set is turned on, however, the set owner becomes a consumer of programs rather than hardware; the manufacturer makes no guarantees about programs. So the purchaser turns to the broadcasters, the retailers of programs, with demands that they too take consumer welfare and the environment into account. But the conventional consumer protection agencies are not geared to assist in demands of this type. A new machinery is needed, outside usual consumer welfare mechanisms, to protect consumer interests in obtaining satisfactory service.

22.7 Mechanisms of broadcast consumerism

Public groups have long sought to influence broadcasting through conventional methods such as boycotts and citizen's councils. Boycotts usually focus on specific, temporary targets, such as a particular program the boycotters find objectionable.⁵ More constructive are the organizations that encourage systematic evaluation of programs from the public interest viewpoint. The National Association for Better Broadcasting, "America's first national consumer association concerned exclusively with the public interest in broadcasting," was founded in 1949. Several similar organizations appeared later, such as the American Council for Better Broadcasts, founded in 1953. These organizations work with parents, students, and community groups to produce newsletters, reading lists, and program evaluation reports.

Until quite recently, however, such efforts had little practical effect. It was all too easy for a complacent industry to brush off reformers as either impractical do-gooders or (if they really seemed to pose a threat) as enemies of free enterprise and the American way of life. The new consumerism has made these condescending responses obsolete. As an advertising man put it to his colleagues,

In the past criticism of television was pretty much the property of the "intellectual" few. Those who carped were reminiscent of the old definition of a critic as "the

⁵ Note too the boycotts in the form of blacklisting activities (§16.4).

legless man who teaches running." And about as effective! But not any more. In today's climate where criticism of our institutions has become a way of life, the vociferous new breed of consumer critics of TV is not only getting plenty of exposure, but demonstrating surprising political muscle, too. (Meyer, 1970: 4)

This change occurred as part of a broad, inclusive social movement, but for broadcasting its most immediate impetus came from the celebrated *WLBT* renewal case (see §18.9). The case dates back to 1955, with the first of a long series of complaints to the FCC concerning the conduct of *WLBT*-Jackson, a major Mississippi vhf station. About 45 percent of the station's audience was black. Allegations made against *WLBT* included racial and religious discrimination and refusal to broadcast replies to programs advocating segregation. Typical of the complaints was the charge that the station deliberately cut off a network appearance of an NAACP official by putting up a "Sorry, cable trouble" slide. The FCC renewed *WLBT*'s license in 1958, ruling that the instances of unfairness were only "isolated" cases.

Charges of unfairness continued, though, and when *WLBT*'s license came up for renewal in 1964 the United Church of Christ sought to intervene on behalf of local citizens.⁶ The FCC denied the petition to intervene. The commission relied on the technicality that the right to intervene had to be predicated on "a legally protected interest or injury which is direct and substantial." The petitioners, however, "can assert no greater interest or claim of injury than members of the general public" (quoted in 359 *F 2d* 999, 1966). Considering that the public had invested millions in receivers and that the station's programming adversely affected nearly half the potential audience, the injury might seem to qualify as both direct and substantial. Nevertheless, the commission, without a hearing, once more renewed *WLBT*, albeit this time on one year's probation. The United Church of Christ appealed the decision, and the appeals court reversed the FCC, ordering it to withdraw the license extension, to set hearings on renewal, and to allow public intervention at the hearings (359 *F 2d* 994, 1966).

Still the FCC delayed, until finally in 1969 the exasperated appeals court intervened. By this time 14 years had passed since the original complaint. The court's opinion referred to the FCC's "scandalous delay." It severely chastised the commission for showing "at best a reluctant tolerance of this court's mandate and at worst a profound hostility to the participation of the public interest intervenors and their efforts." In view of the record, said the court, it saw no point in once more remanding the case to the FCC for further reconsideration. Instead it ordered the commission to vacate the license, to consider a

⁶ The church's Office of Communication in New York has been among the most active of several national organizations specializing in giving support to local groups seeking to intervene in license renewal and other proceedings affecting local broadcast services (see Krasnow & Longley, 1973: 36).

plan for interim operation, and to invite new applications for the license (425 F 2d 543, 1969).⁷

This landmark case established unequivocally the right of representatives of groups within the general public — with no other interest at stake than the interest of the public to receive a satisfactory broadcast service — to have legal standing to intervene in renewal cases. Its connection with the broader consumerism movement of the times is unmistakable. In the 1966 opinion the appeals court judge explicitly linked the decision to previous consumer cases involving consumption of such products as margarine and such services as public transportation.

The *WLBT* case opened the way to scores of interventions by citizen groups all across the country. As indicated in the discussion of license renewal (§18.9), it did not result in hundreds of deleted licenses. The true significance of *WLBT* is that it opened the way to a more sophisticated, legalistic approach to broadcasting reform. Again in this respect, broadcast consumerism tied in with the broader consumer welfare movement. It too had begun to develop activist techniques to match those of the special interest lobbyists and their legal counsels.

A series of how-to-do-it publications followed. Former Commissioner Nicholas Johnson led the way with a book called *How to Talk Back to Your Television Set* (1970). The United Church of Christ produced several guides, the most comprehensive being a pair of booklets — one for the layman and one for the public interest lawyer (Jennings, 1972; Bennett, 1974).⁸ Even the FCC, in a remarkable reversal of its pre-*WLBT* attitude, published a “Broadcast Procedure Manual,” detailing precisely what public intervenors can do and how best to go about it (37 FR 20510, 1972; revised, 39 FR 32288, 1974). The manual explains how the FCC handles complaints, how citizens can participate in FCC proceedings and the procedural rules that must by law be followed; it also details how FCC rules are made and how citizens may participate in their making or may petition for new rules or for waiver of old rules.

The new consumerism is impatient with mere letter writing, resolutions, and pious hopes. It often employs a hard-nosed, professional approach to using the system instead of deploring or fighting it. In this sense, consumerism is profoundly conservative rather than radical and destructive, as many business executives imagine (Zeidenberg, 20 Sept. 1971: 32). Johnson advises,

⁷ The unusually harsh language came from Judge Warren Burger, in his last opinion as a federal appeals court judge before becoming Chief Justice of the Supreme Court. The interim *WLBT* licensee, a nonprofit corporation, was still running the station in 1975, pending FCC choice among five competing applicants for the regular license. Meanwhile, *WLBT* had acquired the first black general manager to run a U.S. television station.

⁸ For other examples of how-to-do-it publications see Baker (1969), Jennings & Richard (1974); United Church of Christ (1970); Prowitt (1971); American Friends Service Committee (1971); National Citizens Committee for Broadcasting (1974); *access*, a newsletter launched in 1975 by the NCCB and published by former FCC member Nicholas Johnson.

In order to get relief from legal institutions (Congress, courts, agencies) one must assert, first, the factual basis for the grievance and the specific parties involved; second, the legal principle that indicates relief is due (constitutional provisions, statute, regulation, court or agency decision); and third, the precise remedy sought (new legislation or regulations, license revocation, fines, or an order changing practices). (1970: 202)

Programs and employment practices generate most of the complaints against the status quo. Renewal and transfer proceedings and the FCC's own licensee reporting requirements offer ready-made entering wedges for complainants. The forms that licensees have to submit to the FCC serve as a blueprint for citizen activists. In fact, the United Church of Christ structured a consumer how-to-do-it manual in terms of renewal applications and other FCC forms (Jennings & Richard, 1974).

Access to information has an important practical bearing on the success of consumer challenges. The FCC stresses the indispensability of supporting complaints and allegations with concrete, detailed factual evidence. Such evidence may be tedious, in some cases even impossible, to collect without ready access to the underlying documents.

The FCC ruled in 1971 that most such documents had to be maintained as a public file at each station, available without harassment to the general public on request (47 CFR 1.526). The public file includes license renewals, reports of changes in program service, ownership reports (including contracts, such as network affiliation agreements), requests for time by political candidates, annual employment reports, the FCC manual on procedures mentioned above, letters received from the public, annual programming reports and listings of community needs (television only). Certain television program logs must also be made available for inspection and photocopy. The rules oblige licensees to allow copies of documents to be made, and the public file must be made available as a whole without limitation to specifically requested documents (which the lay inquirer might not be able to name).

Public interest groups contend that the public file should also include sufficient information on a station's financial status to show how much of its income goes toward supporting its program service. They argue that the licensee's performance cannot be fairly judged without comparing how much it makes as profit with how much is spent on its programming. However, the FCC has not yielded on this point. It reports financial data by market, not by individual station (see §18.9).

Intervention in renewal proceedings, either by petitions to deny renewal or by competing applications, is only one of several legal ways to challenge the status quo. Some of the most dramatically effective interventions have involved opposition to transfers of ownership. Since deadlines for action accompany offers to buy, delay can be not only costly but even fatal to the success of the transaction. These factors put great pressure on the parties to come to an

accommodation without waiting to discover whether or not the intervenor has a legally enforceable case.

Challengers can also seek specific remedies to specific complaints, for instance by petitioning the FCC to enforce the right to reply to a personal attack. Or they can seek broad remedies aimed at the entire industry by petitioning for FCC rule making or by supporting amendments to the communications act. Action for Children's Television is a good example. ACT originated as a local housewives' organization in Massachusetts in 1968. The organization could have disappeared into history as one of thousands of earnest but short-lived and ineffectual reform movements. Instead, it grew into a formidable national force, largely because it used sophisticated consumer strategies at a high professional level. Its primary goal is nothing less than the elimination of commercialism from children's television programming. It has used congressional hearings, "international festivals" dramatizing the achievements of children's television in other countries, program monitoring, research studies, demonstration films, books, pamphlets, and every other art of the lobbyist (Barthel, 1974).

With the help of foundation grants, ACT has scored some notable successes in its campaign. The NAB agreed to eliminate "host selling" on children's programs and to cut back on commercial time. Manufacturers voluntarily stopped advertising vitamins directly to children. Most important, the FCC agreed in 1971 to a rule-making proceeding on ACT's proposals to ban sponsorship and commercials on children's programs and to require scheduling adequate amounts of programming for children.

After hearings in the fall of 1974, the FCC denied ACT's petition, issuing instead a policy statement urging broadcasters to practice restraint:

Licensees will be expected to reduce the current level of commercialization on programs designed for children, maintain an appropriate separation between programming and advertising, and eliminate practices which take advantage of the immaturity of children. (39 FR 39402, 1974)

The commission gave broadcasters a year's grace in which to comply with this rather vague directive.

In light of past experiences of consumer groups, it was a sufficient victory for the moment, perhaps, that the FCC took ACT seriously enough to schedule public hearings on its rule-making petition. Given the economics of children's advertising, it came as no surprise that the commission failed to adopt the proposed rules. This is one of the more lucrative submarkets, for which advertisers design special products such as candied breakfast foods.

22.8 Negotiated settlement

At the local level the most promising mechanism for consumer intervention is the negotiated settlement. It avoids the delay and cost of adjudication by the FCC and the courts, constituting a model of grassroots consumerism in action.

A formula for out-of-court settlements was established by an innovative agreement in the KTAL case, which has been described as “a hybrid of private ordering and the administrative-judicial process” (Heiss, 1970: 642). A coalition of citizen groups intervened in the renewal application of KTAL-*Texarkana*, an Arkansas vhf television station. After negotiation, the station agreed to a 13-point policy statement, acknowledging the local needs brought to its attention by the consumer groups and agreeing to specific measures to meet those needs.

For example, although licensed to *Texarkana*, the station’s main studios and offices are in *Shreveport, Louisiana* — 70 miles distant and in another state. The station agreed to provide toll-free telephone service from *Texarkana* to its *Shreveport* studio, to improve equipment in the *Texarkana* studio, and to improve local news coverage in *Texarkana*. The station obligated itself “to discuss programming regularly with all segments of the public” and to announce regularly over the air in prime time its readiness to do so. In renewing the license the FCC advised the licensee, “Your performance . . . will be carefully examined at the end of the license term to determine whether you have made an affirmative and diligent effort to serve the needs and interests of the city to which KTAL-TV is licensed” (19 FCC 2d 110, 1969; the report contains the full terms of the agreement). The intervenors withdrew their objections to the renewal, and all concerned were spared the expense and delay of a hearing.

The KTAL negotiated agreement pattern reached the “big time” in 1971, with the transfer of \$100 million worth of broadcast properties from *Triangle Publications* to *Capital Cities*. This was the first instance of consumer intervention in a major transfer of ownership as opposed to a simple renewal. In exchange for their withdrawal of opposition to the transfer, minority groups accepted a promise that *Capital Cities* would devote \$1 million to minority programming. The money was to be controlled by the minority groups and spent over a three-year period in the three television markets involved in the ownership transfer.

Another big sale, that of *Time-Life’s* television stations to *McGraw-Hill* in 1972, was consummated only after the buyer agreed to an unprecedented list of concessions. The intervention came from a coalition of Mexican-American and black citizen groups, with legal aid from the *Citizens’ Communication Center* and others. The FCC had approved the transfer, but the intervenors appealed to the courts. Rather than undergo the delays of an appeal, *McGraw-Hill* agreed to a negotiated settlement whereby the intervenors withdrew their suit.

The \$69-million transaction originally involved five television stations, but in response to charges of undue concentration of vhf station ownership, *Time-Life* retained one of the stations. Other charges included allegations of inadequacy in programming and in the ascertainment of community needs. Besides giving up one of the vhf stations in the package, *McGraw-Hill* agreed to establish a “minority council” at each of the four stations (in *Bakersfield*,

Denver, Indianapolis, and San Diego). The local minority councils were to send representatives to annual conferences with the McGraw-Hill president. The buyer also agreed to produce a fixed number of prime-time documentaries and other programs dealing with minority interests, to meet a prescribed level of minority employment in each station, and to patronize minority businesses in the areas served by the four stations.

A 1973 agreement between WTQX-Selma, an Alabama am station, was remarkable for the extent to which the licensee agreed to modify programming. The citizens' group withdrew renewal opposition when WTQX agreed, among other things, to produce at least 35 percent of its nonmusical programs locally, to devote at least a third of its news stories to local issues, to produce an annual minimum of 15 short documentaries on black needs in the community, and to schedule at least 3 "community access editorials" a week. The station also agreed not to deal with businesses that practiced discrimination and to finance a team of surveyors to help ascertain community needs at each license renewal (*Broadcasting*, 2 July 1973).

In several such cases consumer groups have dug in their heels when radio stations, either under the same management or in the course of an ownership transfer, proposed abrupt changes of program format. Typically, objections have been made to the dropping of classical music in favor of rock-and-roll, but other format changes have been opposed as well.

In the *Citizens Committee* case the FCC turned down and later refused to reconsider the petition of a consumer group to deny transfer of an am/fm station in Atlanta to a new owner who planned to abandon the station's former classical music format. The FCC relied in part on survey evidence purporting to show that only 16 percent of the Atlanta audience had any interest in classical music.

The citizens' group appealed, and the court found the FCC in error. The appeals court pointed out that 16 percent of the population in a city the size of Atlanta is hardly an insignificant minority. "The Commission's judgmental function," observed the court, "does not end simply upon a showing that a numerical majority prefer the Beatles to Beethoven, impressive as that fact may be in the eyes of the advertisers" (436 F 2d 269, 1970). The court directed the FCC to conduct a hearing. The applicant subsequently agreed to schedule classical music on the am station 90 percent of the time, to make a grant to a noncommercial station to help it improve its facilities, and to reimburse the citizens' group for its out-of-pocket expenses (*Broadcasting*, 3 May 1971).

The National Association for Better Broadcasting and Action for Children's Television teamed up with local groups to secure a unique agreement from KTTV-Los Angeles, a major independent vhf station. The station committed itself to keep off the air or to restrict a large number of syndicated children's programs that the consumer groups considered harmful because of violence and other objectionable content. KTTV agreed to drop 3 series of cartoons it

was running and to not buy 39 other series. The proscribed cartoons included such children's staples as Superman. In addition, the station agreed to telecast a cautionary notice if any of 81 specific adult series were to be shown before 8:30 P.M. An official of the National Association for Better Broadcasting described the agreement as "the most far-reaching and fundamental revision of policy related to violence ever undertaken by any commercial broadcaster in the United States" (*Broadcasting*, 8 Oct. 1973: 50). Some of the syndicating companies that distribute the proscribed series challenged the legality of the agreement, alleging that the licensee surrendered his programming responsibility by subjecting his discretion to fixed standards imposed by the NABB.

The negotiated settlement represents the most efficient and effective mechanism for giving the consumer a direct voice in the broadcast regulatory process. The FCC, though not invariably hospitable to consumerism, itself urged such participation in a report to Congress in 1963.

Under our system, the interests of the public are dominant. The commercial needs of licensed broadcasters and advertisers must be integrated into those of the public. Hence, individual citizens and the communities they compose owe a duty to themselves and their peers to take an active interest in the scope and quality of the television service. . . . Nor need the public feel that in taking a hand in broadcasting they are unduly interfering in the private business affairs of others. . . . They are the owners of the channels of television — indeed, of all broadcasting. (FCC, 1963: 40)

Although thus invited, consumer intervention is not without its accompanying problems for the public interest, as §22.9 will demonstrate.

22.9 Problems of consumer intervention

The success of the interventions described in §22.8 should not be taken to mean either that most interventions succeed or that they occur in great numbers. After *WLBT* and *WHDH* the number of petitions to deny certainly rose dramatically (exhibit 22.2). Yet the total remained small relative to the thousands of renewals handled by the FCC each year — even considering that some petitions involve transfer rather than renewal and that some complaints are settled privately before reaching the stage of formal petitions to deny.

Denials of hearing The *WLBT* decision gave citizen groups standing to intervene in hearings but not the unrestricted right to precipitate hearings. The communications act restricts rather narrowly the ability of an intervenor to force a renewal into formal hearing. The intervenor bears the burden of proof and therefore must do his homework with some care. For example some private citizens opposed the renewal of KSL-Salt Lake City, a clear-channel am station owned by the Mormon Church. The petitioners charged that the licensee violated the fairness doctrine and constituted a monopolistic concentration of media resources (the license is held by a conglomerate that also owns fm and

Exhibit 22.2
Increase in petitions to deny license renewal

<i>Fiscal year</i>	<i>Petitions filed</i>	<i>Stations affected</i>
1967	2	2
1968	3	3
1969	2	2
1970	15	16
1971	38	84
1972	68	108
1973	50	150

Source: House Report 93-961. *Broadcast License Renewal Act*, 93 Cong., 2d Sess., Government Printing Office, Washington, D.C., 1974: 20.

television stations, a daily newspaper in Salt Lake City, and a university in nearby Provo that runs fm and television educational stations). The FCC dismissed the petition without a hearing.

On appeal, the court upheld the FCC (425 *F 2d* 556, 1970), agreeing with the FCC's interpretation of the communications act's provision for hearing on renewals (§309, d). The act states that a petitioner must present a "substantial and material question of fact" that requires a hearing for settlement. The FCC held that the petitioners presented no such facts to substantiate their claims of unfairness. As to monopoly, the existence of the Mormon Church's conglomerate was an unquestioned fact; but petitioners "must go beyond generalization and allege some specific instances of injury . . . not merely that it is unwise for newspapers to be under common ownership with radio and television stations" (425 *F 2d* 559).

The appeals court again upheld the FCC when it denied a petition to intervene in the renewal of WMAL-TV, a Washington, D.C., vhf station (466 *F 2d* 316, 1972). There the petitioners alleged, among other things, that WMAL failed to ascertain community needs adequately and that its programs were unresponsive to those needs. As in the KSL case, however, the FCC refused a hearing on the ground that insufficient evidence had been presented to constitute the necessary questions of fact to warrant a hearing.⁹

Unreasonable demands Martin Mayer, an experienced observer of the broadcast scene, has observed that doubtless "many of the challenging groups are evanescent and trivial, and some are worse." Of the WMAL complaint he suggested that the citizen group "had been unusually arrogant and perhaps even stupid, insisting that because the 'city of license' was 70 percent black,

⁹ For instructive narratives on the practical problems faced by petitioners see Lieban (1969) and Lichty & Blankenburg (1974). The former concerns a radio station in the pre-WLBT era, the latter a television station in the post-WLBT era.

WMAL was obligated to make its programming 70 percent black," despite the fact that the station served a much wider community than the inner city of Washington (Mayer, 1973: 21). The author cites a number of instances in which citizen groups simply evaporated in the midst of negotiations or fell apart once their initial goals had been met.

Illegal demands Programming agreements imposed on licensees run the risk of violating the communications act. It will be recalled that the licensee has nondelegatable responsibility for programming (§17.8). The FCC has disallowed a number of agreements — one, for example, that would have required a radio station to conduct a poll and change its format to conform to the wishes of a stipulated percentage of the respondents. Private agreements do not necessarily get scrutinized by the FCC, and some may even be illegal.

Nonrepresentative organizations Almost by definition consumer groups represent special interests within the public. The question arises as to how narrowly specialized they should be allowed to become. Dean Burch, a former commission chairman, was quoted as saying, "The citizen movement gives a lot of room to the self-starter to create a group that may not represent anything but the individuals involved" (Zeidenberg, 1971: 21). Although most consumer groups doubtless represent significant subgroups within the population affected, the possibility for abuse of the mechanism by individuals and small coteries is quite real.

Reimbursement The United Church of Christ spent \$15,137.11 in assisting consumer groups to negotiate the landmark KTAL agreement. The licensee promised to repay the church for its expenses on behalf of the citizens' groups, subject to FCC agreement. The FCC disallowed this payment, but the appeals court sent the case back to the FCC for reconsideration (465 F 2d 519, 1972). The principle was thus established that licensees could legitimately reimburse consultant organizations such as the United Church of Christ's Office of Communications for services to consumer groups.¹⁰ The KTAL licensee entered voluntarily into the reimbursement agreement. Subsequently, consulting organizations proposed that reimbursement should be an enforceable right. The FCC rejected this claim (25 FCC 2d 603, 1970), but the claimant appealed. Such reimbursements offer obvious possibilities for abuse. Some claims have been little more than shakedowns. Eventually, no doubt, the FCC will adopt rules to govern reimbursements to legitimate consulting organizations.

¹⁰ A somewhat analogous situation had arisen earlier. In competitive license application hearings, an applicant may reimburse the actual expenses of a competing applicant who elects to withdraw from the race (see §18.4).

PART FIVE

Assessment: Influence of Broadcasting

Mass Communication Research and Theory

We can form some estimate of the importance of research and theory to the processes of mass communication by considering how much of what we have talked about in preceding chapters became known as a result of scholarly research. Such research was essential for the development of broadcasting technology in the first instance. In addition, research has since contributed vitally to policy decision making in all aspects of broadcasting.

In order to qualify as “scholarly,” broadcasting research must meet the generally accepted criteria of the scientific method. It should be (1) *systematic* in considering alternative answers to a given problem; (2) *controlled*, eliminating extraneous factors so as to focus on the one factor under study; (3) *objective* in its methods of observation or data collecting; (4) *open* to inspection as to methods and procedure; and (5) results should be *replicable* by others using the same methods.

23.1 Scope of research in broadcasting

Research objectives vary over a wide range, from the simple collecting of facts to the testing of hypotheses that lead to development of theories. On one level research might simply estimate how many people saw a program or list all the network radio programs broadcast in 1926. At another level it might seek orderly and significant relationships among such facts to produce a system for classifying broadcast programs and relating them to other products of mass media.

At a still higher level of abstraction, scholarly research tries to develop and test theories that serve to *explain* why things are the way they are and to *predict* the outcomes of given sequences of events. At this level we might arrive at a theory that accounts for the types of material the media supply.

Many scientific disciplines contribute to broadcasting research. Reviewing the studies so far cited in this book, we find that most of them come from the physical sciences, history, marketing, economics, and the law.

Physics and engineering Clerk-Maxwell's famous treatise on electricity and magnetism, published in 1888, is a classic example of the role theory plays in generating predictions about the unknown. His theory led to the invention of radio communication and ultimately to the existence of broadcasting. No theory of radio as a social rather than physical phenomenon matches that of Clerk-Maxwell for elegance and predictive power. Social science has yet to reach the level of physical science in its ability to construct formal theories.

Subsequent engineering research enabled the efficient use and control of radio communication. For example, we alluded to research on propagation theory that led to predicting signal coverage areas. Armed with this knowledge, telecommunication authorities can set up workable rules about permissible frequencies and powers and times of operation of the various classes of service on a worldwide basis.

History and biography We know about the evolution of broadcasting because of historical research of people like Banning, Barnouw, Briggs, and Gleason, whose findings were quoted in chapters 5 through 11. We also have the benefit of studies of special aspects of history — Bluem on the documentary program, for example, and Maclaurin on the history of invention and innovation.

Autobiography and biography play a role in providing the raw materials of history. De Forest's autobiography and Lessing's biography of Armstrong have given us valuable historical insights. Many of the major pioneers in broadcasting history have only recently withdrawn from active participation — leaders like David Sarnoff and William Paley. Scholarly biographies of many in their generation have yet to be written.

Students of broadcasting are even now fashioning the building blocks of future historical syntheses and new interpretations. In theses, dissertations, and journal articles, they patiently accumulate the details — histories of individual stations, of program series, and of specific events. We have cited, for example, studies about early educational broadcasting, the first broadcasting station, the development of commercialization, and the introduction of editorial commentary to broadcasting. Historical research on broadcasting is now in a critical period as the early events recede into the middle distance. For the first time we can begin to see them in true historical perspective.

Current practices Closely related to historical research are studies of current practices that supply benchmarks, inventories, or trend data. Baldwin and Surlin, for example, studied the practices followed in the recent past by stations in fulfilling the ascertainment requirement. The Columbia University-Dupont annual surveys use observers in the field to gather local information on current trends in broadcast journalism.

Market research We noted how people like Benton and Paley initiated some of the first organized programs of broadcasting market research. Criticism of

ratings, disclosing the lack of information about the methods employed by rating firms, led to research on methodology that continues to the present time.

Economic research On a more theoretical level, economists have recently been devoting more attention to study of such broadcasting problems as the impact of cable television and the economic significance of cross-channel ownership. An example is the study by Noll and others on economic aspects of broadcast and cable regulation.

Legal research Barron's study of access, Emerson's treatise on freedom of expression, and Krasnow and Longley's analysis of the interaction between broadcast regulation and politics are noteworthy examples of the application of legal research methods to the broadly significant social issues that concern broadcasting.

Research and policy Virtually all the types of research already mentioned have the potential to contribute to policy decisions. Those responsible for setting the business, political, and legal policies that affect broadcasting need the products of research to guide decision making. The FCC conducts a great deal of research, as do those affected by FCC rulings. Does the prime-time access rule have the desired effect on program diversification? The only way to answer the question convincingly is to conduct studies such as those we have cited on the actual effects of the rule. On a broader level, such research contributes to a larger policy question: Is diversification of program sources a proper and desirable objective of broadcast regulation?

We have had occasion to cite a number of high-level policy studies. Does the FTC do its job effectively? An American Bar Association committee made a study that led to reforms in that agency. How should the electromagnetic spectrum be managed so as to realize maximum public benefit? The President's Communications Policy Board attempted to provide guidance on this question to the executive branch.

Such high-level policy recommendations base their conclusions on many lower-level studies of specific aspects of the overall problem. The Surgeon General's 1972 report on television violence had the benefit of research studies by 38 scientists who were commissioned by the scientific advisory committee charged with preparing the final report (§24.6).

The Carnegie Commission on Educational Television is an example of a foundation-financed policy research project that had a decisive impact on events. As a direct result of the commission's research and recommendations, Congress created the Corporation for Public Broadcasting, and the federal government became directly involved in financing public television. The very term *public broadcasting* came into general use as a result of that study.

Behavioral sciences Some of the previously cited studies spring from such scientific disciplines as psychology, social psychology, and sociology. Market

research, for example, applies a number of aspects of the behavioral sciences. Detailed consideration of behavioral research has been postponed. Now at last we arrive at the point of asking the following question: Given the nature of broadcasting in America, as previously described, what can we say about its consequences — about its effects on individuals and on society as a whole?

23.2 Place of broadcasting in communication research

We saw in the previous section that a variety of academic disciplines have contributed to broadcasting research. Broadcasting often serves as merely one object among many possible objects of research for historians, economists, sociologists, and researchers in other fields of study that have no essential link with broadcasting.

When we try to define a field of study and a research perspective purely in terms of broadcasting, we soon find it necessary to broaden our field of view to include the other mass media of communication as well. But we cannot stop even there. The study of mass communication inevitably draws us on to study also intrapersonal and interpersonal communication. We cannot conceive of mass communication without at some point thinking in terms of the *individual* human beings that make up a mass audience and their one-to-one relationships with other human beings. As Schramm put it, “There is no meaning in a message except what people put into it. When we study communication, therefore, we study people. . . . To understand human communication we must understand how people relate to one another” (1973: 3).¹

There can be few concepts more all-embracing than that of communication. Every art, every science depends on it, as indeed does life itself. Even when we limit our view of it to human communication, it still takes in a vast territory. Over a score of autonomous academic disciplines contribute to the field, notably anthropology, political science, psychology, social psychology, and sociology. A recent summary speaks of a “staggering” rate of increase in research on human communication, attributable to “ever-widening usage of the term ‘communication’ and to a declaration of vested interest in communication research by numerous scientific disciplines.” Studies of the literature of communication have shown that 25 different definitions of the very concept “communication” have been formulated, and over 50 descriptions of the communication process, symbolized in more than 15 different graphic models purporting to show how the process works, have been devised (Sereno & Mortensen, 1970: 1, 2).

Not surprisingly, therefore, we find that so-called mass communication research often seems to deal with fundamental psychological processes of indi-

¹ Wilbur Schramm, one of the elder statesmen of mass media research, has been especially successful in reconciling the findings of different research disciplines in terms the layman can understand. This chapter owes much to his readable introduction to the field, *Men, Messages, and Media: A Look at Human Communication* (1973).

viduals, like learning and perception, more than with either masses or media. We cannot delineate recognized boundaries within which something labeled “broadcast research and theory” uniquely takes place. Indeed, we cannot even clearly determine the more comprehensive territory of mass communication. “No one has been sure at any given time, or can be sure at the present time, just what constitutes the study of mass communication” (De Fleur, 1970: xiv).

Notwithstanding this assessment, growing numbers of research scholars consider themselves mass media specialists. The first impetus in the direction of such a specialty came from schools of journalism during the 1930s and 1940s. Journalism professors in those years began to apply behavioral science research concepts and methods in making readership studies and content analyses of news publications.

In the 1950s, with television moving to the forefront as a journalistic medium, a trend set in toward broadening this print perspective to include the other media. Doctoral programs in *mass communication* began to be offered. Journalism’s historical priority still tended to show through, however — as shown by a disproportionate emphasis on the informational as opposed to the more pervasive entertainment functions of the media.

In the succeeding sections of this chapter we shall first outline in broad strokes the development of mass media research, which in fact parallels the development of broadcasting. This pioneer work was done mostly by political scientists, sociologists, social psychologists, and psychologists. These specialists later tended to pull back toward their original disciplines, leaving a newer generation of scholars to specialize in mass communication. We will explore the main concepts and findings put forward by both groups, emphasizing those directly concerned with broadcasting.

23.3 Development of mass media research concepts

The editors of a recent survey of issues and trends in the field said of mass communication research that “a single scholar has difficulty in perceiving its outlines and keeping track of developments in it.” One reason, they explain, is that this kind of research is not unified by “an overarching theory to which the work of all contributes, or by a common recognition of certain major problems” (Davison & Yu, 1974: 1, 2). This confusion is compounded by the fact that research directions have been determined primarily by the availability of funds from sponsors — mainly government agencies. The special interests of the funding agencies pointed scholars in certain predetermined directions — centering on the study of “serious” types of content and on specific processes, such as those involved in propaganda, information diffusion, and political communication.

Propaganda studies Mass propaganda was widely used for the first time in World War I. Following the war, people were shocked by disclosure of the ways

propaganda had been used to manipulate their emotions and whip up war hysteria. It seemed as if this sinister new weapon might become all-powerful, capable of “manufacturing consent” of the masses to almost any excess, at the will of unscrupulous propaganda masters. This concern stimulated social scientists in the 1920s to begin analyzing the social and psychological dynamics of mass persuasion. One by-product was the list of propaganda tricks with which every school child later became familiar: “glittering generalization,” “name calling,” the “bandwagon effect,” “card stacking,” and the like.

Intervening variables By the time of World War II, researchers had come to realize that far from passively receiving uniform injections of propaganda, audience members in fact react to messages as individuals. Researchers eventually identified a whole range of factors (usually not directly observable) other than messages that play a role in determining the effects of communications. These individualistic factors intervene in the process somewhere between the origination of the message and its final effect. Such intervening factors cause variations in effects because individuals and social situations vary. Therefore, they came to be called *intervening variables*.

With government support, a team of researchers in the Yale Program on Communication and Attitude Change conducted a wide-ranging series of studies in the 1940s, later summarized in four volumes under the general title *The American Soldier* (see Hovland, Lumsdaine, & Sheffield, 1949, for the volume on mass communication). The Yale studies concentrated on attitude change because social psychologists had already developed an elaborate methodology for measuring the effects of communication on people’s attitudes. The resulting studies, according to Schramm’s estimate, laid the groundwork for “a new scientific rhetoric, in which there was an attempt to set forth principles of communication effect in scientific terms backed by scientific evidence” (1973: 221).

The Yale researchers and others tested a great variety of personal variables that might be expected to influence the effectiveness of persuasion — or to provide clues on how to combat propaganda (Schramm, 1973: 215). They asked such questions as the following: What is the most effective message source? What style of presentation is most persuasive? What order of presentation of an argument works best? Is it better to ignore counterarguments or to attempt to refute them? What difference does an individual’s group membership make on his persuadability? To what extent do group decisions affect the autonomy of individual decisions?

It was found, for example, that a communicator who seems expert and disinterested is more persuasive than a communicator who seems to be grinding an axe or selling a viewpoint. However, the tendency to forget the source more readily than the argument produces what is called a *sleeper effect* — a subsequent change of opinion in the direction of the argument that was at first rejected because of negative attitudes toward the source.

Variability of perception Another class of intervening variables that has been extensively explored arises from variations in the way individuals see and understand things that come to their attention. Media deliver identical messages, assuming a consistent level of fidelity at the receiver terminal; thus the stimulus remains identical for each recipient. Yet different people do not always perceive exactly the same message. Though the stimulus remains constant, the response varies. What accounts for this variability?

The individual reacts on the stimulus material (content) rather than passively responding to it. . . . The perceiver structures the situation (stimulus material, content) in a manner which makes it meaningful to him. . . . In general, we want to be disturbed as little as possible and to continue to perceive the world in ways that confirm our existing frame of reference. We become skillful in avoiding stimulus material (for example, communications content), which is likely to seriously challenge our established value systems. (Fearing, 1954: 173)

A typical finding of research that focuses on this process of selective perception as an intervening variable is the *boomerang effect*. Experiments showed that highly prejudiced people tend to misinterpret messages containing evidence against their prejudices. They distort the evidence or select out those elements that reinforce their existing attitude rather than allowing the message to reduce their hostile feelings. Thus propaganda can “boomerang,” producing exactly the opposite of the intended effect (Cooper & Jahoda, 1947; note the hypothesis advanced regarding the effect of Archie Bunker’s bigotry in §10.7).

Even in the absence of prejudice, people under emotional stress may have difficulty in accepting evidence that contradicts an existing mind set. The most striking authenticated instance of direct mass-media effects at the level of overt action during peace time occurred when Orson Welles broadcast his famous radio dramatization of the H. G. Wells science-fiction story, *The War of the Worlds*. Many listeners mistook the on-the-spot news style of the dramatization for reports of a real invasion by Martians.

An analysis of the ensuing panic provided significant case studies of mass media effects (Cantril, 1947). For example, some of the listeners tried to check on the authenticity of the broadcast; but when presented with evidence of its fictitiousness, they turned the evidence around to support their conviction that the invasion was real:

“I looked out of the window and everything looked the same as usual so *I thought it hadn’t reached our section yet.*”

“We looked out of the window and Wyoming Avenue was black with cars. People were rushing away, *I figured.*”

“My husband tried to calm me and said, ‘If this were really so, it would be on all stations’ and he turned to one of the other stations and there was music. *I retorted, ‘Nero fiddled while Rome burned.’*” (Cantril, 1947: 93)

Two-step flow and selective exposure One of the most influential discoveries concerning intervening variables calls attention to the *personal* influence of

opinion leaders, as contrasted with the impersonality of the media. The flow of influence from the mass media, it was found, often passes through leaders to followers rather than affecting all individuals directly.

A team of sociologists at the Columbia University Bureau of Applied Social Research, led by Paul Lazarsfeld, demonstrated the significance of opinion leaders as intervening variables. The Columbia group, according to Schramm, “won a unique right to assess the effects of mass communication, for, unlike many sociologists, they have studied both personal and media influence in depth” (1973: 236).

Lazarsfeld and his associates developed their theory about personal leadership vis-à-vis media influence from an intensive study of how people in Erie, Pennsylvania, made up their minds about voting in a national election. Although the media directly influenced the votes of some people, they influenced many more people only indirectly, through intervenors whom the researchers called “opinion leaders” — respected family members or acquaintances whose personal views carry special weight. The researchers called this process the *two-step flow* of influence — step one, from media to opinion leaders; step two, from opinion leaders to others (Lazarsfeld, Berelson, & Gaudet, 1944).

However, the media did not influence even the opinion leaders in direct proportion to the apparent amount or persuasiveness of media content available on each candidate. Media consumers tend to be selective in their consumption; they pay attention to communications that fit their already established opinions and attitudes, avoiding communications that challenge or contradict them. Because of this factor of *selective exposure*, media generally tend to reinforce people’s existing viewpoints rather than convert them to new viewpoints.

Lazarsfeld and another associate followed up the Erie study with a more refined and detailed investigation of the two-step flow concept (Katz & Lazarsfeld, 1955). They painstakingly tracked down decisions people had made about movie going, food buying, dress, and public issues, ascertaining whether the media or other people had been more influential. Again, personal influence played a more prominent role in each type of decision than did the influence of radio, newspapers, magazines, and books. Other experiments and field investigations tended to confirm and refine the hypotheses developed in these well-known studies.

The two-step flow theory so baldly stated is now regarded as oversimplified. For example, it appears that people turn to different types of leaders for opinions on different topics, in some circumstances to no leaders at all (Trolldahl, 1966). Indeed, leaders and followers often exchange roles as circumstances change. Nevertheless, the formulation had great impact on mass media research in the ensuing 20 years. As a contemporary scholar puts it, the Lazarsfeld concept “turned the mainstream of media effects thinking away from man as an atom to man as a member of many groups, each providing a

context and sometimes a screening mechanism for receiving messages" (Kline, 1972: 22).

Feedback Engineering research and theory during the 1940s contributed important communication concepts, some of which we discussed in §2.1 in connection with a conceptual model of the communication process. From this model we derived the notions of information coding and encoding, transmission through channels having finite capacity, interference from noise, and the reduction of symbolic content to "bits" of information expressed by means of binary digits (Shannon & Weaver, 1949).

Among other useful concepts associated with the engineering model we must mention feedback. In the engineering sense, feedback means "the control of a system by reinserting into the system the result of its performance" (Wiener, 1950: 71). The thermostatic control of a heating or cooling system is a familiar example: as the machine delivers heat or cold to the environment, the thermostat senses the surrounding temperature and reinserts that information into the system, telling the machine when to start or stop work. Feedback thus enables maintaining a stable condition, within predetermined limits set by the thermostat.

As this example shows, feedback has a *circular* and *continuous* character. The popular use of the term feedback to mean simply any kind of information coming from an audience misses the point. The value of the concept is that it reminds us that most sustained communication is two-way communication, involving (1) information coming back to the message originator about how recipients are reacting, and (2) continuous modifications of subsequent messages by the originator, in response to feedback information. The reinsertion process may be immediate or delayed, sensitive or clumsy, accurate or inaccurate, but in most situations it takes place in one form or another.

In intimate face-to-face verbal communication, visual and auditory cues continuously tell a speaker about audience reactions. He can respond by adjusting what he says and how he says it from moment to moment. Lacking this sensitive and immediate give-and-take, mass media operate at a disadvantage. It takes time to obtain feedback and to insert its effects into the system. The fact that programming is usually frozen on tape or film makes subsequent modification slow and difficult. Yet even recorded material is susceptible to editing, explanatory introduction, or even cancellation.

Despite its success in helping to develop electronic information processing and in clarifying our understanding of communication, the engineering model (or information theory, as it is called) has had only limited success in developing a theory of human communication. Information theory makes certain assumptions that are valid for machines but not necessarily for humans. For example, we cannot safely assume that machines will alter their future behavior as a result of learning in exactly the same way as do human beings.

Congruence The intervening variables we have mentioned all suggest in varying ways an underlying principle of resistance to change, a kind of internal gyroscopic force that tends to make people want to maintain a consistent set of attitudes, opinions, and perceptions. This force is implied by the existence of mind set, for example, by the boomerang effect, by selective exposure, by the two-step flow, and by feedback.

Psychologists have formed several complex theories involving this general principle of congruence as an important underlying mechanism that helps explain and predict behavior. In brief, these theories hold that the natural state of an organism is one of congruence, or balance. People tend, for example, to remain consistent in their opinions. If they become aware of information that contradicts their established opinions, they experience a sense of dissonance or imbalance. This causes them to try to restore balance — perhaps consciously, perhaps as an entirely unconscious reaction. They try to restore balance in varying ways — by rejecting the source of a message as “unreliable,” for example, or by distorting the message to make it fit (note the reactions to the Orson Welles broadcast described earlier in this section). Or, they may adjust to the new information, altering their opinions so as to achieve a new state of balance.

Schramm (1973: 205) has summarized the general conclusions to be drawn from the several strands of research and theory in this area in three propositions: (1) Communication can cause change only by introducing some new element in the “cognitive structure,” requiring the individual to make compensating adjustments to maintain balance. (2) What a recipient does with new information depends on “how it fits into the present cognitive structure” (example: a piece of information about something entirely new might fit in well because it does not conflict with existing attitudes, so the individual might tend to accept it readily). (3) “If there is to be a significant change in strongly held positions, a person must accept a significantly different view of the situation in which he is operating” (example: the reaction to the Welles broadcast).

23.4 “Who says what . . .”

Harold Lasswell represents the political science perspective in the pioneer studies of propaganda and mass communication, his work dating all the way back to the 1920s. He proposed a formula that became the most oft-quoted statement in mass communication literature. He described the study of mass communication as the process of finding out “WHO says WHAT in which CHANNEL to WHOM with what EFFECT” (adapted from Smith, Lasswell, & Casey, 1946: 121; see also Lasswell, 1948). This common-sense breakdown into

five variables — message originators, content, media, audiences, and effects — serves as a convenient framework for the rest of this chapter.²

Message originators We study the “who” of communication to find out about the sources of media content. Broadcasting law considers it important that the audience be made aware of who is responsible for advertising, but imposes no requirement with regard to the sources of other types of content. The mass media typically tend to obscure the identity of the source because of role specialization in production and programming. The source becomes, in effect, a group of people arranged in some institutionalized pattern of control.

The “who” can be at least nominally identified in a broadcast address by the president of the United States (nominally because we have no way of knowing how much speechwriters and advisors contributed). The “who” becomes much more complex in the case of regular entertainment and news programs. Programming and production require many different individuals and organizations — producers, writers, directors, reporters, editors, advertisers, network and station management, and so on.

Gatekeepers as originators Those who shape programming in the programming/production sequence are identified in communication research as *gatekeepers*. The term originated in social psychology but was popularized as a mass communication concept by a study of the role newswire editors play in controlling the flow of syndicated news copy (White, 1950). Gatekeeper roles permeate the mass media. Government control, censorship, industry codes, and network clearance represent types of gatekeeping, as do the processes of selection, placement, and editing of broadcast material. Schramm called the study of the gatekeeper’s role “one of the truly significant topics in communication research” (1973: 139).

Some writers prefer the less picturesque but more inclusive term *information control*. Information control studies seek to answer questions about how gatekeepers exercise control, where the gates are in the flow of information, and what effects they have on the content by the time it finally reaches its destination (Donohue, Tichenor, & Olien, 1972: 43).

Not only individuals but also institutions play a gatekeeping role in the mass media. The media themselves, as social organizations,

² Doubtless Lasswell would have been the first to admit, even in the 1940s, that his formula oversimplifies the situation. One commentator, who regards Lasswell’s “classic paradigm” as perhaps “the source of systematic communication research,” proposes a more complete statement by adding three additional variables: why (policy), how (technique), and who talks back (feedback) (Lerner, 1974: 87, 88). One could continue adding elements indefinitely. For example, after “who talks back?” it is tempting to ask, “with what effect on subsequent content (results of feedback)?” And “to whom?” could be followed with “under what circumstances (social and physical conditions of reception)?” See also Westley and MacLean, who suggest that whether a message is purposive or nonpurposive represents another important variable in the “who” factor (1970: 80).

serve as senders and receivers of messages, but they are distinguished from other organizations in that they more often serve as selective relay stations for messages originated elsewhere. One of the principal tasks of mass communication research is to explain why some messages are relayed and others are not; why some information is modified in the relay process, and how this occurs. (Davison & Yu, 1974: 6)

This statement aptly describes the problem posed by the allegation of news bias on the part of television networks. Does “a handful” of biased editors and commentators personally control network television news, as alleged by a former vice president in 1969 (§20.11)? Edward Epstein, in an unusual and illuminating piece of gatekeeper research, studied the network news divisions as institutions and concluded that there was no merit in the vice president’s allegation. Although the key “up front” individuals doubtless exercise considerable influence, they in turn are constrained by institutional gatekeeping forces beyond their control. These influences include the economic organization of the networks, the nature of the newsgathering machinery, the technology and budgets available, the role imposed by the network-affiliate relationship, and many other factors not directly controllable by any individual (Epstein, 1973b).

Other areas in which gatekeeping research can provide evidence to assist policy decision making include questions about the effect of cross-channel and group ownership on programming decisions, the influence of advertisers on program content, the roles of professional criticism and of industry self-regulation, and the impact of government regulation on programs.

Content The classification of programming into various categories as required by FCC logging procedures (§18.3) is a simple form of content analysis. The FCC uses content analysis data when it considers such matters as the percentage of news/public affairs and local programming in a station’s service.

Content analysis on a more sophisticated level is a highly developed research technique for categorizing, enumerating, and interpreting items of message content. It has been applied to a wide variety of content dimensions. A glance through a *Journal of Broadcasting* 15-year topical index (1972) shows that broadcasting scholars have used content analysis to study announcers’ continuity, censors’ comments, cross-national program comparisons, criticism, cross-media news coverage comparisons, television specials, specific types of news content, and the portrayal of minorities in television dramas. An example that ties in with the previously mentioned issue of network television news handling is a book called *The News Twisters*, an attempt at content analysis of the programs in question to support the allegation of bias (Efron, 1971; see §20.11). That scholars familiar with content analysis techniques were able to cast serious doubt on the validity of the conclusions drawn from this analysis points to one of the major problems of the technique — the difference between the explicit and implicit aspects of content.

Enumeration of words, phrases, gestures, topics, traits of fictional characters, and the like can be done reliably. But no one is really much interested in how many villains killed how many victims in a sample of television drama or how many events reported in a sample of television news dealt with blacks. Such facts become significant only when we assign implicit, or latent, meanings to them. Does the number of killings have a latent meaning, either as a cause or an effect? For example, are they likely to cause real-life violence? Are they declining in number because of social pressures on the producers? Does the relative number of news stories about blacks have some effect on listeners and viewers? Does it tell us anything about the adequacy of news coverage?

Such interpretations of content measurements are difficult to make with any degree of validity, even when done by specialists trained in content analysis techniques. The untrained observer tends to jump to easy conclusions: ten mentions of a topic have ten times the effect of one mention; a seemingly unfavorable mention of a topic appears equally unfavorable to every observer. Such naive interpretations follow the long-since discarded concept of messages as bullets or as hypodermic injections (§23.3) and fail to take into account the crucial role of intervening variables. As we suggested in §21.6, implicit faith in such primitive notions of communication effects may have accounted for the paranoia of the Nixon administration regarding media criticism.

Channel or medium In the chapters on the physical nature of radio we repeatedly emphasized that the information capacity of channels varies. Thus from a purely physical point of view, channels act as an intervening variable: some channels let more information through than others. In addition, channels differ psychologically, in the sense that recipients of messages form attitudes and expectations about different sources of information and interpret what they receive accordingly.

In the 1940s the NAB commissioned the Columbia University Bureau of Applied Social Research to conduct two studies of public attitudes toward radio (Lazarsfeld & Fields, 1946; Lazarsfeld & Kendall, 1948). These national surveys served as models for many subsequent image studies of the media. They indicated, among other things, that people generally held radio in high esteem. When asked to compare the job radio was doing with other institutions and media, respondents said they believed radio was doing a better job than newspapers, local governments, and even schools.

The broadcasting industry employed the Roper Organization to carry forward these image studies to television; Roper conducted eight national opinion polls between 1959 and 1972. The eight surveys used many of the same questions each time so that trends could be established. For example, the researchers continued to use the question about comparative performance of social institutions that had been devised for the radio studies in the 1940s. About 60 percent of the respondents consistently rated television as doing an

“excellent” or “good” job, whereas the other media, schools, and government declined in esteem during the 1959–1972 period.

Another key question in the Roper series of studies dealt with media credibility. Respondents were asked which of several media they would believe in case of conflicting news reports. They consistently chose television over other media. Radio was rated much lower in credibility than either television or newspapers.³

CBS sponsored a more detailed study of public attitudes in 1960, again using the Columbia University Bureau of Applied Social Research (Steiner, 1963). Parts of the 1960 study were replicated under CBS auspices a decade later (Bower, 1973), conducted this time by the Bureau of Social Science Research in Washington, D.C. In the 1970 study, television ranked highest among the major media in terms of a number of specific functions, such as being entertaining, giving the most complete news coverage, presenting things most intelligently, and being the most educational. However, it also ranked highest in “getting worse all the time.” The author concludes that in the period 1960–1970, “while general attitudes favoring television were declining, more people than before were giving television a high rating as a news medium” (Bower, 1973: 14).

During the 1960s a great deal was heard about a “credibility gap” between news media and their audiences on the one hand and between politicians and the electorate on the other. Some politicians deliberately sought to undermine confidence in the media, and the media in turn disclosed damaging facts about the credibility of politicians. Despite attacks, the media maintained a high level of public confidence.

When in the fall of 1973 President Nixon charged television network news with the most “outrageous, vicious, distorted reporting,” CBS commissioned a commercial research firm to conduct a nationwide poll on media credibility. Over half the respondents disagreed with the president’s statement. As to conflicting reports about alleged wrongdoing by administration officials, 46 percent said they believed the press, 30 percent the White House. Perhaps the most disturbing disclosure of the poll was that 13 percent said they would disbelieve both sides (Survey and Data Services, 1973).⁴

Audience The research most massively concerned with the “whom” factor of Lasswell’s paradigm is the commercial audience research discussed in chapter 13. Ratings give us information on media use, also called *media exposure*

³ The conclusions drawn from the credibility question have been challenged by some scholars. See the review of credibility research by T. Meyer (1974).

⁴ The National News Council, at the time a newly formed watchdog agency designed to restore confidence by investigating charges on both sides of the credibility gap, strove for three months to obtain substantiation of the charges from White House sources. On January 28, 1974, the council issued a press release detailing the fruitless negotiations, without having been able to reach a conclusion.

and time-spent data. Breakdowns of audiences into demographic subcategories give further details about the “whom” of broadcast communication. In §13.12 we discussed some of these subgroupings and their economic significance to advertisers.

Academic research on media exposure uses much more detailed personal and social group indicators to study the composition of broadcasting audiences. In particular, the child audience has been analyzed in terms of such variables as race, intelligence, social class, home environment, and personality types. These analyses are made for the purpose of relating audience characteristics to effects. Research asks such questions as the following: What types of children will be most likely to believe what they see on television? What types will imitate and model themselves on what they see? What types will learn from television?

23.5 Problems of effects analysis

The preceding sections make it clear that many intervening variables enter into the equation that links mass communications with their effects. Schramm characterizes the discovery and exploration of these variables in the years following World War I as “one of the really spectacular developments in communication theory” (1973: 243).

In 1960 Joseph Klapper appraised the results of the first wave of research in *The Effects of Mass Communication*. This volume synthesized the results of over a thousand studies, 270 of which appear in the bibliography. The Klapper study, with its essentially pessimistic appraisal of the state of the discipline, marked a turning point. Scholars with firm roots in prior disciplines had by then lost some of their interest in mass media studies, leaving the field primarily to those who regarded mass communication as the main focus of their research interests.

Klapper’s central conclusion was that on the basis of research to that date, “mass communication ordinarily does not serve as a necessary and sufficient cause of audience effects, but rather functions among and through a nexus of mediating factors or influences” (1960: 8). He qualified this as a tentative conclusion and emphasized that under given circumstances mass media may in fact have *direct* effects. This occurs when mediating factors are either absent or themselves favor change in the direction advocated by the communication.

This formulation in terms of *directed* change indicates the main limitation of the perspective adopted in the research that Klapper summarizes: it focuses on persuasive communications “in the service of change.” His orientation reflects the fact that media research in this period concerned itself primarily with propaganda and political opinion formation (see §23.2).

Present-day scholars recognize a number of complicating factors that make the study of effects extraordinarily difficult. These include (1) the great variety

of forms that effects assume; (2) the subjective link in the mind of each individual, through which messages must pass before emerging as measurable effects; (3) the complex interrelatedness of effects; (4) the difficulty of devising valid experimental methods; and (5) the lack of a unifying theory. Let us look briefly at each of these factors in turn.

Variety of effects A great many different outcomes are subsumed under the single term “effects.” They start with the simple response of paying attention. But attention soon wanes unless it involves more complex processes. At the subjective level these include comprehension, emotional arousal, opinion formation and change of attitudes, and so on.

At the level of overt behavior, communication effects may show up in terms of purchasing, allocating time to chosen activities, adopting fads, developing tastes, expressing points of view, imitating models, and so on. The list could be extended almost indefinitely.

Subjective link Many effects do not show up as directly measurable behavior. And even when they do, linking specific behavior with specific messages is difficult. A good deal of effects measurement must be inferential because messages have to pass through subjective processes within the “mind” of the individual. “Mind” is put in quotes because psychologists prefer a less old-fashioned concept. Schramm, with his usual good sense, offers a handy alternative — “the black box” (1973: 194). Although activity in the black box betrays itself to some extent through measurable brain waves and electrogalvanic skin responses, it remains essentially inaccessible to measurement except at second hand. Researchers depend on reports from the owners of the black boxes — who may or may not be willing to tell the truth, able to articulate their own subjective experiences, or aware of their own deeper motivations.

Complexity of effects To isolate one single piece of behavior as an “effect” is misleading because effects interrelate with each other and occur in complex chains of events. Most effects research to date has focused on short-term effects. The more important ones may be long-term effects, whose outcomes lie far in the future. Certainly this must be true of socialization effects, which work themselves out for individuals in the course of a whole lifetime and for societies in the course of many generations.

Experimental methods The need to get at the contents of the black box caused heavy dependence in past effects research on one particular psychological technique, the measurement of attitudes. Schramm calls attitudes “probably the most powerful variable readily available to us to study, and therefore instrumental in determining what response is made to a given communication” (1973: 217). A great deal of communication research has therefore relied on laboratory experiments that use attitude change as the measurable effects of messages. The messages serve as the “independent variable” — the one the experimenter manipulates to stimulate responses. Attitude changes, as meas-

ured by questionnaires and other such devices, serve as the “dependent variables,” the responses whose variations can be attributed to the manipulated messages.

The trouble with this neat design is that attitudes measured in the laboratory do not always govern real-life actions. People often say one thing but do another, as indicated by differences between expressed television program preferences and actual television viewing (§16.6). Moreover, laboratory experiments put people in artificial situations that bear little resemblance to the complex real-life situations of mass media audiences.

Ideally, experimenters would like to combine the controlled environment of the laboratory situation with the realism of the field experiment. In practice, however, they are more willing to sacrifice realism than control because they usually find it easier and cheaper to work in the laboratory. The problems of field experimentation were illustrated by an unusual investigation of television effects by Milgram and Shotland (1974). CBS funded the project and cooperated in manipulating the independent experimental variable — an actual network program.

As their independent variable, the experimenters manipulated the ending of an episode in the series *Medical Center*. They arranged the production of three different versions of the test episode. One version showed criminal behavior followed by punishment, one the same behavior without ensuing punishment, the third no criminal behavior. Audiences saw the three versions in three different test cities. To test whether or not the antisocial versions of the play had any immediate effects, certain audience members who saw those versions were exposed to a situation in which they were tempted to steal money from a charity box, in direct imitation of a theft depicted in the program. No significant effects of the programs in these terms could be detected.

Many saw the test programs, of course, but the test population was limited to those few who responded to an offer of a free radio to participate in the experiment, whose actual purpose was of course hidden from the participants. The number of experimental subjects remained small therefore, despite the high cost of the project (estimated at half a million dollars) and the ingenious efforts of the experimenters. Moreover, the situation in which the test subjects were exposed to the temptation to imitate the crime was of necessity highly artificial. Although the experiment excited interest because the researchers went to such unusual lengths to get out of the laboratory and into a real-life experimental situation, it was severely criticized on theoretical grounds (Comstock, 1974).

23.6 Theories about effects

Although no “overarching theory” (§23.2) has emerged to account for mass communication effects, researchers have put forward a variety of less ambitious, informal theories and quasi-theories. To the laymen they may seem disap-

pointingly weak, but they do have some value as guides to practical action, as we shall see in §23.8.

In a widely used textbook summary, De Fleur identifies four contemporary theories of mass communication, although he himself admits they hardly qualify as theories in the formal scientific sense. Instead, he says, they amount to “relatively simple formulations that have been given easy-to-remember names for purposes of convenience” (1970: 150).

Individual differences The term *individual differences* refers to the research perspective that emphasizes individual psychological predispositions and characteristics as intervening variables in the communication process. The specific mechanisms through which this variable works are *selective attention* and *selective perception*. This was the approach of the psychology oriented researchers, who relied on basic notions of how individuals perceive and learn.

Social categories De Fleur refers to this contribution of social psychology as a “simplistic theory,” more descriptive than anything else (1970: 123). Because people tend to have characteristics in common they can be assigned to social categories, and people in a given category tend to react similarly to mass media stimuli. This notion underlies advertisers’ reliance on demographic categories as guides in planning advertising campaigns, for example (§13.8).

Social relationships This concept refers to the viewpoint typified by the two-step flow theory (§23.3). In larger perspective, it refers to diffusion of innovations — the ways by which new ideas and practices become known and adopted in a society.

To their mutual surprise, scholars in the mainstream of mass media research discovered that researchers in the field of rural sociology had been following independent but parallel lines in their special field of study. Rural sociologists study the ways in which rural people learn about and adopt or reject new agricultural, homemaking, and health practices. The study, therefore, has an intensely practical goal. It came into special prominence in the 1960s when the industrialized countries began massive assistance programs to help underdeveloped countries improve their food production and health standards. Mass communication is a major tool in such efforts, and the sought-for effects can be objectively measured (see Rogers & Shoemaker, 1971).

Cultural norms De Fleur refers to cultural norms as a “set of hypotheses” rather than a theory, more implicit than explicit (1970: 129). Cultural norms are standards that a society sets before its members as accepted modes of behavior. The media are conceived of as playing a role in modeling and relaying these standards.

Concern about the influence of television violence reflects the cultural norm perspective. Assuming that children (and to some extent even adults) must be taught which behaviors are the norm in our society, what, for example, will television dramas teach them?

23.7 Trend toward functional perspective

A recent symposium on major issues and future directions of mass communication research concludes that the following questions should be in the forefront: "What social and individual needs can the mass media help to satisfy? What is the preferred relationship, for each society, between mass communication and interpersonal channels? What types of media and content are best suited to what kinds of tasks? How can standards of mass media performance be defined? How can the media confer the greatest benefits at the lowest cost?" (Davison & Yu, 1974: 184).

No single approach or theory seems capable of dealing equally well with each of these five questions. One of the more promising orientations that seems capable of taking in much of the ground, however, is the *functional perspective*.

The term *effects* has an objectionable implication, a reminder of the discredited hypodermic needle model of the communication process. A substitute that avoids this implication is the term *function*. Instead of asking what communications do to people, the functionalist asks what they do *for* people.

The functional approach automatically entails the study of effects in the study of the entire communication process as a system. Lasswell identified as the three main functions of mass communication *surveillance*, *correlation*, and *transmission* (1949). Symptomatically, he left out *entertainment*, a fourth function researchers have since added (Kline, 1972: 27).

Feedback processes are central to the functionalist concept. It regards effects also as causes, a seeming paradox. However, the consequences of effects play a part in maintaining the equilibrium of the social system or the individual personality. Thus effects have a causative role. For example, if in performing its watchdog function the press exposes official corruption, the effect of the exposure may be to drive the corrupt officials from office. This effect in turn helps to stabilize conditions in the government (note the factor of congruence as discussed in §23.3 emerging here).

Gratification function The functional perspective embraces a number of major subareas of research interest. Among these is the concept of the media as functioning to gratify individual needs. Putting it another way, it asks what motivates media usage. This approach recognizes that individuals acquire social as well as personal needs. As a homely example of media gratification of social needs, studies show that a large part of the content of interpersonal conversations consists of talk about the media; as a more weighty example, society "produces tensions and conflicts, leading to pressure for their easement via mass media consumption" (Katz, Blumler, & Gurevitch, 1974: 24).

Escape function The gratification research perspective is ideally suited to redress the balance of concern between the entertainment and informational functions of media. Earlier researchers tended to dismiss the entertainment

aspects as serving an “escape” function. Few paid serious attention to it, preferring to concentrate on presumably more important content, leaving entertainment to critics of popular culture (Katz, Blumler, & Gurevitch, 1974: 14). Those who did study entertainment tended to deplore it, as the pejorative term “escape” implies.⁵

This view of entertainment, as we have noted, was dictated by the interest of the government in sponsoring research on propaganda and political information. It was reinforced by the natural bias of journalism schools: “We should be particularly on guard against a natural tendency of journalistic researchers to overemphasize the informational functions of the media: the evidence points to various types of entertainment functions as being predominant in media use patterns of most persons” (McLeod & O’Keefe, 1972: 134).

Play function The crucial importance of entertainment is now coming to be recognized in media research. A pioneer in the field, William Stephenson, wrote *The Play Theory of Mass Communication*. His thesis is that “at its best mass communication allows people to become absorbed in *subjective play*” (1967: 1). Stephenson characterizes play as “pretending,” “an interlude,” “disinterested,” “voluntary,” and “secluded,” pointing out that “thousands of customs, devices, and occasions are employed to gratify playing in every culture of the world, in all its history” (1967: 46, 47).

Stephenson links his play theory to a particular research method. It has not been widely adopted, and perhaps that has tended to divert attention from the importance of his insights about the play function of mass media. Schramm goes so far as to say that, “if Stephenson’s book had been easier to read, and if he, like McLuhan, had been a coiner of phrases, the commercial entertainment media might have chosen to lionize him rather than McLuhan. . . . After once exposing oneself to this brilliantly conceived theory, one can never again ignore the importance of the play-pleasure elements in communication” (1973: 26).

Socialization function Another broadly inclusive functional concept is that of socialization, previously mentioned in terms of “social norms” theory (§23.6). Socialization is the process whereby an individual gradually acquires the distinctive behaviors, values, and attitudes characteristic of the society to which he “belongs.” Once exclusively the realm of child development study, socialization has more recently been recognized as a lifelong process.

The socialization perspective offers one of the most promising approaches to new breakthroughs in mass communication research. Unfortunately, it also poses even more difficult research design and data analysis problems than most other approaches. A key assumption of the socialization approach is that “to

⁵ Klapper, in his book on effects, devoted a chapter to escapist content. It reflects a generally hostile attitude toward entertainment on the part of researchers (1960: 166). Pioneer studies in this area are the Arnheim and Herzog analyses of daytime radio serials (1944).

understand human behavior, we must specify its social origins and the process by which it is learned and maintained" (McLeod & O'Keefe, 1972: 127).

In addition to the variable "behavioral effects," therefore, this research perspective involves considering the intricate interactions of four other variables: (1) age, or life-cycle position, of the subjects under study; (2) social structural constraints under which the subjects operate (for example, their membership in a social class); (3) the agencies or sources of socializing influences to which they are exposed (traditionally, parents and institutions like church and school, but increasingly nowadays also the mass media, especially television); (4) the specific learning processes involved (for example, modeling behavior on that of an admired figure in television or films). All these variables must be taken into account as well as the specific items of behavior ("effects") being studied (McLeod & O'Keefe, 1972: 128).

Agenda-setting function Another, and currently popular, version of the socialization perspective sees that process in terms of agenda setting.⁶ By calling public attention to certain persons, issues, topics, behaviors, styles, images, and stereotypes, the media keep them in the forefront of our awareness. Reciprocally, items neglected by the media drop from view and have no place in the public agenda.

This function may be carried out on a symbolic level, through the implicit meanings of what we see and hear in the media. According to Gerbner, television's basic role "is to provide the symbolic functions formerly performed only by popular religions." What people see in television programs "can easily pass for the rituals, cults, passion plays and myths of modern life" (1972a: 158).

23.8 Conditions for effectiveness

In view of the limitations on our knowledge of how the media achieve effects, it might well be concluded that research has little or nothing to teach us about effective use of the media. It is true that even the most profound knowledge of theory and experimental research will not guarantee hoped-for effects. On the other hand, a good deal of useful guidance can be obtained from research and theory. Indeed, all systematic media enterprises depend heavily on research findings.

In general, research teaches that effective mass communication will usually conform to the existing needs and value system of its target audience. Messages that explicitly contradict existing, strongly entrenched attitudes, opinions, beliefs, and prejudices are likely to be ignored, evaded, or misinterpreted. Nothing that research has turned up since the 1950s justifies rejecting Klapper's basic conclusion: "The efficacy of mass communication in influencing

⁶ The Association for Education in Journalism devoted a symposium exclusively to papers on agenda setting at its 1974 annual meeting (see McCombs & Shaw, 1974).

opinions and attitudes is inversely correlated with degree of change" (1960: 72).

On the other hand, not all broadcast programs consciously seek to influence such opinions and attitudes. In fact, most programs have quite different effects in view. Media may entertain, inform, provide symbolic gratifications, socialize, cultivate corporate and political public "images," and set agendas — all without coming into open conflict with established states of mind.

The case of advertising is a striking and familiar example of successful mass communication whose effects can be objectively measured. As we pointed out in §14.5, advertising's success can be attributed to its ability to capitalize on existing predispositions. The conspicuous success of advertising, however, cannot be taken as evidence that similar techniques will work equally well when predispositions do not already favor the effects being sought. An advertising executive wrote a book proposing to restructure the United States Information Agency (the State Department's overseas propaganda arm) along the lines of an advertising agency. This move, he claimed, would enable the agency to fight a successful propaganda war against the Soviet Union, using commercial merchandising methods (Meyerhoff, 1965).

This scheme betrayed an unrealistic faith in the power of advertising. Its effectiveness in selling goods and in building up favorable corporate or political images by no means guarantees equal success in selling political philosophy to an ideologically fervent opponent. Lazarsfeld and Merton, in an oft-quoted article, had remarked some years earlier that "the leap from the efficacy of advertising to the assumed efficacy of propaganda aimed at deep-rooted attitudes and ego-involved behavior is as unwarranted as it is dangerous. Advertising is typically directed toward canalizing preexisting behavior patterns and attitudes" (1948: 114).

Several of the pioneer broadcasting studies of effects analyzed outstandingly successful radio campaigns aimed at ideological rather than commercial goals. Wiebe compared three of these with a view to finding out what made them work (1951). These were radio campaigns aimed at selling war bonds, interesting people in combatting juvenile delinquency, and motivating participation in volunteer civil defense work. Wiebe concluded that their success in obtaining these disparate effects rested on five minimum conditions: (1) they provided forceful motivation, capable of triggering predispositions in the direction of the desired action; (2) they included a how-to-do-it component that gave respondents a clear-cut course of action; (3) they provided readily accessible mechanisms for taking action; (4) the mechanisms were adequate to the job; and (5) the required action was easy to take, both physically and psychologically.

One of the radio campaigns had been analyzed in a pioneer study by Merton (1946) — a remarkably successful radio marathon conducted by Kate Smith to sell war bonds. Wartime emotions made for strong motivations on which Miss

Smith could build her persuasive strategy. The action called for was simplicity itself — “telephone the station you are listening to and make a pledge.” The implementing mechanism was completely compatible and adequate, requiring minimum effort by the respondent.

The Orson Welles broadcast represents an entirely different case of producing striking effects. The panic ensued because no established rules existed for dealing with invaders from Mars. In times of acute social crisis, instability and confusion shatter customary frames of reference. The pattern has become familiar to us in military coups around the world. During the time of crisis the media become the sole sources of reassurance and guidance in a topsy-turvy world. Characteristically, though, once order has been restored and stable social conditions again prevail, even absolute control of the media and unremitting propaganda cannot snuff out the spirit of opposition. For this reason, the clever dictator fosters an atmosphere of chronic uncertainty and incipient crisis in order to maintain the public’s susceptibility to propaganda.

Effects of Broadcasting: Pragmatic Assessments

Research makes many cautionary reservations about the causal relation between broadcasting and human behavior. Most people, however, have no doubt that broadcasting has direct, specific effects. Acting on this conviction they praise, condemn, regulate, censor, boycott, lobby, and otherwise seek to influence its consequences. “There is nothing ‘merely academic’ about these activities,” Schramm points out. “They are deadly serious, and researchers join with political and economic leaders in trying to understand how communication works and to make it work toward a given goal” (1973: 263).

In this final chapter we will discuss some of the presumed consequences of the medium that most often stimulate public debate on broadcasting policy.

24.1 Varieties of effects

Allegations of effects vary from the grand theorizing of McLuhan to the complaint of union members about the way television depicts workers. McLuhan tells us the media “are so pervasive in their personal, political, economic, aesthetic, psychological, moral and social consequences that they leave no part of us untouched, unaffected, or unaltered” (McLuhan & Fiore, 1967: 26). The hardhats care nothing about McLuhan, but they do resent Archie Bunker’s projection of the image of laboring men as ignorant slobs. McLuhan is probably right at least to the extent that everybody seems to have an ax to grind when it comes to the prevention or encouragement of specific media effects.

These assumptions about specific effects make little contribution to rational policy making because they so often contradict each other. For nearly every good effect alleged by some, an equally bad effect is likely to be alleged by others. “Every time a new medium appears on the scene, we seem to expect revolutionary changes. The optimists stress its potential for education, the pessimists the possibility of abuse. For every expectation, so it appears, there is an equal and opposite expectation” (Lang & Lang, 1968: 14). But even a

mistaken conviction about an effect can itself be regarded as an effect, so there is no escaping the consequences of broadcasting, in one form or another.

In the most extensive survey of effects research since Klapper's in 1960, Weiss concluded that no satisfactory system for classifying all the varieties of effects had yet been devised (1969: 80). He reminds us that effects take place at several levels of psychological involvement — from simple awareness up through increasingly complex subjective responses — before reaching the level of objectively verifiable action.

We usually think of effects in terms of what media do to audiences. A more complete inventory, however, must also include effects of media on their users and on their subjects. As media users, for example, political parties have altered the staging of their conventions to make them into more interesting programs. So too have individual politicians altered campaigning methods to take advantage of broadcasting. People who become subjects of broadcast coverage tend, consciously or unconsciously, to behave differently because they are aware of being covered. Subjects may become simultaneously users in situations where they exploit the news media in order to gain attention.

We have already discussed several major categories of effects in other contexts. For example, §13.12 deals with audience time-spent effect, §14.3 with consumer spending effects, §19.4 with the presumed socially harmful effects of obscenity, §19.6 with the effects of libel. Beyond these specific instances, however, considerations of effect are in fact implicit in virtually everything we have said about broadcasting in America, for “the way it is” determines the kinds of effects it will be likely to have.

24.2 Reciprocal media effects

Among the objectively verifiable effects of broadcasting, its impact on other media is one of the more dramatic. This impact extends to other ways of spending time, not just to other directly competing media. For example, spectator sports have been profoundly affected, to the point where controls have been imposed to limit the access of television to some sporting events whose in-person audiences would otherwise be disastrously reduced (Gifford, 1962).¹

The press when radio began and the motion pictures when television began regarded the newcomers as implacable enemies threatening their very existence. But newspapers and radio did not succumb; they simply adjusted to the new competitive situation and in the end even benefited from the change. People did not switch off one medium and switch on another. On the contrary,

¹ Congress had allowed professional football teams to bar televising of their home games within a 75-mile radius of the home stadium, but in 1973 it lifted the ban for sold-out games. Illustrative of the complexities of economic effects, one of the arguments of the football owners against lifting blackouts even on sold-out games was that no-shows would reduce their income from concessionaire sales in and around the stadium (see Anderson, 1974).

interest in one medium stimulated interest in others. One of the first generalizations developed by radio audience research was that heavy consumers of one medium tend also to be heavy consumers of others (Lazarsfeld & Kendall, 1948: 5).

Relationships among the media might be described in biological terms as symbiotic. They interrelate in complex ways that in the long run often turn out to be mutually beneficial. They use each other's material and talent, invest in each other's stocks, and benefit from each other's technological developments.

Sound recording The near demise and subsequent resurrection of the phonograph record industry provides a striking example of media symbiosis. Radio sound was so much better than old-style acoustic recordings that Victor's sales fell from a high of \$100 million a year to \$10 million within radio's first few years. But radio itself popularized music and restimulated the market for recordings (Saunders, 1952). At the same time radio developed the technology for reducing costs and bettering quality. With the introduction of long-play records in 1948 and magnetic tape recording about the same time, the recording industry revived and eventually reached new heights.

Radio Soon after came radio's turn, when television destroyed its original base as a family entertainment medium. Section 9.11 describes radio's adaptation and revival after an initial period of demoralization.

Motion picture sound Radio has been credited with creating a dissatisfaction that ended the era of silent film. According to one film critic, after the advent of radio "a vague sense of the lack of aural content in motion pictures began to be felt. A subtle psychological rejection of the incongruity of the silent screen occurred" (Crowther, 1957: 142).

As a matter of fact, sound radio and sound film technology developed side by side. Sound had been experimentally combined with pictures as early as the Edison experiments of the 1890s. But as in the case of radiotelephony, commercial development of sound film had to await the advent of vacuum tube amplifiers (§6.6). Lee de Forest himself turned from radio to the new field of sound on film, demonstrating his Phonofilm method in 1924 (de Forest, 1950: 392; see illustration, exhibit 6.2). This preceded by four years the marketing of the first commercial film sound system by Western Electric. De Forest, moreover, had a bona fide sound-on-film system, whereas Western Electric at first depended on disc recordings. "What stone walls of indifference, stupidity, and solid negativity did we unearth among the dead bones and concrete skulls of motion picture 'magrates'!" exclaimed de Forest (1950: 370).

Newsreels Television's impact on motion pictures began to be felt as early as 1948. Symbolic of the subsequent wholesale closing of motion picture theaters was the shutdown of the Embassy Newsreel Theater in New York. Established in 1929, the first of its kind, the Embassy had effectively capitalized on filmed

news and sports. Television's first programming successes came from covering the very sports and other public events that were the bread-and-butter footage of the theater newsreels. They immediately felt the competition and soon succumbed. Many of the newsreel cameramen and editors found new jobs in television (§10.8). The Embassy abandoned its news and sports policy on its twentieth anniversary as a newsreel theater, in November 1949. A motion picture era had ended.

Feature films The motion picture industry thus discovered, just as radio had, that certain of its previous functions had been irrevocably preempted by television. Now television provided most of the bland, family-oriented light entertainment. But movies could still do better than the "little screen" with spectacular, superstar productions. They could also explore adult and controversial subjects taboo on television (just as they had been taboo on the theater screen when it was still a family-oriented medium). Release from the prissy, moralizing standards of the old film production code enabled motion pictures to deal candidly with the realities of human experience in ways that had not been possible before. It also released an outpouring of sleazy pornography and obscene violence.

The centralized Hollywood production organizations, with their huge studio complexes, stables of star talent under contract, and assembly-line methods of year-round feature film production, became history. Soon, several times as much footage was being shot in Hollywood for television as for theater exhibition. The major film studios set up special subsidiaries to grind out half-hour and hour series for television. Columbia led the way in 1951 with Screen Gems. The Lucille Ball-Desi Arnaz combination parlayed a simple television situation comedy series into a new kind of Hollywood empire. Desilu eventually bought out the old RKO-Radio and RKO-Pathé studios — another symbolic turning point in media history.

Not until the 1970s, however, did motion picture exhibition show signs of fully recovering from the effects of television. In 1974 the industry's \$1.9 billion box office income surpassed its previous high of \$1.7 billion in 1946. Devaluation of the dollar in the interim makes this comparison less favorable in terms of actual attendance, but it does indicate a successful accommodation to television's competition.

Print media All the print media — newspapers, magazines, comics, books — have been profoundly influenced by television and have in turn exerted influence. General interest national magazines like *The Saturday Evening Post*, *Life*, and *Look* disappeared when television preempted their functions, but specialized magazines aimed at specific interests and subcultures grew in numbers and popularity. There also appears to have been a certain homogenizing trend toward a more generalized "print medium" that blurs the traditional distinctions among books, magazines, and papers (Holt, 1969: 47, 55).

Magazines take on the dimensions of books, books come out in series or part by part, like magazines. Newspapers feature magazine sections, and magazines unfold into newspaper-like formats.

Far-ranging changes in the newspaper industry antedated radio, for ever since the turn of the century the number of dailies has been shrinking while aggregate circulation has been rising. In the half century 1920–1970 the number of U.S. dailies decreased 14 percent, but circulation rose 224 percent (*Editor and Publisher International Yearbook*, 1970: 13). In the early years of the century over 600 cities had competing dailies; by midcentury their number had been reduced to less than 100 (Nixon, 1954: 7).

Broadcasting, therefore, is the only local daily source of news for the great majority of communities in the country. This does not mean, however, that broadcasting duplicates the news service that daily newspapers provide. A Rand study of the coverage by newspapers compared with that of broadcasting stations offers striking evidence of the inherent differences in the ability of the two media to perform the basic news functions (see Bagdikian, 1971, and §13.2).

Section 9.5 recounts the short-lived attempt of the press to prevent radio news reporting. The full irony of this opposition became apparent some years later when broadcasting developed into a major source of copy for newspapers. The programs, personalities, business dealings, scandals, and regulation of broadcasting constantly make news.

A parallel reversal occurred with regard to the publishing of program logs. In 1933 the American Newspaper Association resolved that program logs should be considered advertising and sold at regular space rates. Today, newspapers eagerly supply not only free logs but also much subsidiary program information, not to speak of elaborate weekly program guide supplements devoted entirely to free promotion for broadcasting. *TV Guide*, a magazine devoted exclusively to television, has the largest magazine circulation in the country.

Challenge of cable Now television itself faces a challenge as cable television, pay television, and other media struggle to define functions they can perform more efficiently than the older media. To succeed as anything more than a mere extension of conventional television, the new media must deliver either a different kind of service or services that are similar but either cheaper or more desirable than the existing ones.

Cable is certainly not cheaper, but it does hold out the promise of being able to overcome two of broadcasting's chief drawbacks: its lack of immediate feedback and its dependence on mass audiences. It remains to be seen whether these advantages answer perceived needs of sufficient urgency to justify their costs.

The ultimate effects of this intermedia struggle remain in doubt. Possibly, under the threat of cable competition, conventional broadcasting will invent

new ways of serving small audiences and of ensuring more sensitive feedback. Or perhaps cable will displace some of television broadcasting's present functions and force it to adapt, just as broadcasting forced the older media to adapt when it took over some of their functions. Then again, direct satellite broadcasting may displace the distribution function of both these technologies.

24.3 Social change and conformity

Far less measurable in an objective way than the effects of broadcasting on competing media are its effects on the processes of broad social change. According to theory, a major function of public communication should be to facilitate peaceful social change. This concept underlies the high priority the U.S. Constitution gives to freedom of expression.

Without the free exchange of conflicting ideas, bottled-up pressures can mount to the point of exploding into violent revolution. "Unless the communication process allows us to maintain a certain consensus on how we want . . . change to take place and to identify goals of social change, we have a complete breakdown of social organization" (Ivey, 1948: 148).

The extent to which broadcasting either facilitates or obstructs peaceful social change remains one of the larger unsettled controversies about the medium. In chapter 16 we discussed economic constraints that even in non-commercial broadcasting tend to cause overrepresentation of majoritarian views and underrepresentation of dissenting views. According to the National Advisory Commission on Civil Disorders, the news media contributed to the violent social confrontations of the 1960s by failing to report the buildup of explosive pressures in the nation's ghettos: "The communications media, ironically, have failed to communicate," the report concluded (1968: 383).

The mass media's conservatism and avoidance of controversial or unpopular ideas automatically reinforce the social and economic status quo: "By leading toward conformism and providing little basis for a critical appraisal of society, the commercially sponsored mass media indirectly but effectively restrain cogent development of a genuinely critical outlook" (Lazarsfeld & Merton, 1948: 107).

By their very nature, mass media demand group enterprise, teamwork, a high degree of mechanical and administrative coordination. They *institutionalize* communication. The germinal artist and thinker, working out a private vision, needs a degree of autonomy the mass media simply cannot provide. An original artistic or intellectual insight loses its cutting edge through too much handling as it passes through the media mill. A characteristic blandness and slickness results — a surface perfection often strangely at odds with the banality of content.

The fact that broadcasting is not all of a piece, however, complicates making a fair evaluation of its overall performance in the service of social change.

Certainly broadcasting includes at least occasional courageous treatments of controversial social issues on the frontiers of change. Honest artistic achievements sometimes occur as well as meretricious show-biz banalities. Although television's bias may have exacerbated racial confrontation in the first place, it later helped to hasten change. The same might be said of the ways broadcasting made the country aware of arguments against the Vietnam war, the extent of ecological vandalism, the breadth of the generation gap, and the smoldering resentment of the silent majority.

In moments of national crisis television has been given high marks for its moderating and reassuring influence. Section 10.8 describes its remarkable performance in its first great challenge of that sort, the assassination of President John Kennedy. More recently, television received equal praise for its coverage of the unprecedented events leading to the resignation of President Richard Nixon.

Though much debated and even criticized at the time, the Watergate hearings of the Senate Select Committee, headed by Senator Sam Ervin, had a salutary effect at a moment in history when divisiveness within the nation approached the point of crisis. "It is because of television's power," wrote a news magazine observer at the time, "that the Watergate hearings have perhaps served to mend, rather than rend the political fabric." He pointed to the ancient role of theater in defining national spirit: "Today, television seems to be rising to the role. Despite the unemotional statements of the witnesses, Watergate televised is anguished ritual and moral tragedy" (Kanfer, 1973: 14, 15).

Few doubted television's social value in time of crisis when the historic impeachment proceedings of the House Judiciary Committee went on the air in 1974. Even so conservative a commentator as James J. Kilpatrick could write, "The people must see this with their own eyes and hear this with their own ears. The printed press is so massively distrusted that even the most meticulously edited transcripts and reports would not suffice. Television, and television alone, can provide the confirmation of an instant replay: *This is how it really was*" (1974: A4).

The circus atmosphere foreseen by some failed to materialize. Of the 38 committee members, only one marred the proceedings with blatant grandstanding. Perhaps fortunately, he was a Nixon partisan and thereby defused critics who might otherwise have been inclined to accuse the president's opponents of similar tactics. The sober impact of the Judiciary Committee broadcasts made it almost certain that had the president not forestalled it by resigning, the impeachment trial in the Senate would also have been televised.

24.4 Diffusion of information

A second and related broad social question concerns the role of broadcasting as a disseminator of information. For most people, broadcasting has become the principal source of information about the world beyond their immediate sur-

roundings. The amount of information that very young children pick up from watching television never ceases to amaze observers. Controlling the perceptions of a nation to this extent seems to confer an alarming amount of power on broadcasters.

On the other hand, research evidence indicates a surprising degree of public ignorance on specific topics. An oft-cited support for this conclusion is a study of an intensive six-month campaign to inform the people of Cincinnati about the United Nations. Despite a barrage of information from the media, people failed to become significantly more knowledgeable on the subject (Star & Hughes, 1950). Public opinion polls aimed at testing knowledge of public affairs similarly always disclose abysmal ignorance.

A specialist on the subject of information diffusion concludes,

The shocking ignorance of American citizens on issues of vital political and personal concern testifies to the limited fruitfulness of the interaction between the mass media and the public in the governmental process. One suspects that persons who claim to be getting most of their information from television may be euphemistically reporting that they are not receiving much information at all about what is happening. (Robinson, 1972: 87)

There appears to be a substantial segment of the population that despite all the blandishments of the media and the lectures of their betters, persists in a "know nothing" attitude about public affairs.

As to those who do take an interest in such matters, however, television may have significantly altered their perception of real-life events. Television coverage of the civil rights confrontations in the 1960s made people look at the problem for the first time — in the uncomfortable comfort of their living rooms — as protesters were clubbed, trampled, hosed, and attacked by dogs. These perceptions were made possible by the fact of national network news and public affairs programming: "Local radio and television, in some places as protective of The Establishment as the local newspaper, were shamed into coverage because it was there, on the network newscasts" (Small, 1970: 45).

During the Democratic convention of 1968 in Chicago, the public witnessed scary visions of what a domestic police state might be like. No less scary to many were the scenes of open, provocative defiance of the law. Many observers believe that televising the Chicago convention marked a turning point in the country's perception of itself. A journalist who was there, Sander Vanocur, wrote later that the public "had never seen on their television screens so much sustained dissent in so compressed a period of time, and it came, at least from within the convention hall, not from longhairs, not from hippies shouting obscenities, but from outraged members of the middle class" (1972: 146).

Equally unsettling perceptions of the Vietnam war came home through television. At first, tight control by the military over newsmen created a false perception of what was going on in Vietnam. That picture was shattered in 1968 when the Tet offensive brought the reality of the war out into the open

(Epstein, 1973b: 21). It could no longer be prettified by military censorship. Vietnam became “the living-room war.”² For the first time people at home saw the pain, destruction, and ferocity of an overseas war before the boys came marching home. And also for the first time, Americans found themselves deeply, even dangerously, divided about the wisdom of its pursuit. This division may have been due primarily to the nature of the war, but many believed that television was uniquely responsible. James Michener, for example, thought that similar coverage of previous wars would have altered the whole course of history:

Abraham Lincoln would not have been able to prosecute the Civil War to a successful conclusion had television been flooding the contemporary scene with daily pictures of the northern Copperheads who opposed the war, of the draft riots that rocketed through northern cities, and especially of the stark horror of Vicksburg. Sometime late in 1862 he would have been forced to capitulate, with the probability that slavery would have continued in the southern states till the early years of this century. (1970: 71)

24.5 Socialization effects

Knowledge picked up from television can be far more pervasive and influential than the types of awareness discussed in the previous section, types that deal essentially with the effects of news and public affairs programming. Most people spend most of their television time not with news and public affairs but with entertainment. Although designed neither to teach nor to provide information, such programs in fact teach a great deal indirectly and by example about attitudes, values, behaviors, and self-perceptions. Fiction impels the audience toward empathizing with protagonists and vicariously experiencing their sensations and feelings. This emotional involvement argues that such programs may have far deeper impact than factual programs, especially on the young.

Content analyses of popular fiction (magazine stories, comic books, stage plays, motion pictures, and novels, as well as radio and television dramas) always disclose gross differences between actuality and the world of fiction. If one were to analyze the “population” represented by all the characters depicted in a body of fictional material and then compare its characteristics with those of the real population, no quantitative similarity between the two would be found. They differ markedly in all the basic demographic features, such as age, social class, occupation, place of residence, and ethnic origin (Baker & Ball, 1969: 436).

Of course, such discrepancies must be expected. To interest audiences, popular drama necessarily presents highly active characters involved in

² This was the title used by *The New Yorker* critic, Michael J. Arlen, for a collection of his television reviews of this period (1969).

glamorous, exciting, action-packed situations and events. Most people in the real world have unglamorous, dull, insignificant, repetitive jobs; therefore, the proportion of people in fictional populations employed as detectives, criminals, lawyers, doctors, scientists, executives, and the like is unrealistically high. Most people in the real world solve their personal problems undramatically, even anticlimactically, by socially approved methods; fictional characters solve theirs by decisive, highly visible actions, often entailing some form of violence. This unrealistic nature of dramatized life in television may have significant, if unintended, consequences.

The television world serves quite literally as a model of reality and of behavior for countless children and deprived adults. They use no alternative information sources to correct or supplement the omissions and distortions in the world picture served up by television. Those too young to read, those who never learned to read, those who have no access to printed sources, and those who never acquired the habit of relying on print are the very ones who depend most heavily on television as a picture of the world outside. A study made for the National Commission on Causes and Prevention of Violence indicated that 15 percent of a sample of middle-class white children perceived what they saw on television as "true to life." Thirty percent of the poor white and 40 percent of the poor black children believed they saw reality in television (1970: 168).

Such effects can be considered as examples of broadcasting as an agent of socialization — that all-important process by which human beings learn the extraordinarily complex rituals and value systems of their own culture.

In the past children learned this behavior from parents, peer groups, formal education, and rites of initiation. Now, the media generally and television especially also share in this function. "Television is a primary source of socialization for low-income teenagers. In the absence of family, peer, and school relationships, television becomes the most compatible substitute for real-life experiences" (National Commission on the Causes and Prevention of Violence, 1970: 162). This realignment of the agents of socialization may have profound significance. Always in the past — and to this day in many cultures — the processes of socialization have been rigidly specified and jealously guarded. For the first time in human history, part of this vital function has been surrendered to forces outside the traditional hierarchy of controls.

Klapper pointed out the difficulty of isolating the effects of the media from the effects of more traditional socializing influences (1960: 255). This difficulty disappears, however, when traditional influences become attenuated, as usually happens in a ghetto atmosphere. Children begin absorbing television impressions in infancy, spending most of their waking hours with the television set acting as baby sitter. They tend to accept whatever they see — news, drama, cartoons, comedy — uncritically as equally valid, equally true to life (Baker & Ball, 1969: 242).

Most of the actual research on socialization effects of the media has dealt

with antisocial rather than prosocial behavior. Antisocial behavior, such as violence (discussed in the next section), comes urgently to the attention of researchers because of the policy need to understand such effects in order to make decisions about media content. Some research, however, has been devoted to the socially beneficial behaviors that television may teach (see the summary by Baran, 1974). On the basis of these studies it has been suggested that "it is no longer sufficient to condemn broadcasters for the harm their aggressive programming might cause; if they ignore the good their programming can do, they are committing an equally grievous wrong" (Baran, 1974: 50). Consumer groups such as ACT (§22.7) have consistently held this view, striving not only to preclude some kinds of children's program content but also to encourage inclusion of other kinds.

24.6 Violence

Of all the effects of the type we have just described, the one of most acute public concern is violence. Periodically, news reports relate criminal acts directly attributable to the imitation of similar acts seen on the screen. Are these freakish, isolated cases, or do they represent the tip of an iceberg of widespread effects? Or do they represent an excuse to make the media scapegoats for social ills they do not cause but merely reflect?

Seemingly, it should be possible, given sufficient funds and time for research, to arrive at a generally acceptable answer to these questions. Research dating from the 1930s (on motion pictures at that time) to 1974 has failed, however, to come up with a definitive answer.

Concern about the possible effects of television on real-life aggression and crime had already reached the level of congressional investigation by 1954. Congress held further hearings in 1961, 1964, 1968, and 1972.

The National Commission on the Causes and Prevention of Violence (appointed in 1968 by President Lyndon Johnson following the assassinations of Senator Robert Kennedy and Dr. Martin Luther King) reported that it received more "strong recommendations and often bitter complaints" from the general public about televised violence than about any other issue (1970: 170). A commission-sponsored study of public opinion disclosed that three-quarters of a national sample of adults believed it "likely or possible" that violence in television plays a part in making America a violent society, and 86 percent believed that it "triggers violent actions from people who are maladjusted or mentally unstable" (Baker & Ball, 1969: 242).

Content analyses invariably show that entertainment television programs, in particular cartoons and action dramas that attract children, depict extraordinary amounts of violent and criminal behavior. The context in which these acts take place concerned the violence commission even more than their frequency.

Violence occurs in the mythical world of television mostly between strangers, whereas in the real world it occurs mostly between relatives and acquaintances. Heroes initiate it as frequently as villains; witnesses usually remain passive; neither legal consequences nor suffering usually follow. By a curious reversal, prohibitions in the NAB Television Code — such as the one against “use of visual or aural effects which would shock or alarm the viewer, and the detailed presentation of brutality of physical agony” — may actually be doing a disservice. The violence commission believed that “the painful consequences of violence are underplayed and deemphasized by the ‘sanitized’ way in which much of it is presented.” Such “deference to public taste,” continued the commission, “results in an essentially cosmetic approach to the portrayal of violence which does not get to the heart of the problem” (1970: 166, 171).

Klapper's 1960 analysis of the available empirical evidence on violence effects had led him to rather conservative conclusions. The findings, he said, “strongly suggest that crime and violence in the media are not likely to be prime movers toward delinquency” (1960: 165). In keeping with the general message of media effects research (§23.5), specific research on the influence of violence in the media suggested that the media at most accentuate tendencies already present. A violent episode in a program might trigger a person already prone to violence or crime but would be unlikely to precipitate such acts by individuals not already so inclined as the result of influences other than the media.

This reasoning seems to imply that the number of individuals already influenced in the direction of antisocial behavior is too small to cause much concern. But the violence commission researchers pointed to the existence of significantly large groups of such potentially violent persons: “Our cities contain increasing numbers of people with violent attitudes and habits, smouldering grievances, and easy access to targets of hostility” (Baker & Ball, 1969: 152). The social and psychological intervening variables that at one time were thought to have a stabilizing influence may be losing their potency as society becomes more and more disorganized.

This view might explain why we should be concerned about fictional violence today despite the fact that in the past fiction, whether popular or elite, has always been marked by violence. One need only point to traditional fairy tales to find an example. They are full of dire events — bloodshed, death, cruel punishment, and heartless revenge.

One explanation and justification for the prevalence of violence in literature was the theory of catharsis. An audience's vicarious experience of violence in empathetic fictional settings was thought to harmlessly purge the audience of such feelings in real life. Whether or not fiction has actually ever had that function, experimental evidence of a catharsis effect resulting from watching television programs has been wanting. After reviewing research on the cathar-

tic effect, specialists on the violence commission staff concluded that “results have, in fact given a good deal of support to the opposite view” (Baker & Ball, 1969: 456).

Another counterargument holds that violence in the arts merely reflects the violence already present in society. In other words, television violence should itself be viewed as an effect, with real-life violence as the cause. The study of cultural history gives support to this view. There can be no question that not only fiction but art generally reacts sensitively to social trends and to the spirit of the times.³

But there is no reason why a cause cannot also be an effect, as the functional view of communication points out (§23.6). Although the violence in television doubtless reflects the violence in society, its presence in television could make it that much more prevalent in society. One can conceive of a process of escalation analogous to feedback in a public address system. Sound from the speakers fed back into the microphones is reamplified, fed back at a higher level, again reamplified, again fed back, and so on until the system gets overloaded and howls in protest.

The national violence commission itself concluded in 1970 that “a constant diet of violent behavior on television has an adverse effect on human behavior and attitudes. Violence on television encourages violent forms of behavior, and fosters moral and social values about violence in daily life which are unacceptable in a civilized society” (1970: 169).

That factor of constancy of exposure may be most significant. From the beginning of broadcasting, observers have been impressed by the fact that addicted fans immerse themselves in a constant stream of messages. What is the long-term consequence of such unprecedented immersion in communications? Does it have the drug-like effect suggested by the phrase *narcotizing dysfunction*, used by Lazarsfeld and Merton (1948: 105) to describe a presumed tendency of the media addict to become a passive consumer? Or does the constant indirect experience of violence on television gradually desensitize people to what used to be thought of as “normal” human feelings of revulsion? Does this experience account, at least in part, for the increased tendency people seem to have to ignore the plight of others in distress?

Despite the firm warning of the violence commission and despite assurances from the networks that they would voluntarily reduce violence, subsequent content analyses showed no significant lessening of violent content in television (Gerbner, 1974). Once more Congress took a hand, this time through a million-

³ Of course news and current affairs programming must, by definition, reflect on-going events and social trends. This fact accounts for the “kill-the-messenger” syndrome — the tendency to blame the media for the bad news they report. In Webster City, Iowa, the local newspaper and radio station agreed to observe a self-imposed 90-day blackout of all news of vandalism, in response to arguments that news of such crimes stimulated imitation. During the news blackout, vandalism increased by more than a third over its level for the same three months in the previous year (*New York Times*, 3 March 1974).

dollar study sponsored by the Surgeon General and supervised by a 12-member scientific advisory committee. The study took two years, eventuating in five volumes of reports and papers by 38 researchers. The committee's report to the Surgeon General, *Television and Growing Up: The Impact of Televised Violence*, appeared in 1972.⁴

The advisory committee report speaks of "a modest association between viewing of violence and aggression among at least some children." The committee found "some data which are consonant with the interpretation that violence viewing produces the aggression; this evidence is not conclusive, however, and some of the data are also consonant with other interpretations." How great is the effect of violence? "The evidence (or more accurately, the difficulty of finding evidence)," said the committee, "suggests that the effect is small compared with many other possible causes, such as parental attitudes or knowledge of and experience with the real violence of our society" (Surgeon General, 1972: 7).

These evasive conclusions immediately provoked a series of heated charges and countercharges that made the social scientists involved look anything but scientific. Some members of the research group publicly accused the advisory committee of whitewashing the research results by producing a wishy-washy compromise report that said virtually nothing or, even worse, was seriously misleading (Charlton, 1972).

The Surgeon General revealed that in order to avoid future charges of government encroachment on the First Amendment freedoms of the broadcasters, he had granted the industry veto power over the nominations of the behavioral scientists for the advisory panel. ABC, NBC, and the NAB voted against several researchers known for their strong opinions on media effects. CBS refused to exercise its blackball option; it hardly needed to since four of the five industry-related members were associated with CBS, including Joseph Klapper, that network's director of research and author of the 1960 work on effects discussed in §23.5.

The author of a *TV Guide* series of articles on the controversy concluded that the weasel words in the Surgeon General's report "absolutely justify the conclusion that the research is worthless," quoting one scientist as condemning the supporting studies as "myopic exercises in opportunistic grantsmanship." Twenty-two of the 38 researchers responsible for background studies for the report replied to a questionnaire, dividing evenly as to whether or not they thought the committee report fairly reflected the findings of their studies. A slight majority declared their belief in a direct causal relationship between television violence and real-life violence (Efron, 18 Nov. 1972: 42, 44).

What to conclude? Obviously, effects studies have not yet reached the level

⁴ The 5,000 pages of research reports have been summarized in brief and readable form in *The Early Window: Effects of Television on Children and Youth* (Liebert, Neale, & Davidson, 1973).

of exact science. Pragmatically, however, policies have to be adopted one way or the other. Called to a Senate committee hearing to comment on the controversy, the Surgeon General left little doubt about his own conclusion:

The broadcasters should be put on notice. The overwhelming consensus and the unanimous Scientific Advisory Committee's report indicates that televised violence, indeed, does have an adverse effect on certain members of our society.

While the committee report is carefully phrased and qualified in language acceptable to social scientists, it is clear to me that the causal relationship between televised violence and antisocial behavior is sufficient to warrant appropriate and immediate remedial action. (Senate CC, 1972: 26)

24.7 Shaping of events

Admittedly, enough violence occurs in society to supply a steady stream of it on the television screen. But only a minuscule fraction of the world's events, violent or otherwise, is converted into news and fed into the arteries of news distribution. Even then, the raw news has to run the gauntlet of many gatekeepers (§23.4) before arriving, neatly packaged, as "the" news of today. Thus the media influence our perceptions of the real world — withholding some facts, simplifying and shaping the rest.

Some gatekeeping is involuntary, built into the very nature of the system; other gatekeeping is done deliberately, as in the editing process and the exercise of policy decisions; and some is imposed from without. Epstein, in his study of organizational gatekeeping, mentions some of the last. Network news, he says, is

shaped and constrained by certain structures imposed from without, such as government regulation of broadcasting and the economic realities of networks; certain uniform procedures for filtering and evaluating information and reaching decisions; and certain practices of recruiting newsmen and producers who hold, or accept, values that are consistent with organizational needs, and reject others. (Epstein, 1973a: 43)

Visual bias An elementary example of involuntary gatekeeping within the medium is simply that television is a visual medium and so demands pictures despite the fact that many significant news events have no intrinsic visual content. In a choice between an event that offers good pictures and one that offers none, a bias in favor of the former is bound to occur.

Effects on subject of news In addition to creating this natural bias toward visually realizable news subjects, the demand for pictures also fosters a temptation to artificially enhance the visual quality of events. During the urban riots of the 1960s, instances were reported of newsmen "coaxing youths to throw rocks and interrupt traffic, and otherwise acting irresponsibly at the incipient stages of a disturbance" (National Advisory Commission on Civil Disorders, 1968: 377).

Even without overt encouragement, the very presence of the camera in a tense situation tends to escalate the on-going action. The networks and many television stations have adopted written guidelines for their news personnel aimed at minimizing the tendency of the medium to affect the subjects of its attention in such situations. But the guidelines, in the very process of trying to minimize shaping by the medium, themselves become a part of the shaping process.

Broadcasting's effect on the subjects of coverage is responsible for Canon 35 of the American Bar Association's ethical code. Canon 35 denies broadcast access (including still photography) to courtroom proceedings. All states except Texas and Colorado have made it an official rule. Originally adopted in 1937 to keep news photographers out of courtrooms, it was extended to television in 1963. It reads in part,

The taking of photographs in the courtroom during sessions of the court or recesses between sessions, and the broadcasting of court proceedings are calculated to detract from the essential dignity of the proceedings, degrade the court and create misconceptions with respect thereto in the mind of the public and should not be permitted.

The courts have taken judicial note of the effect of television on their proceedings. In the *Estes* case, for example, the Supreme Court voided a Texas court's conviction of Billie Sol Estes for alleged embezzlement and other crimes on the ground that the use of television in part of the trial had violated the defendant's right of due process (381 US 532, 1965).⁵

Staging by the medium The shaping role of editing always verges on undue trespass. As indicated in §20.11, news documentaries constantly raise charges of bias and tampering with the facts. Payment for participants' signatures on release forms can be interpreted as bribes; selective editing can be described as misinterpretation; encouraging people to express their opinions can be construed as sensationalizing; selecting specific cases to illustrate a general theme can be seen as deception or bias (F. Smith, 1974).

Similar problems arise with regard to deliberate staging. A certain amount of artifice has come to be accepted as routinely permissible. In the course of rejecting charges that the networks had staged news stories at the 1968 Democratic convention in Chicago, the FCC remarked,

In a sense, every television press conference may be said to be "staged" to some extent; depictions of scenes in a television documentary — on how the poor live on a typical day in the ghetto, for example — also necessarily involve camera directions, lights, action instructions, etc. . . . Few would question the professional propriety of asking public officials to smile again or to repeat handshakes, while the cameras are focused upon them. (16 FCC 2d 656, 1969)

⁵ The court divided five to four on the issue and wrote six different opinions. Although at first the television equipment had been distracting, later it was shown that coverage could — physically at least — be made completely inconspicuous.

But at some not precisely definable point, “permissible staging” turns into “rigging” (see §20.11 on legal aspects of this problem).

Staging by news subjects Much of what passes for news actually consists of occasions artificially staged by press agents or public relations men. Most large organizations with an interest in maintaining a favorable public image constantly churn out self-serving stories and film clips in the guise of news. Government departments no less than commercial organizations engage in the practice. Military spending on such image building was one of the principal targets of the controversial documentary “The Selling of the Pentagon” discussed in §19.7. Although most conscientious news organizations try to avoid exploitation, manufactured pseudo-news is a tempting money-saver (see Kiesler, 1974).

In recent years, however, news staging for self-publicization has taken a new and vicious turn in what has been called the “publicity crime.” These are criminal acts calculatingly performed for the sake of winning public attention by exploiting the media. These artificial events place the media in a difficult position. They cannot on the one hand ignore the fact that the lives and welfare of real people are at stake. On the other hand, the media by the very act of covering the events make such crimes possible and often profitable. The media, by covering such stories so extensively that we cannot discipline ourselves to ignore them, make us all reluctant accessories after the fact (*The New Yorker*, 3 June 1974: 27. See also §19.3 on the freedom of expression aspects of this dilemma).

Editing Cases of conspicuous staging such as publicity crimes and news story rigging amount to only a small fraction of the total flow of news and public affairs programming. In the long run routine editing has a far greater impact on the shape of events as we perceive them. An ingenious study compared the perceptions of over a score of on-the-spot observers of a parade with the single version of the parade shown by live television (Lang & Lang, 1968). The researchers chose the “MacArthur Day” parade in Chicago for their experiment. General Douglas MacArthur, following his controversial dismissal by President Harry Truman in 1951, came back to the United States from Korea in an atmosphere of tension. His appearance in Chicago, according to advance news reports, promised to be a moment of high drama that could even erupt into violence.

Television fulfilled expectations, depicting the parade as highly charged with excitement. The observers posted along the parade route perceived the event in quite different terms. For example, the crowds were both much smaller and less enthusiastic than made to appear on television. What does a television director do about empty bleachers? Their emptiness is part of the story, yet dwelling on them could also seem like a form of editorializing.

Because of television’s ability to move with the action, always selecting the high points, always able to zoom in for dramatic close shots, the home viewer

experienced an artificially exciting, unified, continuous event. Each spectator on the scene, however, caught only that one small and isolated fragment of the event as it passed by. "The selectivity of the camera and the emphases of the commentary gave the televised event a *personal* dimension, nonexistent for the participant in the crowd." (Lang & Lang, 1968: 60). Thus a medium helps shape the nature of events in the very act of reporting them.

News consultants A new source of television news shaping has developed in recent years — the news consultant organization. Originally, local news had been a kind of loss leader for television stations. Eventually, however, when local news became the primary focus of local programming, it assumed a pivotal role both as moneymaker and image maker for major stations. News programs became the most crucial point of programming competition within a local market.

Capitalizing on this situation, organizations like Frank N. Magid Associates began offering their services as consultants. On the basis of audience research, consultants recommend changes in format and personnel that have often proved highly successful in reversing local news program rankings. These changes have a marked shaping effect on news above and beyond normal editing from a purely journalistic standpoint. For example, stories tend to become much shorter, with increased emphasis on "action" events that make good pictures (sex, fire, crime) and on national rather than local news (Townley, 9 March 1974: 10).

24.8 Political campaigns

Effects of broadcasting on politics have been studied more exhaustively than any other category of media influence. Types of effects range from the measurable, such as amounts of money candidates spend on station time, to the inferential, such as the effect of particular broadcasts on the outcome of a close election.

The costliness of broadcast time appears to give the rich (or richly supported) candidate an insuperable advantage — except that in a number of instances candidates have made media expenditures in excess of a million dollars for a single state office and have still lost.⁶ The use of merchandising techniques to "sell" candidates might appear to give the man with the cleverest media advisors and advertising agency the edge, except that television tends to unmask the "real" man in spite of make-up and all the arts of salesmanship. Some critics feel that broadcasting turns political campaigns into personality contests at the expense of issues; others believe that politicians have always depended

⁶ The FCC has issued biannual statistics on campaign broadcast expenses since 1960. Candidates at all levels spent a total of nearly \$60 million in 1972 (FCC, *Annual Report*, 1974: 46). This was a fourfold increase over 1956 expenditures but only a 1 percent increase over 1968 because of the effect of the campaign reform act of 1971. The figures are for time charges only. It has been estimated that candidates spend probably a third again as much for production costs.

more on superficial emotional appeals than on appeals soberly confined to the issues.

Politics and broadcasting have been closely linked from the very beginning, starting even before the historic KDKA report of the 1920 Harding-Cox election results (§7.5). In the early days of radio, political experts predicted that the new medium would demand more issue-oriented discourse from candidates. Instead, radio actually lent itself to rabble-rousers and demagogues. Identical hopes were later held out for television, with like results.

Coolidge made the first election-eve address on a radio network in 1924, and Roosevelt began using radio as a personal political tool in 1933 with his “fireside chats.” In the same year politicians first capitalized on the merchandising skills of advertising agencies, when Lord and Thomas helped the Republicans defeat Upton Sinclair for governor of California (Barnouw, 1968: 15).⁷ Contemporary Madison Avenue techniques came much later, in the presidential campaign of 1952, when the master of the hard-sell commercial, Rosser Reeves of Ted Bates and Company, designed spots used in a saturation campaign for General Eisenhower (§15.9). The trend toward candidate packaging culminated in 1968 with the comeback of Richard Nixon from political limbo in a media campaign orchestrated to an extent never before attempted.

Nixon was no stranger to the power of television. In the 1952 campaign, when Nixon ran for vice president, disclosure of his use of funds collected by California supporters precipitated a crisis of confidence. The Republicans had been deploring the “corruption in Washington”; and now the news media had revealed the Republicans’ own vice-presidential candidate as the recipient of undisclosed financial favors. When Eisenhower failed to come promptly to his running mate’s defense, Nixon’s candidacy seemed doomed.

In a do-or-die effort, Nixon paid \$75,000 for time on NBC television to deliver the now historic “Checkers” speech. It “not only saved his place on the ticket, but also transformed him from a sudden campaign liability into a campaign asset.” Sophisticated political observers regarded the speech as unscrupulously calculating in its sentimentality and crass in its appeals, but its effectiveness with the voters showed what the skillful political use of television in a controlled situation could accomplish (Rubin, 1967: 35).⁸

In the 1960 presidential campaign, another key broadcasting experience proved Nixon’s temporary undoing — the unique “Great Debates” of the

⁷ The motion picture industry foreshadowed television political spots by staging fake anti-Sinclair “interviews” for incorporation into newsreels (see Sinclair, 1935: 150).

⁸ The Checkers speech got its name from Nixon’s dog, which he referred to satirically as a gift that he dared to keep in defiance of his critics. Twenty-two years later, with Nixon president but fighting the imminent prospect of impeachment, he attempted to extricate himself with another vitally important television speech. Commentators drew parallels between the use of symbols in the two. In April 1974 he announced on television his plan to release an edited version of White House tape transcripts. A huge stack of bound volumes on a table in the background as he spoke suggested that a vast quantity of material was being made public. Later, when the Government Printing Office published the transcripts, they occupied only a single volume about the size of a metropolitan telephone book.

Kennedy-Nixon contest. The two candidates clashed in four hour-long network television programs shortly before the election.⁹ Although this series of programs resulted in the “largest number of studies of a single public event . . . in the history of opinion and attitude research” to that date (Rubin, 1967: 19), its effects on the outcome of the campaign remains arguable. The consensus seems to be that on balance the debates probably damaged Nixon; the actual vote was so close even a slight loss could have been crucial.

These experiences must have influenced Nixon’s use of television in the 1968 campaign. McGinniss has documented an unprecedented inside view of electronic campaign strategies. In *The Selling of the President, 1968* (1969) McGinniss set down his firsthand view of the entire candidate-merchandising process. He describes how the candidate’s advertising staff meticulously organized seemingly spontaneous televised question-and-answer sessions for which it had in fact selected the audience and questioners with infinite care, planning and cueing audience responses for desired effects.

According to McGinniss, Nixon’s campaign themes, in terms of words, consisted of endlessly repeated clichés; but a clever blending of words with arresting pictures resulted in television commercials that gave these tired themes an illusion of freshness, originality, and verve. McGinniss concluded, “With the coming of television, and the knowledge of how it could be used to seduce voters, the old political values disappeared. Something new, murky, and undefined started to rise from the mists. . . . Style becomes substance. The medium is the massage and the masseur gets the votes” (1969: 28, 30).

McGinniss believed that television’s alleged ability to expose the inner man may operate in uncontrived situations, but his firsthand observation of the Nixon 1968 campaign convinced him that the camera’s candid eye can be completely deceived if the subject controls the medium by using his own professional planners, writers, make-up men, producers, and camera operators.¹⁰

If media strategies dominated the 1968 national election campaign, they swamped it in 1972. Advertising agency men like H. R. Haldeman and Ronald Ziegler had moved into top positions in the administration. Media management had become an obsession in the Nixon White House (see §21.6). To the arsenal of legitimate publicity, public relations, advertising, and news management techniques, the presidential staff added a variety of unethical and sometimes actually illegal “dirty tricks.” It was not enough to put the candidate forward in the best possible light; it became even more important to suppress dissent and punish “enemies.” Not that dirty tricks were new to politics, as apologists for Nixon were fond of pointing out; they had just not before been

⁹ Temporary suspension of §315 of the communications act made this possible (see §20.5). Actually, the candidates did not literally debate; they answered, in turn, questions posed by network newsmen.

¹⁰ McGinniss depicts Nixon as somewhat reluctantly bowing to the contrivances of his staff rather than as an enthusiastic participant in the artifices of image building.

elevated to the level of policy and institutionalized in the White House bureaucracy.

Some months after the election, when the first seriously damaging Watergate hearing testimony was coming out, McGinniss was asked if he thought the White House could “resell” the president. “It’s a lost cause,” he replied. “They seem to have p.r.’d themselves into a corner that they can’t p.r. themselves out of.” The head of a public relations firm bridled at that: “We preach admitting mistakes, getting the facts out and the bad publicity behind us” (Time, 9 July 1973). But such candor would have been equivalent to “corrective advertising” — something advertising men abhor.

Dirty media tricks aside, the use of broadcasting in political campaigns that has caused the most concern is the spot announcement. Nearly 90 percent of the money spent on broadcasting in the 1972 election went to buy spots (FCC, *Annual Report*, 1974: 47). Some observers think that such brief announcements tend to reduce political discussion to the level of sloganeering and candidate packaging, deflecting attention from issues. Others argue that political spots at least reach potential voters never reached by longer political campaign formats or by news and public affairs programs.

Whatever their merits or demerits in terms of promoting genuine political dialogue, political spots seem to work. In the 1972 campaign a series placed by the “Democrats for Nixon” organization appears to have worked particularly well (Carroll, 1973). They concentrated on attacking Nixon’s opponent, Senator George McGovern. The most striking example used McGovern’s face in profile outline, looking like a weather vane, swinging back and forth to face opposite sides of the screen. The profile swung in time with the announcer’s voice reading McGovern statements that contradicted each other. It conveyed with great visual economy the theme of total inconsistency.

A small-scale empirical study of the impact of three of these Democrats for Nixon spots, one of the first such research efforts, found little reason for concern. The study concluded that they (1) did in fact serve as a source of information for some voters; (2) seemed more effective when dealing with issues than with images, contrary to general opinion; (3) influenced voters with moderate as well as low-level interest in politics; (4) strengthened opposition supporters’ existing intentions, in keeping with communication theory (§23.5); (5) tended to influence undecided voters in the direction of their existing predispositions, again in keeping with theory; and (6) worked about as well as other sources of information in getting through “voter defense mechanisms” (Patterson & McClure, 1974: 8).

24.9 Effects on conduct of government

Political use of broadcasting does not come to a halt with the end of election campaigns. In particular, an incumbent American president has unexcelled opportunities to exploit the media in the everyday conduct of government. In

addition to his control of those formal public occasions that the media feel constrained to treat as news, he can also affect the public's perceptions of government in thousands of hidden ways, great and small. Daniel Boorstin has explored the strategies of timing, trial balloons, leaks, background briefings, and the like. They produce "news" stories about what he aptly calls "pseudo-events" (1964).

News management Of course a president has no monopoly on the synthesizing of pseudoevents. All political interests — the other branches of government, political parties, lobbyists, individual politicians — exploit pseudoevent strategies. The president, though, has such enormous leverage that competing interests seem almost powerless. Concentration of the immense prestige of the executive in a single image and a single voice confers frightening power on the president and his staff to manipulate pseudoevents and hence the public's understanding of what its government is doing.

The Nixon administration exploited this power to the point where eventually every act of the executive, no matter how grave a matter it involved, became suspect as possibly just another self-serving pseudoevent. In such circumstances, the media find themselves in the dilemma of having to go along with the publicizing of whatever the president does because even a pseudoevent takes on an aspect of reality when it involves the participation of the President of the United States.

For example, Nixon's frantic state visits abroad at a time when investigations of his conduct were threatening to drive him from office essentially served as fantastically elaborate and costly pseudoevents. The television networks spent about half a million dollars to cover the Middle East trip of June 1974, for instance. They knew, of course, the real motivation, and yet dared not fail to cover the trip fully and in all seriousness.

In the light of such power to compel coverage, White House chivvying of the media in an effort to dampen criticism and to obtain even more coverage seemed strangely perverse. This inability to let well enough alone was one of the most puzzling aberrations of a puzzling administration. Why did it feel bound to go beyond the limits of ordinary news management techniques? A series of secret memoranda released by a member of the Watergate investigating committee gives us a glimpse of the atmosphere in which the White House public relations team operated in 1970, in anticipation of the 1972 election campaign. Charles W. Colson reported on personal arm-twisting visits to network presidents. They were "very much afraid of us and are trying hard to prove they are 'good guys.'" He proposed a campaign to raise public doubts about the objectivity of the media by such ploys as planting a column with a friendly syndicated writer, finding a journalism school dean willing to state publicly that "press objectivity is a serious problem," and asking the chairman of the FCC to issue a ruling reducing the opportunities for free discussion (Naughton, 1973).

Presidential requests for time Excessive deference to presidential requests for time seemed to be an outgrowth both of television's demand for visible news and of the rise of what has been called the "imperial presidency." Nothing in law requires networks to turn over their facilities to the president. It is done out of courtesy, respect for the office, and simply because whatever a president says is treated as news even though it may not be intrinsically newsworthy.

As recently as 1961, President Kennedy had asked for an 8:00 P.M. period on a Saturday night but ended up with 10:00 P.M. "Not until the presidency of Lyndon Johnson, who had close personal ties with [CBS President] Frank Stanton, did it become automatic that the nation's Chief Executive would receive television time of his own choosing for his own purposes" (Mayer, 1972: 90).

Signs of a reverse trend began setting in during the last days of Nixon's regime. When the president's personal lawyer called a news conference at 7:30 P.M. in July 1974 — timed to preempt the prime-time access period — NBC turned down the request for live coverage. The next night CBS declined to give live coverage to the lawyer's response to a Supreme Court decision directing the president to turn over White House tapes to the Watergate prosecutor. A television critic hailed these modest declarations of independence, saying that their "importance for TV journalism can hardly be exaggerated" (O'Connor, 26 July 1974). President Ford, on ascending to the office, found the networks rather less compliant than they had been toward his predecessor; he in turn avoided the appearance of Caesarism in making his requests for time.

Congressional ambivalence The fairness doctrine should, theoretically, be a corrective to the overrepresentation of the executive's point of view in broadcasting. Throughout the Nixon administration Congress and the opposing political parties attempted to invoke the doctrine to get time to reply to presidential broadcasts. These maneuvers, which were only partially successful, are detailed in a study commissioned by the Twentieth Century Fund, *Presidential Television* (Minow, Martin, & Mitchell, 1973), previously alluded to in §20.8. To help restore the intended balance among the three branches of government, the fund recommended, among other things, that Congress allow its sessions to be broadcast. And in a subsequent report, the fund offered specific recommendations on how to implement this suggestion (Twentieth Century Fund, 1974).

Congress, however, has had an ambivalent attitude toward broadcasting. It took care to assure its individual members equal access to broadcasting by means of §315 of the communications act (§20.5). It also took care to avail itself of this access right by means of an elaborate, semisecret radio and television studio facility in the capitol building that is available only to members of Congress (Sweeney, 1974). Here senators and representatives record "news"

items, interviews, and reports to constituents for their home-state outlets. Members of Congress bring their own tape or film, which they can obtain at a discount and charge to their stationery allowances (*Broadcasting*, 10 June 1974).

Broadcast of congressional hearings Congress has not shown the same eagerness toward the idea of broadcasters entering their hallowed precincts to cover the U.S. legislative branch in action. Although denying access to the legislative chambers themselves, Congress has allowed broadcasters to cover committee meetings, subject to many restrictions. Notable among the restrictions is the barring of broadcasting from business sessions — the ones where the real work gets done.

Committee hearings have nevertheless provided moments of high drama in broadcasting, extending from those on organized crime in 1951 through the army-McCarthy hearings in 1954 to the Watergate investigative hearings and the House Judiciary Committee impeachment hearings in 1973 and 1974. The McCarthy hearings were undoubtedly the high point prior to Watergate. They dealt with a dispute between Senator Joseph McCarthy and the army, but the original subject soon receded into the background. The hearings, which ran on for a month, turned into a public dissection of McCarthy's unscrupulous methods of debate and character assassination (see §10.8 regarding an earlier exposé).

The hearings of the historic Senate Select Committee on Presidential Campaign Activities, popularly called the Watergate committee, and the impeachment hearings have already been mentioned (§24.3). The commercial networks alternated in carrying these hearings after the first few days. PBS supplemented their daytime coverage with nightly taped replays that made the hearings available to those unable to watch during the daytime. In some cities these replays broke all audience records for public affairs programs. As a side effect, the Watergate episode thus dramatized the immense value of the flexibility of public radio and television in enabling coverage of long-drawn-out events of such public importance.¹¹

Proposals to broadcast Congress in session The success of the impeachment hearings showed both that members of Congress could behave responsibly in front of the cameras and that such coverage could have unique value in helping to restore the balance of power within the government. A bill to authorize the broadcasting of the proceedings of both houses had been offered as long ago as 1941, and over 30 such bills and resolutions were offered in the next 30 years (listed in *Library of Congress*, 1974: 71). By 1975 passage of a successful bill seemed imminent.

¹¹ In the 1971–1972 season, National Public Radio carried 24 different congressional hearings, varying in length from an hour to over 20 hours (*Library of Congress*, 1974: 81).

How would congressional television work? The Twentieth Century Fund recommended that Congress (1) allow broadcasting of all public legislative sessions; (2) appoint CPB to coordinate the coverage, if it so wishes; (3) set up a congressional television advisory committee whose membership would be composed of representatives from the press galleries, CPB, commercial networks, independent stations, and the general public; (4) authorize CPB to charge fees for the use of its coverage by other broadcasters, with Congress defraying any cost in excess of fees collected (1974).

In the early days of the Constitution, the founders assumed that members of Congress, who were constantly in contact with their constituents, would be in a better position to generate public support than a president isolated at the capitol (Twentieth Century Fund, 1974: 59). Air Force One and “presidential television” reversed that relationship, contributing to the bloating of the executive branch and the atmosphere of monarchism in the White House. Possibly broadcasting, judiciously redeployed, could help halt that trend and restore a more even balance to the federal government.

24.10 Effects on high culture

As we have repeatedly had occasion to point out, the social role of news and public affairs programming gets the most attention from serious commentators, whereas entertainment programming gets the most attention from the general public. Serious commentators who have addressed themselves to the cultural rather than political effects of broadcasting have not been wanting, but their orientation has generally differed from that of the behavioral scientists. Whereas the latter have used empirical methods, the former have leaned more on the critical methods of history, literature, and the arts.

Their point of view tends to revolve around a concept of the kind of “mass society” that has developed as a result of contemporary socioeconomic conditions. Mass society spawned mass culture, which differs significantly from both the high culture and the folk culture of the past.

In the mass society, class differences and fixed status positions disintegrated, undermining aristocratic, elitist standards. Social and physical mobility of the masses shattered settled patterns. The masses lost the feelings of identity and stability that go with strong family ties, a sense of place, and participation in tradition. Restless and dissatisfied, they suffer from a kind of rootlessness often called *anomie*. The mass media cater to this undisciplined mass society, with appalling effects on both the higher arts and the consumers of the media.

The entertainment industry is confronted with gargantuan appetites, and since its wares disappear in consumption, it must constantly offer new commodities. In this predicament, those who produce for the mass media ransack the entire range of past and present culture in the hope of finding suitable material. This material,

however, cannot be offered as it is; it must be prepared and altered in order to become entertaining; it cannot be consumed as it is. (Arendt, 1964: 48)

The process of adaptation for use by the mass media inevitably debases high culture without producing anything worthwhile in its place. MacDonald, a leading spokesman for the elitist viewpoint, describes the process in these terms:

Mass Culture is a dynamic, revolutionary force, breaking down the old barriers of class, tradition, taste, and dissolving all cultural distinctions. It mixes and scrambles everything together, producing what might be called homogenized culture. . . . It thus destroys all values, since value judgments imply discrimination. . . .

There are theoretical reasons why Mass Culture is not and can never be any good. I take it as axiomatic that culture can only be produced by and for human beings. But in so far as people are organized (more strictly, disorganized) as masses, they lose their human identity and quality. (1953: 5, 13)

The concept of “homogenization” is a leading theme in the criticism of mass culture. Rather than allowing the cream to come to the top and float in a stratum above the milk below, homogenization destroys all stratification, dispersing the cream indiscriminately throughout all levels of culture.

Historically, the upper social classes have always regarded the amusements of the lower classes with either condescension or disgust. Gutenberg’s contemporaries deplored printing as a vulgar and debasing substitute for fine calligraphy — just as some traditionalists objected to putting the Metropolitan Opera on the radio in the 1920s. Concern about the cultural effects of popular art grew when authorship emerged as an independent, autonomous profession in the eighteenth century. At that time, a commercial book market among middle-class readers came into being. Previously, writers had depended on subsidies from patrons (Lowenthal, 1964).

Broadcasting introduced a unique new element: never before had the whole people of countries been showered with such deferential attention as the mass media provide. Popularization of the arts on an unprecedented scale created the need for a new framework of evaluation. It makes little sense to apply the traditional yardsticks to the new media. Bryson made the point even before television reached its peak:

Critics who were trained to talk about pictures in frames, and books in private libraries or in school classrooms, and music made by visible and present musicians, trained to describe situations which still exist and are more than ever important but which have little to do with mass communications, have done the arts great disservice by chatter about what they call popular arts without knowing in any precise way what they are talking about. (1952: 134)

Such critics condemn broadcasting as a whole rather than selecting for appraisal those items of content that merit critical attention. Book reviewers never make such sweeping judgments about “print” or art critics about “paint.” We

cannot reasonably expect to be able to turn on the radio or television set at any time, night or day, and immediately find a program suited to our particular taste.¹² No more would one expect to be satisfied with the first book that came to hand on the shelf in a bookstore or library. "The new art is carelessly judged as a whole; the old arts are carefully judged by only parts of their performance good enough to demand judgment" (Bryson, 1952: 135).

Behind at least some cultural criticism of the mass media and resentment of their profane encroachments on the arts seems to lurk a political and moral judgment: it is morally wrong for people to waste their time with the trashy output of mass media when they could be doing something more beneficial and constructive. As Paul Lazarsfeld put it, social reformers "fought for several generations to give people three more hours of free time each day. Now that their old battle is won, they find that people spend this time listening . . . to radio programs" (Lazarsfeld & Kendall, 1948: 85).

The work of Marshall McLuhan is a contemporary outgrowth from the cultural criticism tradition. Although McLuhan at first deplored the popular arts in the usual vein of cultural critics, he later arrived at a unique new way of denigrating them indirectly. McLuhan simply rejected the entire content of the mass media as irrelevant by invoking the formula "the medium is the message." He did not mean by this that the media no longer have effects. Quite the contrary, he ascribed to them more profound and far-reaching effects than any communications scholar before had dared to suggest — nothing less than the transformation of man.

McLuhan also reversed conventional cultural criticism by declaring that the effects of media are good after all. Here was a certified intellectual who instead of berating the popular media for homogenizing and debasing culture, lavished praise upon them. "This vision of a salutary effect of television — while other people are worrying about the effects of its materialistic and violent content — was more than anything else responsible for McLuhan's vogue" (Schramm, 1973: 129).

It is a vogue that has faded along with much else that was exciting and iconoclastic in the ebullient 1960s. A superb phrasemaker, McLuhan has bequeathed some fascinating sayings to the discussion about media effects. He functioned as "a kind of Dr. Spock of pop culture" (*Newsweek*, 1967: 41), encouraging a generation of college students to substitute McLuhanisms for methodical reasoning and to act on the belief that they no longer need master the art of composing messages since the media would somehow compose messages for them.

McLuhan's more useful and lasting achievement may have been to stimulate scholarly thinking about the effects of the media on the "cognitive structure,"

¹² Note, however, that one of the more ambitious dreams for cable television is an access system that would enable subscribers to call up at will any desired item from a library of materials.

that is, what goes on inside the black box of the human being. Currently, a school of cognitively oriented media scholars are trying to develop ways of studying these structural effects, so colorfully proclaimed by McLuhan.

24.11 Gratification effects

McLuhan's undoubted genius at compressing a large set of ideas into a single, highly suggestive shorthand phrase gives us the key, perhaps, to the last type of effect we will consider — the personal psychological gratifications that the individual derives from broadcasting. A number of indicators suggest that large segments of the audience watch not programs but television. For them the medium is indeed the message.

Traditional research looked at this phenomenon in the negative terms of “escapism” and “passivity” (§23.6). A recent reexamination of the research literature on the escape concept points out that “direct tests of the predominance of escapist concerns in the audience have not yet been devised. . . . The danger is that an uncritical acceptance of the escapist thesis will go hand-in-hand with a simplistic view of the relations between the audience and media content and an underestimation of the diversity and complexity of motives that may sustain the mass audience” (McQuail, Blumler, & Brown, 1972: 141).

One cannot help feeling that any activity that takes up such a large part of a nation's time must have profound effects. At the very least, time spent watching television could be spent in some other way — perhaps more constructively or usefully. Some commentators beg this question by assuming that any activity would be better than watching television. It has never been established that most people actually watch television in place of some more “useful” activity. Viewers tend to do essential things more efficiently and thus, in a sense, to create more available time.

Perhaps, too, time itself in this connection should be measured in psychological rather than physical terms. Subjectively, time is relative — sometimes it drags, sometimes it passes all too fast. Each hour of sidereal time has exactly the same value; not so each hour of human experience. Possibly, the massive number of hours devoted to television has far less significance in psychological terms than its sheer numerical magnitude suggests.

Nor does it seem altogether justifiable to assume that time spent watching television has value only if the programs watched uplift, educate, or inform. Perhaps it has less conventional personal values for many viewers, for television apparently “succeeds” everywhere and with everything. Program content seems of secondary importance as long as something fills the screen.

The entertainment that is television is not simply an accretion of entertainment programs; it is the television set and the watching experience that entertains. Viewers seem to be entertained by the glow and the flow. . . . Television succeeds “because it is there.” (Meyersohn, 1957: 347)

According to this “glow and flow” concept, the act of watching television answers some kind of human need more general than the conscious desire to see particular programs. For media addicts, “watching and listening have become rewarding activities in their own right regardless of what is seen and heard” (Abrams, 1968: 84).

Could it be that this apparent transcendental need is for some people no more profound than a compelling need to kill time, to fill an unendurable void? Steiner, in attempting to analyze the satisfactions people get from watching television, gathered such insights as this:

I'm an old man and all alone, and the TV brings people and music and talk into my life. Maybe without TV I would be ready to die; but this TV gives me life. It gives me what to look forward to — that tomorrow, if I live, I'll watch this and that program. (1963: 26)

More generally, Steiner's analysis elicited the suggestion that people may feel more satisfied with television than with television programs. In answer to a question about what invention of the past 25 years has “done the most to make your life more enjoyable, pleasant, or interesting,” over 60 percent of the sample named television. But when asked which of five specified products or services they were “the most satisfied with,” only 28 percent of the men and 42 percent of the women named television programs (Steiner, 1963: 22, 28). Respondents betrayed a somewhat similar ambivalence in responding to projective tests designed to probe their subjective feelings about the time they spent watching television: “A large number of respondents . . . were ready to say television is both relaxing *and* a waste of time” (Steiner, 1963: 411). Bower's replication a decade later did not disturb Steiner's findings (1973: 61).

The glow-and-flow function of television undoubtedly satisfies a genuine therapeutic need for some people. We are told television is used “in every hospital and in every institution as an extremely effective nonchemical sedative” (Glynn, 1968: 79). In fact, as a psychiatrist views it, television satisfies special needs

centering around the wish for someone to care, to nurse, to give comfort and solace. . . . These infantile longings [in adults] can be satisfied only symbolically, and how readily the television set fills in. Warmth, sound, constancy, availability, a steady giving without ever a demand for return, the encouragement to complete passive surrender and envelopment — all this and active fantasy besides. Watching these adults, one is deeply impressed by their acting out with the television set of their unconscious longings to be infants in mother's lap. (Glynn, 1968: 77)

Barnouw extends the concept of therapeutic need gratification to the population as a whole, hypothesizing widespread feelings of repression and insecurity. He believes the act of participating in media consumption relieves these feelings. He sees the media functioning as “a vast extension of the adjustment mechanism within us. Wide success [of programs], far from being explainable

in terms of superficiality, must be explained in opposite terms. Deep emotions are involved" (1956: 69).

A most intriguing need-gratification analysis comes from Gerhart Wiebe, who feels that only by hypothesizing that the media have some "positive psychological utility" can one explain the immense popularity of low-quality programming (1970). Wiebe's theory rests on a fairly elaborate set of assumptions about the process of socialization (§24.5). In brief, the media help satisfy needs that arise because of the frustrations of the socialization experience. Some psychologists think socialization requires the individual ego to make a slower and more traumatic series of adjustments than was formerly supposed. The child starts life as a complete egocentric, with no concept of the "other." He is the sole occupant of his own world. Gradually, he learns such behaviors as sharing, empathy, and service. Recognition of the "other's" existence requires such learning.

But adopting these socialized behaviors requires the repression of native egocentric impulses, which sets up tension within the individual. The media answer a need for relief from this tension. They "provide the sense of experience without the accommodation required in true participation." They enable a special kind of inner relaxation, an "opportunity to enjoy the early pattern of taking without deference to the reciprocal needs of the giver" (1970: 527).

The second part of Wiebe's hypothesis concerns another aspect of resistance to socialization. In response to the "series of defeats and compromises" that socialization imposes, children "retreat and restore themselves somewhat through secret retaliation against authority figures." Now the media myth world, into which adults as well as children escape, offers just the kind of retaliative fantasies needed to offset the "strain of adapting, the weariness of conforming." These retaliations include "crime, violence, disrespect for authority, sudden and unearned wealth, sexual indiscretion, freedom from social restraints" (1970: 532). Note the echo of the catharsis theory here (§24.6).

We can also recognize here an echo of Stephenson's play theory (§23.6). The play of radio listening or television watching lets us have "opportunities to exist for ourselves, to please ourselves, free to a degree from social control" (Stephenson, 1967: 2). "One is a free man in front of a television set," says Stephenson, "to a degree not achieved before by man in his long history" (1967: 35).

24.12 Conclusion

The welter of speculations, theories, contentions, and contradictory conclusions about broadcasting effects indicates a need for some principle of delimitation. To fulfill all the roles ascribed to it, broadcasting would have to be all things to all men — father, mother, lover, big brother, babysitter, teacher, friend, salesman, philosopher, healer, critic, seer, entertainer, social worker,

statesman, psychiatrist, and nurse. What can be reasonably expected of broadcasting? What lies beyond its scope and responsibility?

Answering these questions seems to require first an acceptance that the medium works within boundaries implied by its own nature. Each method of communication has its characteristic limitations — “one cannot whistle an algebraic formula” (Oates, 1948: 28). Of course you can whistle an algebraic formula and make yourself understood if you and at least one other person agree on a set of whistled symbols; the point is that the medium of whistling is ill-adapted to this purpose. Some of the disillusionments about broadcasting result from efforts at algebraic whistling.

The physical nature of the medium imposes a universal need to regulate such details as frequency, power, location, types of emission and equipment, and times of operation. This need for regulation compels limitations not shared by other media. The American conception of the sociopolitical role of public communication, as implied by the First Amendment, in turn limits such regulation in characteristic ways. The fact that the frequency spectrum forms part of the country's natural resources governs the types of exploitation acceptable in each country. The fact that audience investment in receivers exceeds the broadcasters' investment in transmitters says something about relative economic rights in the medium. The fact that syndication is the most workable solution to the economic problem of high production costs restricts programming essentially to types amenable to syndication. The fact of its being a home-consumption medium places inhibitions on permissible broadcasting content different from the inhibitions placed on other media.

These are only a few examples of the characteristic features of the medium that the conscientious critic must consider. In tracing the events and describing the factors that have contributed to making broadcasting in America “the way it is,” we have sought at each stage of the exposition to emphasize these unique characteristics of the medium — not only because they help explain its present condition but also because they will help determine what broadcasting in America can become.

Further Reading

A SELECTIVE GUIDE TO THE LITERATURE OF BROADCASTING

Christopher H. Sterling

This guide generally follows the chapter and section headings of the text and includes brief annotations for further reading on nearly all aspects of American broadcasting. The literature is vast and rapidly growing, and space allows for only a representative selection. Included here are the most significant book-length publications on each major topic covered in the text, based on library availability and current relevance; the cutoff date for inclusion is mid-1975.

Although many of the publications mentioned here are also cited in the text, this guide represents an independent assessment of each item. For full details on publication dates, publishers, and so on, refer to the citations list, which includes periodicals and books mentioned both here and in the text.

CHAPTER 1 PROLOGUE: BROADCASTING IN AMERICA — AND THE WORLD

1.1 Global context

Up-to-date information on world broadcasting systems and stations comes from two sources, both revised annually: Unesco's *Statistical Yearbook* and J. M. Frost (ed.), *World Radio-TV Handbook*. Both come from abroad and consist of data rather than analysis. The only detailed text treatment of broadcasting on a worldwide basis is Walter Emery's *National and International Systems of Broadcasting*. It covers the European countries well but is highly selective in its coverage of the rest of the world. An historical review of telecommunication around the world is Colin Cherry's *World Communication: Threat or Promise?* It points out many contrasts among developed and developing nations and shows how improved communication technology can help both. The following

works explore the technical and regulatory framework of broadcasting around the world: Dallas Smythe, *Structure and Policy of Electronic Communications*, the best brief review, although somewhat dated; the International Telecommunication Union's *From Semaphore to Satellite*, an illustrated overview of ITU's first century; George Coddington's *The International Telecommunication Union*, the standard history and analysis of the ITU to 1950, updated in David Leive's *International Telecommunications and International Law*. For current information on the technology and politics of satellite communication, see COMSAT's annual *Report to the President and Congress*. A fine overview of satellite developments is found in Jonathan Galloway's *The Politics and Technology of Satellite Communications*. Most of the works mentioned offer information and guidance on further readings.

1.2 National systems

Aside from the first three items noted in 1.1, the best general source of information on individual broadcasting systems is Unesco's *World Communications*, which appeared in revised form in 1975. It deals briefly with each country of the world, giving key statistics and a paragraph or so of information on each. A useful analysis concentrating on organizational structure and using European examples is Albert Namurois's *Structures and Organization of Broadcasting in the Framework of Radiocommunications*, which offers information on control and finance in different kinds of broadcasting systems. Few books deal with specific regions of the world, but three that are sufficiently current and well-documented are Burton Paulu's *Radio and Television Broadcasting on the European Continent* and *Radio and Television Broadcasting in Eastern Europe* and Sydney Head's *Broadcasting in Africa*. Probably the best starting point for studying the media's role in developing countries is Wilbur Schramm's classic *Mass Media and National Development*. A useful and detailed annotated bibliography of developmental communication is Jean-Marie Van Bol and A. Fakhfakh, *The Use of Mass Media in the Developing Countries*. Two books discuss the development and role of television specifically in various countries around the world: Wilson Dizard's *Television: A World View* and Timothy Green's *The Universal Eye: The World of Television*, more recent and less formal than the Dizard work. Finally, an excellent combination of analysis and theory of broadcasting control can be found in Alfred Smith's *The Shadow in the Cave*, which compares U.S. broadcasting with that of Britain, France, Holland, and Japan.

1.3 Authoritarianism

The best current treatments of Soviet media are Mark Hopkins, *Mass Media in the Soviet Union*, and Gayle Hollander, *Soviet Political Indoctrination*. Paulu's more recent book mentioned under 1.2 deals with broadcasting only but covers

eight satellite countries as well as the USSR. Less is available on the People's Republic of China, but the best book to date is Alan Liu's *Communications and National Integration in Communist China*, which devotes a chapter to each medium. For an analysis of early communist theory about broadcasting's role in the communist revolution, see Thomas Guback and Steven Hill, "The Beginnings of Soviet Broadcasting and the Role of V. I. Lenin."

1.4 Paternalism

The definitive history of the BBC, and probably the best history of broadcasting anywhere, is the multivolume *History of Broadcasting in the United Kingdom* by Asa Briggs. The best sources on commercial broadcasting in Britain are H. Wilson's *Pressure Group: The Campaign for Commercial Television* and Great Britain's Select Committee on Nationalized Industries' *Second Report: Independent Broadcasting Authority*. The Independent Broadcasting Authority issues an annual *Guide to Independent Television*, and the BBC has published its excellent annual *BBC Handbook* since 1928.

1.6 Trend toward pluralism

Much good material is available on Canadian broadcasting, starting with the Canadian Radio-Television Commission's *Annual Reports*. Canada's Committee on Broadcasting has issued two valuable reports. *Instant World: A Report on Telecommunications in Canada*, issued by the Telecommission, includes discussion of wire communication as well as broadcasting. Canada's Special Senate Committee on Mass Media issued a report critical of broadcasting and other media in Canada. For a fascinating review of early pirate stations, see Paul Harris, *When Pirates Ruled the Waves*.

1.7 U.S. influences abroad

The standard studies of the United States Information Agency and the VOA are Robert Elder, *The Information Machine*, and John Henderson, *The United States Information Agency*. The former focuses on policy making within USIA, while the latter deals more with the history of the agency and its organization. A popular history by a man who was there is *The Word War*, by Thomas Sorensen, who deals with the USIA during the 1960s, under Murrow and Marks. Maury Lisann looks at this activity from the receiving side in *The Impact of Foreign Broadcasting in the USSR*, which focuses on the period of the 1960s, when the Soviets ceased jamming and VOA and other American radio services began to get through the iron curtain. Herbert Schiller's *Mass Communication and American Empire* is a critical analysis in which he suggests that the media form a part of the U.S. military-industrial complex that seeks expansion of American economic and cultural dominance.

CHAPTER 2 NATURE OF RADIO ENERGY

2.1–2.4 Wave concepts

For a general discussion of sound modulation, see A. Beck, *Words and Waves: An Introduction to Electrical Communication*, which provides historical background and is well illustrated. John Pierce has written an introductory book on magnetism, waves, and signals, *Electrons and Waves: An Introduction to the Science of Electronics and Communication*. Often revised and widely available is Monroe Upton's *Electronics for Everyone*, which explains the development of many of the concepts discussed in these sections.

2.5–2.7 The spectrum

An increasing number of publications reflect aroused concern about the use and management of the spectrum. Harvey Levin's definitive study *The Invisible Resource: Use and Regulation of the Radio Spectrum* deals equally with technical, economic, and political issues involved in allocation. The Office of Telecommunications Policy frequently updates *The Radio Frequency Spectrum: United States Use and Management*, which discusses current policy issues, government spectrum uses, and key problem areas. Two volumes by the IRE/RTMA Joint Technical Advisory Committee are valuable: *Radio Spectrum Conservation*, the less technical of the two, deals with the variety of spectrum uses; *Radio Spectrum Utilization* offers a more technical sequel. The President's Communications Policy Board's pioneering study on spectrum allocation policy questions, *Telecommunications: A Program for Progress*, suggested many guiding policies of importance today.

CHAPTER 3 BROADCASTING CHANNELS

Ronald Brown's *Telecommunications* is a well-illustrated overview of all types of electrical communications and is written in nontechnical style; James Martin, in *Future Developments in Telecommunications*, discusses combinations of telecommunications, computers, and miniaturization that will lead to major innovations by the turn of the century. He deals equally with broadcast and nonbroadcast modes, using many helpful illustrations. Monroe Upton's *Inside Electronics: The How and Why of Radio, TV, Stereo and Hi-Fi* describes itself.

3.3 Frequency modulation broadcasting

Lawrence Lessing's *Man of High Fidelity: Edwin Howard Armstrong* is a history of fm development and includes a good discussion of the operating characteristics of fm in nontechnical language. The standard technical work is Milton Kiver, *FM Simplified*.

3.4 Short-wave broadcasting

Aside from the handbook mentioned under 1.1, Richard Wood's *Shortwave Voices of the World* and Hank Bennett's *The Complete Short Wave Listener's Handbook* offer full details on the hows, whens, and wheres of SW listening. Clinton De Soto covers the early development of U.S. amateur radio in *Two Hundred Meters and Down*, as does the American Radio Relay League's *Fifty Years of the A.R.R.L.* The standard, annually revised source book for radio hams is the league's *The Radio Amateur's Handbook*.

3.5–3.9 Television

A good clear description of the technical aspects of television can be found in *The Physics of Television* by Donald Fink and David Lutyens, which deals with all aspects of picture processing and transmission. Milton Kiver revises his *Television Simplified* every few years, and it should probably be regarded as the basic work on current technology. Raymond Spottiswoode has compiled a massive reference work on equipment and production in *The Focal Encyclopedia of Film and Television Techniques*. A recent and clearly illustrated guide is Ken Marsh's *Independent Video: A Complete Guide to the Physics, Operation, and Application of the New Television . . .*, which includes basic electronics and all aspects of television transmission, reception, and equipment. Offering more text and a stress on production methods is Richard Robinson's *The Video Primer: Equipment, Production and Concepts*. For works on the history of television development, see 10.1.

3.10 Nonbroadcast video systems

The best up-to-date source on facsimile communication is Daniel M. Costigan's *Fax: The Principles and Practice of Facsimile Communication*, which deals with all aspects of the topic in a well-illustrated, semitechnical fashion. For a fascinating discussion of the communication potential of holography, see David Dudley, *Holography: A Survey*.

CHAPTER 4 STORAGE, DELIVERY, AND DISTRIBUTION SYSTEMS

A fine overview of topics treated in this chapter is found in Rudy Bretz, *A Taxonomy of Communication Media*, which discusses many interrelated technologies and their applications. For an illustrated introduction, see titles discussed under chapter 3.

4.2 Sound Recording

Two books offer somewhat overlapping histories of the phonograph industry. The first, Roland Gelatt's *The Fabulous Phonograph*, is a highly readable popular review that stresses the impact of the invention on music. The other,

Oliver Read and Walter Welsh's *From Tin Foil to Stereo*, is usually considered the definitive technical history of sound recording methods on cylinders and discs and has many illustrations and references. A good up-to-date analysis of modern recording on both disc and tape is found in Charles Lowman's *Magnetic Recording*, which includes a history of tape recording methods.

4.3 Picture recording

There is a vast library on film technology. Of great value is the Spottiswoode encyclopedia mentioned under 3.5. It deals with equipment and techniques for all types of picture recording and transmission, with clear diagrams supplementing the text. For television recording specifically, the definitive historical review is found in two journal articles by Albert Abramson, "A Short History of Television Recording." His treatment is highly condensed, well illustrated, and fully documented. Eli Levitan provides a pictorial guide to video methods and developments in *An Alphabetical Guide to Motion Picture, Television, and Videotape Production*.

4.5 Space relays

For a free packet of the latest information on communication satellites, write to Communications Satellite Corporation, 950 L'Enfant Plaza, S.W., Washington, D.C. 20024, asking for their *Annual Report to the President and the Congress* and other pamphlets. For the technical background of space communications, see Orrin E. Dunlap, Jr., *Communications in Space*. In *Beyond Babel: New Directions in Communications*, Brenda Maddox discusses satellite technology and its impact. See also the last few titles noted under 1.1.

4.6 Hybrid configurations

The most recent roundup of information on pay television is Ira Kamen's *Questions and Answers about Pay TV*, which offers illustrated descriptions of the several systems under consideration.

4.7 Community antenna (cable) television

Of specific technical interest is Carl Pilnick and Walter S. Baer, *Cable Television: A Guide to the Technology*. The Cable Television Information Center, 2100 M St., N.W., Washington, D.C. 20037 offers a listing of publications on the technical aspects of cable television systems and their interconnection. See also notes under chapter 11.

4.8 Cable use of emergent technology

See James Martin's book on future developments (chapter 3) for the best and most detailed analysis of where technology is likely to go in the next several decades. An excellent collection of papers on forthcoming as well as current

technology and its likely effect on society is edited by George Gerbner et al., *Communications Technology and Social Policy: Understanding the "Cultural Revolution."* It includes discussion of most items raised in chapters 2, 3, and 4 of the text.

CHAPTER 5 PRECONDITIONS: THE STAGE IS SET

5.1 Meaning of "mass"

In the last decade, the list of volumes exploring "mass" communications has grown dramatically. The following suggest the variety of approaches available. A good, broad introduction to mass communications as both concept and fact is Wilbur Schramm's *Men, Messages, and Media: A Look at Human Communication*. Another almost as useful is William Rivers et al., *The Mass Media and Modern Society*. Melvin De Fleur's *Theories of Mass Communication* offers a combination of basic media theory and useful historical overviews of press, film, and broadcasting. Marshall McLuhan's *Understanding Media: The Extensions of Man* combines in one important (but admittedly difficult to read) package both the history and concept of mass. It is the single most important book by the most important communications guru of the past decade. Alan Gowans's *The Unchanging Arts: New Forms for the Traditional Functions of Art in Society* deals with the aesthetic impact of the arts on mass media and their audiences. A well-written analysis of the role of communication in the development of social and cultural life is Russell Nye's *The Unembarrassed Muse: The Popular Arts in America*. A more journalistically oriented history is John Tebbel's *The Media in America*.

5.2 Mass-appeal newspapers

For illustrated and detailed histories of the press, see either Edwin Emery's *The Press and America* or Frank Luther Mott's *American Journalism*. A pair of short overviews of the magazine medium are James P. Wood's *Magazines in the United States* and John Tebbel's *The American Magazine: A Compact History*. All four books have extensive bibliographies that suggest many other works on various facets of print media history.

5.3 Wire communication

A good detailed historical overview of electrical communications (including telegraph, telephone, and radio) is Alvin Harlow's *Old Wires and New Waves*. Briefer and more recent coverage of early telegraph and telephone history is available in E. A. Marland's *Early Electrical Communication*. Robert Luther Thompson's *Wiring a Continent: The History of the Telegraph Industry in the United States, 1832–66* includes a full description of Morse's initial developments. The technical story of the telephone in its early years is best told by Robert V. Bruce in *Bell: Alexander Graham Bell and the Conquest of Solitude*,

the definitive biography of the famed inventor; and by Frederick Leland Rhodes in *Beginnings of Telephony*, which traces the technical development of the device to the early 1900s and includes illustrations and documentation. A concise review of the history of submarine cables is found in Arthur C. Clarke's *Voice Across the Sea: The Story of Deep Sea Cable-Laying 1858–1958*, which discusses both technology and social impact.

5.4 News syndication

Not new, perhaps, but still valuable is Victor Rosewater's *History of Cooperative News-Gathering in the United States*. It traces in some detail all the various news services and the technical developments in electrical communication that made them possible. There are many histories of the world's past and present press associations as well as biographies of most of their top people. An objective overview is Unesco's *News Agencies: Their Structure and Operation*. For current information, see *World Communication* (1.2).

5.5 Patents

Certainly the premier study of the role of patents in electrical communication is W. Rupert Maclaurin's *Invention and Innovation in the Radio Industry*. Although focusing on radio developments, it also deals to some degree with the background of patents in the electrical industry in the nineteenth century. A highly negative view of what patent control can do is found in N. R. Danielian, *AT&T: The Story of Industrial Conquest*, a study of the telephone industry, and in Frank Waldrop and Joseph Borkin, *Television: A Struggle for Power*, an indictment of big-company attempts to corner the potential video market in the late 1930s. See also the detailed study by the FTC, *Report on The Radio Industry*, for the role of patents in the formation of RCA and the initial years of radio.

5.6 American Telephone and Telegraph Company

See the annotations under 5.3 and also two greatly conflicting approaches to the role of AT&T: Danielian's *AT&T* (5.5), a slashing attack on the Bell System by a former government investigator, and Arthur Page's *The Bell Telephone System*, written specifically as an answer to Danielian from the AT&T point of view. See also the lengthy report by the FCC, *Investigation of the Telephone Industry in the United States*. For more recent discussions of the problems involved in regulation of Bell and other telephone interests, see Manley R. Irwin's scholarly study, *The Telecommunications Industry: Integration vs. Competition*, which, despite its broad title, focuses on the telephone; see also *Monopoly*, an attack by Joseph Goulden that analyzes the darker side of AT&T in the recent past.

5.7 General Electric and Westinghouse

Most major electrical companies have published official histories, such as John Hammond's *Men and Volts* on the rise of GE. For an annotated guide to many of these, plus a great number of additional references for chapters 3, 4, 5, and 6 of the text, see George Shiers, *Bibliography of the History of Electronics*.

CHAPTER 6 WIRELESS

6.1–6.2 Marconi

The most recent biography of the inventor, W. P. Jolly's *Marconi*, can be supplemented by an earlier view, Orrin Dunlap's *Marconi: The Man and His Wireless*, and by Degna Marconi's *My Father, Marconi*, a less technical study. None of these is the definitive study the subject deserves, but they are adequate. An excellent company history is W. J. Baker's *A History of the Marconi Company*, a balanced though undocumented account written with the full cooperation of the firm. For a good, technically detailed, contemporary analysis of the first decade of wireless development that stresses the work of Marconi and his associates, see John Fleming's *The Principles of Electric Wave Telegraphy*. Finally, for the history of wireless up to and including early Marconi work, refer to J. J. Fahie's *A History of Wireless Telegraphy*, perhaps the best source for all pre-1900 theorizing and experimentation.

6.3 Early wireless telegraphy services

Because of the predominant role of the U.S. Navy, one of the best single sources on U.S. wireless developments in the 1900–1914 era is L. S. Howeth's *History of Communications—Electronics in the United States Navy*. It deals with non-military events and international regulation as well as with the cover topic, depending heavily on primary source materials. For the role of the amateurs, see the citations under 3.4. For the role of shipboard radio, two good sources are Harry Hancock's *Wireless at Sea: The First 50 Years*, a Marconi Company history of technical developments and the changes wrought in seafaring by radio, and the popular history by Karl Baarslag, *SOS to the Rescue*, which concentrates on the role of wireless in maritime disasters. The most famous of those, the 1912 loss of the *Titanic*, is covered in many books, but perhaps the best description of radio apparatus and its application that night in the Atlantic is found in Geoffrey Marcus's *The Maiden Voyage*.

6.4 Invention of the audion

Although hard to take in spots because of its lack of modesty (just look at the title), Lee de Forest's autobiography *Father of Radio* is a firsthand account of the audion's invention and development. The other side of the story is given in

Lessing's biography of Armstrong (3.3) and Maclaurin's book on invention and innovation (5.5).

6.5–6.7 Other inventions and developments

The best overall analysis of this period is found in Maclaurin (see 5.5). Concentrating more on inventions and men is Donald McNicol's *Radio's Conquest of Space*. George Blake's *History of Radio Telegraphy and Telephony* gives the most details — it is more a chronologically arranged annotated list of events and inventions than a true history, but it is a prime source for patent information. For discussions of the lives of other inventors and their work, see Orrin Dunlap's *Radio's 100 Men of Science*, which offers capsule biographies; Helen Fessenden's *Fessenden: Builder of Tomorrow*, a good overview of the inventor's life written by his wife; and Lessing's book on Armstrong (see 3.3).

6.8 Developments during World War I

For coverage of the navy's use of radio, Howeth is unexcelled (see 6.3). The second part of Paul Schubert's *The Electric Word: The Rise of Radio* gives a popular account of radio at war on land and at sea. The best analysis of military uses of radio during the war is the U.S. Army's Chief Signal Officer's report of 1919.

CHAPTER 7 EMERGENCE OF BROADCASTING

Delightful, fascinating reading and fine social history as well is Erik Barnouw's *A Tower in Babel: A History of Broadcasting in the United States to 1933*, the single most useful additional reading to this chapter. Considerably more ponderous and not so well organized — but important for its contemporary feel and detail — is the pair of volumes by Gleason L. Archer, *History of Radio to 1926* and *Big Business and Radio*. Both are taken largely from the official files of NBC and show an understandable bias. Martin Codel's collection of original articles, *Radio and Its Future*, analyzes other uses of radio as well as broadcasting, including the problems of regulation. Popular descriptions of how the public viewed early radio can be found in Alfred N. Goldsmith and Austin C. Lescarbourea's *This Thing Called Broadcasting*, which reviews radio's background development but is mainly devoted to programs. Samuel Rothafel and Raymond Francis Yates, *Broadcasting: Its New Day*, is one of the first books on the social role and effects of broadcasting. For useful chronologies, see Dunlap's *Radio and Television Almanac* (to 1950) and "A Play-by-Play Retrospective" (1895–1970) in *Broadcasting*.

7.1 Government monopoly: The road not taken

That the push for government control of electrical communications was not a new thing with radio is evident on reading *Government Ownership of Electrical Means of Communication*, a 1914 report of the Postmaster General, which

discusses attempts at control dating back to the initiation of the telegraph before the Civil War. Most other records of early government action are found in congressional hearings. See especially *Government Control of Radio Communication*, a report of hearings before the House Committee on Merchant Marine and Fisheries. The role of the navy in pushing such action is detailed in Howeth's naval communications history (6.3).

7.2–7.5 Industrial maneuvers

An important though biased review of these events is found in Archer's histories (see 7). For the government position and for reprints of all the cross-licensing agreements and details of RCA's founding, see the FTC report noted under 5.5. The navy's view of its role is found in Howeth (see 6.3). The only biography of Sarnoff to date is too fawning in tone but does provide the important chronology and details of the RCA leader's life — Eugene Lyons, *David Sarnoff: A Biography*. Toward the end of his career Sarnoff published an edited collection of his major writings, *Looking Ahead: The Papers of David Sarnoff*. They shed some light on early RCA developments. Little serious study has been devoted to the "first station" argument, but two journal articles serve to build up one contender while tearing down another, and both are based on extensive research: for the story of "Doc" Herrold and KQW, see Gordon Greb's "The Golden Anniversary of Broadcasting"; R. F. Smith's "Oldest Station in the Nation?" debunks WHA's claim.

7.6–7.10 Evolution of the concept

The definitive telephone company version of these important early years and events is William Peck Banning's *Commercial Broadcasting Pioneer: The WEA Experiment, 1922–1926*, which is detailed, illustrated, and documented. For an opposing viewpoint, see both of Archer's volumes (under 7). A well-balanced approach is taken by Schubert (see 6.8). For a sense of day-to-day life of a broadcaster at WEA-New York in this period, see Graham McNamee's *You're on the Air*, which may be the first autobiography by an on-air personality. Ted Husing covers some of the same events in *Ten Years Before the Mike*.

7.11 National networks

Surprisingly, we lack solid modern histories of any of the networks. For fairly detailed early historical reviews, however, see the Federal Communications Commission's *Report on Chain Broadcasting*, the Archer volumes (see 7), and T. P. Robinson's *Radio Networks and the Federal Government*. More recent is the journalistic critique by Robert Metz, *CBS: Reflections in a Bloodshot Eye*.

7.12 Triumph of commercialism

The best scholarly analysis of early commercialism is Herman S. Hettinger's *A Decade of Radio Advertising*. It contains data found in no other source and documents the growth of advertising with the coming of the networks. Earlier

contemporary views include Hiram Jome, *Economics of the Radio Industry*, the first Ph.D. dissertation on broadcasting, which reviews not only advertising but also the economics of industry operation and major problem areas as seen in 1925; Edgar Felix, *Using Radio in Sales Promotion*, the first book-length analysis of how to do radio advertising, which offers a wealth of data on stations and programs as well as early views of just how advertising would work on radio; and Orrin E. Dunlap, *Radio in Advertising*, which demonstrates how the coming of networks rapidly standardized industry practice. An anticommercial government view is the FRC's *Commercial Radio Advertising* report, which discusses radio practice in other countries. The economics of receiver manufacture and sale as well as radio advertising are discussed by Thomas T. Eoyang in *An Economic Study of the Radio Industry*.

7.13 A still, small voice

The earliest discussion of radio education is Armstrong Perry's *Radio in Education*, which focuses on early experiments, principally in the Midwest, and deals mainly with programs. A broader view of the role of educational radio is found in the survey by Tracy Tyler, *An Appraisal of Radio Broadcasting in the Land-Grant Colleges and State Universities*. It discloses some of the financial and organizational problems that led to the rapid demise of so many of the early stations and also shows the trends in early instructional radio programming. A station-by-station history of all early educational operations, many of which lasted for only a few months, is S. E. Frost, Jr., *Education's Own Stations*. Data showing how little educational material was being aired in 1932 are found in the FRC report noted under 7.12.

CHAPTER 8 ORIGINS OF GOVERNMENT REGULATION

8.1–8.3 Regulation before 1927

For the history of ITU and other regulation of telegraph, telephone, and early wireless, see Coddling and the ITU centennial history, both under 1.1. In addition, Howeth (see 6.3) offers a good view of American policy toward international conferences on radio in the early 1900s as well as the slow move to regulation, including the 1910 and 1912 wireless acts.

8.4–8.5 Federal Radio Commission

For the background of the congressional debates leading to the Radio Act of 1927, see volume 3 of Bernard Schwartz, *The Economic Regulation of Business and Industry: A Legislative History of U.S. Regulatory Agencies*, which includes the full congressional debate, the act itself, and a commentary. Covering the same ground with more detailed analysis, *Regulation of Broadcasting*, a House Commerce Committee Report, delves into the motivations behind specific parts of the act. The best single book-length analysis is Stephen Davis, *The*

Law of Radio Communication, which deals with each section of the act separately. For coverage of the Federal Radio Commission during the period 1927–1934, the prime sources are the annual reports of the commission itself. Also of value is a descriptive and evaluative study by Laurence F. Schmeckebier, *The Federal Radio Commission: Its History, Activities and Organization*, which carries the story to 1932 and reprints the major legislation and forms used by the commission. Several early documents and cases concerning the FRC are reprinted in Frank J. Kahn's *Documents of American Broadcasting*.

8.6 Passage of Communications Act of 1934

Here again, a useful starting point is Schwartz (see 8.4), volume 4. The House Commerce Committee study (8.4) also offers a lengthy analysis of congressional decision making on the act. Although now out of date, two earlier publications (both two-volume works) offer the best history and analysis of the act and subsequent FCC and court decisions under the act: A. Walter Socolow's *The Law of Radio Broadcasting* and Harry P. Warner's *Radio and Television Law and Radio and Television Rights*. Both are extremely well-organized legal texts. See also the annual reports of the FCC. For subsequent development of the broadcasting law, see notes under chapter 17.

For periodical coverage of FRC and FCC history, see *Journal of Broadcasting*, "A Bibliography of Articles on Broadcasting in Law Periodicals, 1920–1968," which is semiannotated and includes a subject index.

CHAPTER 9 RADIO AFTER 1928

9.1–9.2 Phases of radio development

Erik Barnouw's three-volume *History of Broadcasting in the United States*, the first two volumes of which are devoted mostly to radio, is fine social history, written in an episodic fashion but with a good feel for programming and social impact. An earlier popular radio history that concentrates almost totally on programming is Francis Chase's *Sound and Fury: An Informal History of Broadcasting*. Irving Settel covers the same ground in *A Pictorial History of Radio*, again emphasizing programming. For bare bones history, see the chronologies mentioned under chapter 7 or E. P. J. Shurick's *The First Quarter Century of American Broadcasting* (which concentrates on types of programming, following each brief chapter with a detailed chronology). Archer's books (chapter 7) concentrate on the activities of the major networks and big stations, emphasizing behind-the-scenes problems rather than on-air programs. Llewellyn White's *The American Radio* is a compact critical analysis, noting the need for more public service and educational radio programs, the weakness of self-regulation, and the problems of governmental control. In another contemporary analysis, *Is American Radio Democratic?*, S. E. Frost suggests major improvements that he believed were needed. Finally, a good mixture of histori-

cal and contemporary material is found in *American Broadcasting*, a reader edited by Lawrence Lichty and Malachi Topping. It includes sections on networks, stations, economics, programming, audience research, and regulation.

9.3 Syndication: Networks

The best sources of information on the radio networks at their peak are the FCC's chain broadcasting study (see 7.11) containing history, then-current operations data, and recommendations, and Robinson's book (7.11), which makes a deeper analysis of many of the FCC report's findings. An extremely well-organized analysis of major problems in broadcasting as of 1940 is C. B. Rose's *National Policy for Radio Broadcasting*, which deals with technical, economic, and other areas of policy, many of which directly involved the networks. See also the FCC Engineering Department's *Report on Social and Economic Data . . . on Broadcasting* for more analysis of key industry problem areas and possible policy alternatives as seen before fm and television muddied the waters.

9.4 Syndication: Recordings

The most detailed and best documented narrative of the radio broadcaster's problems with both ASCAP and the AFM is found in chapters 12–14 of Warner's *Radio and Television Rights* (8.6).

9.5 News, commentary, and documentaries

Paul White offers both a history of radio news and an operational guide (with a fine chapter on how radio reported D-Day in World War II) in *News on the Air*. Another good historical overview of radio journalism, including the press-radio war, is Mitchell Charnley's *News by Radio*. A useful collection of professional biographies of prominent broadcast commentators is found in David Bulman's *Molders of Opinion*. Alexander Kendrick's *Prime Time: The Life of Edward R. Murrow* is both a biography and a critical analysis of network news. Coverage of radio's role in politics appears in the early chapters of Edward Chester's *Radio, Television and American Politics*.

9.6–9.7 Radio formats and the popular arts

Because of the nostalgia recently aroused in this area, more material is appearing on old radio programs every day, and a lively "underground" of tape recording collectors flourishes. Aside from Settler's pictorial history (9.1), the best reference guide to the many shows and stars is Frank Buxton and Bill Owen, *The Big Broadcast: 1920–1950*, an annotated listing by program title of most network shows of the period. Use it with the seasonal listings in Harrison B. Summers, *A Thirty-Year History of Programs Carried on National Radio Networks in the United States: 1926–1956*. A well-written and enjoyable yet

scholarly study of one program genre is found in Raymond Stedman's *The Serials: Suspense and Drama by Installment*, which deals with film as well as radio and television. Jim Harmon's *The Great Radio Heroes* and *The Great Radio Comedians* give interesting information about the radio "classics."

Radio is examined in the perspective of the arts in Alan Gowans, *The Unchanging Arts: New Forms for the Traditional Functions of Art in Society*. Russell Nye analyzes the role of communication in the development of American cultural life in *The Unembarrassed Muse: The Popular Arts in America*. A quick, breezy view of these developments can be obtained from Maurice Fabre's *A History of Communication*.

9.8 Advent of fm

The two published histories of fm, Lessing's biography of Armstrong (3.3) and Don Erickson's *Armstrong's Fight for FM Broadcasting*, are of limited value because of their emotional bias in the inventor's favor (especially the latter, which is often in error). For a view of how fm was seen as the great hope for a fresh start, see Charles Siepmann, *Radio's Second Chance*.

9.9 and 9.12 Educational (public) radio

Paul Saettler covers the checkered development of educational radio in chapter 10 of *A History of Instructional Technology*. It is also covered to some degree in Harold Hill's *NAEB History, 1925 to 1954* and W. Wayne Alford's *NAEB History, 1954 to 1965*, both dealing with educational radio's national association. For more recent history and current status see Herman W. Land Associates, *The Hidden Medium: A Status Report on Educational Radio in the United States*, and the annual *Summary Statistics of CPB-Qualified Public Radio Stations*, compiled for CPB by S. Young Lee and Ronald Pedone. See also the annual conference proceedings of the Institute for Radio and Television, *Education on the Air*. For more on the vast literature on educational radio, see Isabella Cooper's *Bibliography on Educational Broadcasting*.

9.10–9.11 Radio's response to television

One of the best single books on pretelevision radio is Robert Landry's *This Fascinating Radio Business*, both a history and a summary of radio as an industry and social force. Another good contemporary view of radio just as television began is Judith Waller's *Radio, the Fifth Estate*. Problems of too many stations and not enough income are surveyed by the FCC in *An Economic Study of Standard Broadcasting*, updated in the FCC's *Annual Report* sections on broadcast statistics. Long a standard analysis of broadcasting and one still offering useful policy suggestions and insights is Charles Siepmann's *Radio, Television and American Society*. Book-length studies of radio's renewed preoccupation with music are scarce, but try Arnold Passman's *The Deejays* for a disorganized anecdotal review or Carl Belz's *The Story of Rock and Lawrence*

N. Redd's *Rock Is Rhythm and Blues* for more specific analyses of radio's role in the popular music world of the 1950s and later.

CHAPTER 10 HISTORY OF TELEVISION

10.1 Quest for higher resolution

The only good history of television technology is Albert Abramson's *Electronic Motion Pictures: A History of the Television Camera*, which carries the story from mechanical through electronic television up to 1955. An earlier and more informal history is Richard Hubbell's *4000 Years of Television*. The best description of early mechanical television systems is A. A. Dinsdale's *First Principles of Television*, issued in 1932. For the British role in television, see the excellent history by Edward Pawley, *BBC Engineering: 1922–1972*. Two works focus on American practice in the late 1930s: George Everson's *The Story of Television: The Life of Philo T. Farnsworth*, which deals with the major U.S. independent inventor/innovator, and the Waldrop and Borkin book on corporate infighting (5.5). A summary of the papers and reports leading to the FCC's 1941 approval of television standards is found in Donald G. Fink (ed.), *Television Standards and Practice: Selected Papers from the Proceedings of the National Television System Committee and its Panels*. See also George Shiers (ed.), *The Technical Development of Television*, for key material in the development of the video medium to about 1955.

10.2–10.3 The freeze and uhf

A good analysis of television channel allocations up to the late 1950s is found in the House Commerce Committee's *Network Broadcasting* (often referred to as the "Barrow Report"). The famous *Sixth Report and Order* ending the freeze is found in volume 41 of *FCC Reports*. That entire volume is devoted to fundamental television matters, including the two color system decisions — the first in 1950 favoring CBS, the second in 1953 favoring RCA. Problems of uhf were dealt with extensively in congressional hearings in the 1950s. See especially the Senate Commerce Committee's multipart *Television Inquiry* hearings of the mid-1950s and the related committee reports, such as Harry Plotkin's *Television Network Regulation and the UHF Problem* and Robert Jones's *Investigation of Television Networks and the UHF-VHF Problem*.

10.4 Network rivalries

The best source for the first decade of television network development is the House Commerce Committee report, *Network Broadcasting*, which provides details on station acquisition, advertising, network administration, programming, etc. Of great value for an in-depth look at television in the days of live operations when the medium was still expanding in every sense of the word, is CBS, *Network Practices*. See also the reports by Plotkin and Jones noted

under 10.2–10.3 and Kenneth Cox, *The Television Inquiry: Television Network Practices Report*. Useful historical material is found in two special issues of *Sponsor*. They examine, in pictures and text, policies, personnel, and programs in “CBS: Documenting 38 Years of Exciting History” and “NBC: A Documentary.” See also Metz’s analysis of CBS (7:11).

10.5–10.7 Entertainment programming

A good feel for television programming is obtainable from any of the following pictorial histories, all of which focus on the programs and stars of network programs: Arthur Shulman and Roger Youman, *How Sweet It Was* (the best organized and most useful); Irving Settel and William Laas, *A Pictorial History of Television* (better balanced between text and photos and covers nonprogram matters); Daniel Blum, *A Pictorial History of Television* (a collection of photos, many of small size, without text, and running only to 1959). Paul Michael and J. R. Parish focus on award-winning network shows in *The Emmy Awards: A Pictorial History*. Probably the best popular history of television programming is Erik Barnouw’s *Tube of Plenty*.

Initial results of an extensive FCC investigation into how networks selected their programming and how the whole program production process worked are found in *Television Network Program Procurement*, prepared by the FCC Office of Network Study. This two-part report offers a wealth of data, including extensive comments by network executives. Useful general overviews of television in the early 1960s include Stan Opatowsky’s *TV: The Big Picture*, and a book of essays by Robert Lewis Shayon et al., *The Eighth Art*, both of which comment on financial, program, news, and other aspects of the industry. A unique work that collects the author’s own television commentaries and then criticizes both them and the medium itself is Robert Lewis Shayon’s *Open to Criticism*. Another anthology of descriptive and critical work on television is found in David Manning White and Richard Averson, *Sight, Sound, and Society: Motion Pictures and Television in America*. Still another anthology, consisting of 80 short articles, is *Television: Selections from TV Guide Magazine*, edited by Barry G. Cole. An in-depth analysis of one year of television, as seen mainly from a national perspective, is Les Brown’s *Televi\$ion: The Business Behind the Box*. A recent collection of original articles on programs and their impact is found in Richard Adler’s *Television as a Social Force: New Approaches to TV Criticism*.

Books on programming usually tend to be short-lived fan books of little substance, but the following are exceptions: the Stedman book on serials (see 9.6); Muriel G. Cantor’s *The Hollywood TV Producer: His Work and His Audience*, a scholarly study based on many interviews; and two books dealing with the same program, both of which offer valuable details on the development of a network show (including character building, scripts, production, and series development) — Stephen Whitfield and Gene Roddenberry’s *The Making of Star Trek* and David Gerrold’s *The World of Star Trek*. Merle Miller and Evan

Rhodes give an entertaining glimpse into the life of a TV writer in *Only You, Dick Daring*. A fascinating insight into the television comedian's role is Steve Allen's *The Funny Men*, in which he evaluates 16 of his colleagues, all of whom played in important early television series. And for a view of those interruptions that made it all possible see Lincoln Diamant, *Television's Classic Commercials: The Golden Years, 1948–1958*, which includes scripts as well as stills from the oft-repeated messages. An interesting analysis of early television program content, especially the comedy and adventure shows for children, is found in Donald Glut and Jim Harmon, *The Great Television Heroes*.

10.8 News and public affairs

There is no good history of television news and public affairs programming, although parts of the story have been told. Documentary television programs are described and analyzed in A. W. Bluem's *Documentary in American Television*, and the best episodes from the first three years of one of the earliest documentary television series are assembled by Edward R. Murrow and Fred W. Friendly (eds.) in *See It Now*. For a volume discussing one particular style of documentary, see Stephen Mamber's *Cinema Verite in America: Studies in Uncontrolled Documentary*. Most historical material, however, comes in biographies, of which the best is clearly Alexander Kendrick's life of Edward R. Murrow (see 9.5). David G. Yellin focuses on an NBC documentary maker in *Special: Fred Freed and the Television Documentary*. Detailed studies of specific broadcast coverage of public events are not common, but Bradley S. Greenberg and Edwin B. Parker (eds.), in *The Kennedy Assassination and the American Public: Social Communication in Crisis*, give us a gripping collection of scholarly research on that traumatic event of 1963. Although copies may be hard to find, a handsome picture and text record of its coverage of man's first landing on the moon was assembled by CBS in *10:56:20 P.M., 7/20/69*, which gives a feeling of closeness to those exciting hours as seen on television sets the world over.

For more recent analyses of television news and its problems, see William Small, *To Kill a Messenger: Television News and the Real World*, a CBS executive's view of the problems and prospects, centered on Washington events; Edward Jay Epstein, *News from Nowhere: Television and the News*, based on close study of network evening newscasts in the late 1960s that found many more problems and faults than benefits; the Alfred I. duPont-Columbia University *Survey of Broadcast Journalism*, annual reviews of the year's events edited by Marvin Barrett; Robert S. Frank, *Message Dimensions of Television News*, which with Frank Wolf, *Television Programming for News and Public Affairs: A Quantitative Analysis of Networks and Stations*, offers statistical analyses of types and amounts of news covered by networks. In 1973 the FCC began to issue *Television Broadcast Programming Data*, computer-generated

information on the news and public affairs programming output (as a percentage of overall station programming) for all commercial television stations.

10.9–10.11 Educational (public) television

Educational television is seen from the instructional media perspective in Saettler's history (9.9). The only actual history of the educational television movement is John Walker Powell's *Channels of Learning: The Story of Educational Television*, which carries the story to 1961. A fundamental document to an understanding of what has happened in the last decade is the report by the Carnegie Commission on Educational Television, *Public Television: A Program for Action*, which was the basis for most present-day organizations, prospects, and problems. For an in-depth study of how Congress eventually enacted much of what the Carnegie report recommended, see John E. Burke, *The Public Broadcasting Act of 1967*. The problems of what became known as public television are dealt with in congressional hearings in nearly every session, for which see the *Congressional Information Service* (17).

Current data on public television are gathered on a regular basis by the Corporation for Public Broadcasting. See especially the annual *Summary Statistics of Public Television Licensees*, compiled by S. Young Lee and Ronald Pedone, and *One Week of Public Television*, a content analysis issued about every two years (the seventh in the series was by Natan Katzman). Two books on broad policy questions are Robert Blakely, *The People's Instrument: A Philosophy of Programming for Public Television*, and John Macy, Jr., *To Irrigate a Wasteland: The Struggle to Shape a Public Television System in the United States*.

For material on the Children's Television Workshop and its popular programs, see Richard Polsky's *Getting to Sesame Street: Origins of the Children's Television Workshop* and Gerald S. Lesser's *Children and Television: Lessons from Sesame Street*.

CHAPTER 11 CABLE TELEVISION

Discussing sources on cable television involves two problems: (1) much of the material is ephemeral and will be difficult to locate not long after it appears and (2) much new material appears, constantly updating and replacing the old because of rapid change and industry instability.

11.1–11.2 Rise of CATV

Two books provide a good introduction to what cable is, how it got that way, and some of its key problems: Ralph Lee Smith's *The Wired Nation: Cable TV, the Electronic Communications Highway* and Walter Baer's *Cable Television: A Handbook for Decision-Making*. The latter is more detailed and focuses on

how cable can be applied to a local community — and some of the things that must be controlled first. The best history of cable television, stressing legal problems of control, is Don R. Le Duc's *Cable Television and the FCC: A Crisis in Media Control*. All three of these books have good annotated bibliographies and suggestions of places to find further information.

Turning to somewhat more specialized works, a critical study contending that the FCC is overly concerned with cable is Martin Seiden's *Cable Television U.S.A.: An Analysis of Government Policy*, which combines statistical information with legal analysis of cases to make its point. Mary Phillips's *CATV: A History of Community Antenna Television* concentrates on federal regulation but also lends insight into economic development of the medium and compares local, state, and federal approaches to its legal control. Finally, a useful collection of papers from a variety of industry, governmental, and academic sources is *The Role of Analysis in Regulatory Decisionmaking: The Case of Cable Television*, edited by Rolla Park.

11.3 Impact of CATV on broadcasting: Carriage rules

Aside from Le Duc (11.1), the best source for cable regulation is Steven R. Rivkin's *Cable Television: A Guide to Federal Regulations*. It includes not only a complete reprint of the current (1972) FCC rules and a detailed analysis of what they all mean in practice but also useful forms and a glossary of terms. For current FCC rules on cable, see also the annually revised *Code of Federal Regulations*, Title 47, Parts 76 and 78. For an early analysis by the broadcast industry of what it thought cable might do to broadcasting stations, see Herman W. Land Associates, *Television and the Wired City: A Study of the Implications of a Change in the Mode of Transmission*.

11.4–11.5 CATV origination and access

A good collection of research papers on cable's potential is Ithiel de Sola Pool (ed.), *Talking Back: Citizen Feedback and Cable Technology*. A manual to encourage citizen participation and concern about cable is Monroe Price and John Wicklein, *Cable Television: A Guide for Citizen Action*. Charles Tate (ed.) has a similar aim but a more specific focus in *Cable Television in the Cities: Community Control, Public Access, and Minority Ownership*. He deals mainly with the role of minorities in this new way of communicating, suggesting how blacks and other minorities can find ways to have more of a voice in cable than they have had in broadcasting. The National Cable Television Association frequently updates its *Local Origination Directory*. Two Rand Corporation studies, Richard C. Kletter's *Cable Television: Making Public Access Effective* and Robert K. Yin's *Cable Television: Applications for Municipal Services*, deal with the needs and rights in cable of both the public and local governments. Two further Rand studies, both by Polly Carpenter, look at the require-

ments of educational institutions — *Cable Television: Uses in Education* and the longer *Cable Television: A Guide for Education Planners*.

The video tape and Portapak fascination brought about partially by cable systems has stimulated a number of how-to-do-it manuals dealing with personal uses of portable video tape. See, for example, Videofreex, *The Spaghetti City Video Manual*; Michael Shamberg and Raindance Corporation, *Guerilla Television* (probably the first book of its kind); and Peter Weiner, *Making the Media Revolution: A Handbook for Video-Tape Production*. See the communications section of Stewart Brand's *Whole Earth Epilog* for further citations.

11.6 Subscription television

Information on the rapidly changing developments of pay television should be sought primarily in periodicals. Two recent books discuss systems and potentials: Ira Kamen's book (4.6), which covers the many types of broadcast and cable-based systems, and Richard Adler and Walter S. Baer, *The Electronic Box Office: Humanities and Arts on the Cable*. For the position opposed to pay cable, write to the National Association of Broadcasters. The National Cable Television Association can provide the pro-pay arguments.

11.7 Promises, promises . . .

For collections of papers on how cable systems can become the central means of community communication, see Harold Sackman and Norman Nie (eds.), *The Information Utility and Social Choice*, and Harold Sackman and Barry Boehm (eds.), *Planning Community Information Utilities*. William F. Mason et al. cover some of the same ground, emphasizing future technological possibilities — including tie-ins to computers — in their *Urban Cable Systems*, a Mitre Corporation cable development plan for Washington, D.C. See also Martin's predictions (3).

CHAPTER 12 FINANCIAL AND ADMINISTRATIVE ORGANIZATION

12.1–12.2 Fiscal indicators

The FCC publishes official data on the financial status of commercial broadcast stations in mimeographed form, *AM-FM Financial Data* and *TV Broadcast Financial Data*. Most of this material is incorporated later in the FCC's *Annual Reports*. These statistics come from the obligatory financial reports submitted by licensees to the FCC. The commission conceals individual station finances by reporting in terms of totals for each market having more than one station. The NAB publishes an annual *Radio Financial Report* and *Television Financial Report*, using data provided directly to the NAB by sample groups of stations. The NAB reports include financial data for the "typical" station in each of about a dozen market sizes. Two excellent recent reviews of general

economic issues in broadcasting are found in Roger Noll et al., *Economic Aspects of Television Regulation*, and Bruce Owen et al., *Television Economics*.

12.3–12.4 Economics of television networking

It is difficult to penetrate beyond the FCC and NAB summary financial data because of trade secrecy. The main sources of supplementary financial information are government investigations and hearings. See for example the FCC's report on network program procurement (10.5) and the Senate Judiciary Committee's *Possible Anti-Competitive Effects of Sale of Network TV Advertising*. For a popular discussion of CBS television, see Metz (7.11).

12.5 Station organization

The only overall broadcasting management textbook, *Broadcast Management: Radio and Television*, by Ward L. Quaal and Leo A. Martin, covers the basics, but in quite general terms. Howard Coleman, in *Case Studies in Broadcast Management*, uses the problem-solving approach to management study. For radio the most useful books are Edd Routt, *The Business of Radio Broadcasting*, and Joseph S. Johnson and Kenneth Jones, *Modern Radio Station Practices*. The latter offers 14 case studies. For television, the only guide is *Television Station Management*, edited by Yale Roe. The NAB issues to its members a variety of booklets on specific management problems (see examples listed in the citations).

12.6 Employment

The only full-length study of broadcast unions and their impact is *Broadcasting and Bargaining: Labor Relations in Radio and Television*, edited by Allen Koenig. The United Church of Christ's Office of Communication prepares annual reports, *Television Station Employment Practices: The Status of Minorities and Women*, based on data supplied by licensees to the FCC.

12.7 Economics of noncommercial broadcasting

Any study of the problem of financing the public broadcasting system should start with the magna carta of the system, the Carnegie Commission's report that led to the adoption of the present legislation (see 10.9). Since then, the organizations and problems have been changing so rapidly that the periodicals are the only place to keep up with the players and their moves (see the periodical list at the end of this guide). The CPB publishes annual statistical summaries compiled by Lee and Pedone (9.9, 10.10). For an excellent analysis of funding problems, see *The Financing of Public Television*, by Wilbur Schramm and Lyle Nelson. In *Public Television: A Question of Survival*, Fred Powledge discusses the strains set up between the federal administration and the stations. See also books noted under 10.9.

CHAPTER 13 AUDIENCE MEASUREMENT

13.1–13.4 Audience measurement concepts

The first book-length treatment of broadcast audience research dates back to 1934 — Frederick Lumley's *Measurement in Radio*, which describes contemporary means of audience research and some of the findings. Matthew N. Chappell and C. E. Hooper published *Radio Audience Measurement* a decade later to defend the telephone coincidental method, then used in the all-important "Hooperatings." At about the same time, academic researcher Paul F. Lazarsfeld collaborated with CBS research chief (later president) Frank Stanton on two volumes titled *Radio Research*, collections of articles analyzing methods and results.

Of great value as a guide through the jungle of research terms is the NAB's *Standard Definitions of Broadcast Research Terms*. For data on markets and basic demographic information the prime source is the latest official U.S. Census reports. Easier to use is the annual Department of Commerce *Statistical Abstract of the United States*, which traces changes in markets, media, and many other economic indicators. Both Arbitron (formerly ARB) and A. C. Nielsen issue annual lists of their respective television market breakdowns, along with maps and information on receiver penetration.

13.5–13.7 Samples and ratings

The most detailed discussion of broadcast rating practice and theory is *Evaluation of Statistical Methods Used in Obtaining Broadcast Ratings* by William Madow et al. It discusses sampling, interview methods, populations covered, and ratings data. The Madow report led to extensive industry research on ways to improve ratings, the results of which are summarized in the House Commerce Committee report, *Broadcasting Ratings: A Progress Report on Industry and Government Programs Involving Broadcast Ratings*. Briefer reviews of methodological studies can be found in Martin Mayer's *The Intelligent Man's Guide to Broadcast Ratings*, A. C. Nielsen's "What the Ratings Really Mean," and CONTAM's booklets, "How Good Are Television Ratings?" and "Television Ratings Revisited: A Further Look at Television Audiences." Major firms engaged in rating research issue full information on their methods and reporting procedures. See, for example, Nielsen's *Reference Supplement* for both its national and its local rating reports.

13.12 Audience characteristics and tuning behavior

Each year Nielsen issues "Nielsen Television," a booklet of charts and graphs depicting recent audience viewing patterns and characteristics, available on request. BBD&O, the advertising agency, publishes an annual *Audience Coverage and Cost Guide* that contains summary data on audience characteristics. For an in-depth analysis of audience attitudes toward television, see Robert T.

Bower's *Television and the Public* (see also notes to chapters 23 and 24). An ongoing series of surveys by the Roper Organization is sponsored by the industry and distributed by the Television Information Office. The most recent of these at press time was "Trends in Public Attitudes Toward Television and Other Mass Media, 1959–1974."

Of course, for current information on audiences the best source of information is the rating "books" themselves. The major rating firms are generous about supplying out-of-date but still recent copies of their reports to serious students.

CHAPTER 14 ECONOMIC ROLE OF ADVERTISING

Among the most useful histories are James P. Wood's *The Story of Advertising* and Frank Presbrey's pioneer (1929) volume, *The History and Development of Advertising*. See notes for chapter 15 regarding biographies of advertising men and agency histories.

14.1–14.3 Social effects of advertising

The classic study of the economic impact of advertising is Neil Borden's *The Economic Effects of Advertising*; although not recent, it still has current relevance. A later scholarly appraisal, which covers some of the same ground but does not supersede Borden, is Jules Backman's *Advertising and Competition*. A bit broader coverage can be found in Giancarlo Buzzi, *Advertising: Its Cultural and Political Effects*. The Marketing Science Institute supplies an excellent summary of Buzzi and others in *Appraising the Economic and Social Effects of Advertising* — perhaps the best single overview of the literature on this fundamental topic.

14.4 Case against advertising

For historical background on the negative side, along with arguments for government regulation, see *The Responsibility of American Advertisers: Private Control and Public Influence, 1920–1940* by Otis Pease. It deals with the evolution of the FTC's concern with advertising, among other things. Ernest Turner's *The Shocking History of Advertising* makes interesting reading and is a more sober study than the title suggests. Raymond Bauer and Stephen Greyser (eds.) present the results of public opinion surveys regarding the subject in *Advertising in America*.

14.5 Case for advertising

Naturally, the most spirited defenses of advertising come from its practitioners, whose views can be read in their biographies and autobiographies (see 15.9) and in the current trade journals. See also J. Robert Mosking's *The Case for Advertising*.

CHAPTER 15 BROADCAST ADVERTISING PRACTICE

A good place to start with this subject is with a basic introductory text dealing with general advertising. Two of the many such texts are *Advertising Theory and Practice* by C. G. Sandage and Vernon Fryberger and S. Watson Dunn's *Advertising: Its Role in Modern Marketing*. Large compilations useful for reference are *Handbook of Advertising Management*, edited by Roger Barton, and *Encyclopedia of Advertising*, edited by Irvin Graham. The N. W. Ayer Company's *The Ayer Glossary of Advertising and Related Terms* is a handy guide to the increasing jargon of the field.

15.1–15.7 Practices specific to broadcasting

Surprisingly, not since 1959 has there been an advertising text devoted especially to broadcasting, although several were in preparation in 1975. Broadcast advertising texts are therefore mainly of historical interest. The rapid development of radio advertising is reflected in such works as Warren Dygert's *Radio as an Advertising Medium*, Ned Midgley's *The Advertising and Business Side of Radio*, and *Modern Radio Advertising*, a large compilation edited by Charles Hull Wolfe. Probably the first detailed treatment of television as an advertising medium is Frank Arnold's *Broadcast Advertising: The Fourth Dimension—Television Edition*, published as far back as 1933. The latest of a number of television advertising books of the 1950s was *Successful Radio and Television Advertising* by Eugene Seehafer and J. W. Laemmar.

Congressional committees periodically look into broadcast advertising practices. See for example House Commerce Committee, *Broadcast Advertisements*, and the Senate Judiciary Committee hearings mentioned under 12.3.

15.8–15.9 Advertising agencies

The man perhaps most responsible for the rise of modern advertising and the modern advertising agency is the subject of John Gunther's biography, *Taken at the Flood: The Life of Albert J. Lasker*. The famous Lord and Thomas agency in Chicago run by Lasker was the breeding ground for many leaders in the broadcasting generation of agency people. See, for example, *With All Its Faults: A Candid Account of 40 Years in Advertising*, an autobiography by Fairfax Cone and a biography of one of the founders of Benton and Bowles, Sidney Hyman's *The Lives of William Benton*. The "biography" of one of the pioneer users of radio as an advertising medium covers nearly a century of advertising agency development — *The History of an Advertising Agency: N. W. Ayer & Son at Work, 1869–1949* by Ralph Hower.

More recent examinations of agency work are Martin Mayer's *Madison Avenue U.S.A.* and Kenneth Groesbeck's *The Advertising Agency Business*. Seriocomic views of agency work are found in Jerry Della Femina's *From Those Wonderful Folks Who Gave You Pearl Harbor* and Terry Galanoy's *Down the Tube: Or, Making Television Commercials Is Such a Dog-Eat-Dog Business It's*

No Wonder They're Called Spots. The production process is described in detail by Lincoln Diamant in *The Anatomy of a Television Commercial*.

CHAPTER 16 ECONOMIC CONSTRAINTS ON PROGRAMMING

Rose's early book on broadcasting policy (9.3) shows that issues of economic constraints arose from the very beginning. Rose can be usefully compared with the excellent recent discussion on general policy questions in the context of economics by Roger G. Noll et al. (12.1). The FCC's *Report on Chain Broadcasting*, dealing with the radio networks, and its *Network Broadcasting*, dealing with television, serve as guideposts to changing economic constraints. Testimony on the negative aspects of ratings and big-money pressures can be found in the House Commerce Committee's *Investigation of Television Quiz Shows* and in the follow-up hearings on *Responsibilities of Broadcast Licensees*, which deal with payola and plugola. For a popular paperback treatment of these disclosures, see Meyer Weinberg, *TV in America: The Morality of Hard Cash*. Later evidence of the role of economics in program content selection can be found in the FCC's Office of Network Study report (10.5).

16.4 Blacklisting

The starting point for a study of this subject is *Red Channels: The Report of Communist Influence in Radio and Television*, the 1950 directory produced by Counterattack, Inc., and long used by the industry. Two years later came the first attack on blacklisting, Merle Miller's *The Judges and the Judged*. Later, the Fund for the Republic sponsored a study by John Cogley, *Blacklisting: Radio-Television* (another volume deals with film). The gripping story of one man's successful fight to clear himself is told by John Henry Faulk in *Fear on Trial*. An excellent recent overview of the entire process, *Only Victims: A Study of Show Business Blacklisting*, is based on actor Robert Vaughan's doctoral dissertation and includes an extensive bibliography.

CHAPTER 17 LAW OF BROADCASTING

Because so many works dealing with the subjects of chapters 17–22 are broadly inclusive, most of the publications cited in this part have been grouped by chapter rather than by section. Even so, some of the books mentioned cover topics treated in two or more chapters. This is another of those rapidly evolving areas in which current articles in serial publications have special importance (see the periodical list at the end of this guide).

The best known general introduction to broadcasting law is Harold Nelson and Dwight Teeter, *Law of Mass Communications*, which though oriented to print media offers a solid philosophical background. The standard casebook in

the field, *Mass Communications Law: Cases and Comment*, by Donald Gillmor and Jerome Barron, documents and analyzes virtually all current legal issues in both print and broadcast media. Paul Ashley provides a very short handbook in *Say It Safely: Legal Limits in Publishing, Radio and Television*, a briefly annotated check list of dos and don'ts. *The Georgetown Law Journal* devoted a recent issue to a valuable and detailed essay on "Media and the First Amendment in a Free Society."

A useful reader stressing the political aspects of regulation is Samuel Krislov and Lloyd Musolf's *The Politics of Regulation*. But the best analysis of the influence of routine politics on broadcast control is Erwin G. Krasnow and Lawrence D. Longley, *The Politics of Broadcast Regulation*, which offers several case studies. Information on direct congressional involvement is best gleaned from the hearings of the concerned committees. A review of that activity is found in "Congressional Oversight: The Congress and the Federal Communications Commission," a semiannual series of articles in *Federal Communications Bar Journal*. For a book-length analysis of a broadcast-related bill and how it progressed through the committees and houses of Congress, see Robert L. Peabody et al., *To Enact a Law: Congress and Campaign Financing*. Kahn (8.4) reprints a most useful collection of legislative, judicial, and administrative papers, ranging from excerpts from the U.S. Constitution to recent court decisions on cable.

For the origin of the communications act, see the notes for chapter 8. The Communications Act of 1934 comprises Title 47 of the *United States Code (USC)*, a government series that codifies all federal laws; the same laws, with explanatory notes and references, are published commercially as Title 47 of *United States Code Annotated (USCA)*. Gilman Udell periodically revises his *Radio Laws of the United States*, which provides the full text of the act as well as previous laws and amendments. The act is published as a separate volume by the Government Printing Office in a constantly revised loose-leaf service, *The Communications Act of 1934, with Amendments and Index Thereto*. The background of current bills to amend the act can be found in *United States Code Congressional and Administrative News*, a commercial periodical. Other background comes from reports of hearings and other transactions of congressional committees. All these are listed, annotated, and indexed in the commercially published *Congressional Information Service* as well as in the GPO's *Monthly Catalogue of United States Government Publications*.

CHAPTER 18 ADMINISTRATION OF THE LAW: FCC AT WORK

Long a standard textbook in this field is Walter Emery's *Broadcasting and Government: Responsibilities and Regulations*, which focuses mainly on getting a station on the air and then keeping it on the air. In *Legal Problems in Broadcasting*, Daniel W. Toohey et al. offer a valuable outline of rules, regulations, and problems, illustrated with case histories. The clearest explanations

of station application forms, license hearing procedures, and other practical aspects of regulation can be found in Ralph Jennings and Pamela Richard, *How to Protect Your Rights in Radio and Television*, prepared especially to assist citizen groups in taking action on grievances against their local stations. For a summary of recent FCC activities, see its latest *Annual Report*, which contains a wealth of statistical material as well as a review of the year's events. Also valuable are the (usually annual) House and Senate hearings on the activities of the FCC. Joel Rosenbloom provides an excellent chapter on the legal underpinnings of the FCC in "Authority of the Federal Communications Commission." William K. Jones analyzes the administrative and rule-making functions of the commission in "Licensing of Major Broadcast Facilities by the Federal Communications Commission," printed in the House Small Business Committee hearings on *Activities of Regulatory Enforcement Agencies Relating to Small Business*. Nicholas Johnson and John Dystel describe the FCC at work in "A Day in the Life: The Federal Communications Commission." For a guide to the extensive literature about the FCC, see the series of bibliographies on the commission by Robert Sperry.

FCC decisions, official notices, reports, and orders appear first in the *Federal Register (FR)*, a daily compendium of such documents from all federal agencies. These are accumulated in the *Federal Communications Commission Reports (FCC)*, issued first as periodicals and then in bound volumes, providing a chronological rather than subject-organized record. FCC rules and regulations are officially codified in the four volumes making up Title 47, "Telecommunications," of the *Code of Federal Regulations (CFR)*, revised annually. A single, composite, up-to-date source is supplied commercially by Pike and Fischer's *Radio Regulation (RR)*, a loose-leaf reporter system that is completely indexed and constantly updated. Appeals from FCC decisions usually go to the U.S. District Court of Appeals for the District of Columbia and are reported in the *Federal Reporter* as well as in *Radio Regulation*. Supreme Court reviews of the district courts are officially reported in *United States Reports (US)*, in several commercial sources, and also in *Radio Regulation*.

Probably the most readily understood introduction to all of this literature, as well as to the conventions of legal bibliography, is found in Don R. Le Duc's "Broadcast Legal Documentation: A Four-Dimensional Guide" and Joseph M. Foley's "Broadcast Regulation Research: A Primer for Non-Lawyers." A key to law review articles on all aspects of broadcasting regulation is given in the *Journal of Broadcasting bibliography* cited under 8.6. For post-1968 citations, see the Sperry bibliographies noted above and the commercially published *Index to Legal Periodicals*.

18.14 Regulation of advertising

Richard Posner covers this subject as far as the FTC is concerned in *Regulation of Advertising by the FTC*. See also that commission's annual reports.

CHAPTERS 19–20 REGULATION: ENEMY AND ALLY OF FREEDOM

Space allows mentioning only a few examples of the extensive literature on this subject which usually deals with broadcasting as one among many avenues of expression. William Hachten's important *The Supreme Court on Freedom of the Press: Decisions and Dissents* analyzes changing Supreme Court opinions. Focusing on recent cases, Kenneth S. De Vol's *Mass Media and the Supreme Court: The Legacy of the Warren Years* deals with censorship, obscenity in print and film media, privacy, and trial coverage. Useful for comparison purposes are the two standard legal analyses of motion picture law, Richard S. Randall's *Censorship of the Movies: The Social and Political Control of a Mass Medium* and Ira H. Carmen's *Movies, Censorship, and the Law*. Clifton O. Lawhorne's *Defamation and Public Officials: The Evolving Law of Libel* takes an historical approach to this complicated area of law. Don R. Pember's *Privacy and the Press: The Law, the Mass Media, and the First Amendment* is the definitive treatment of that subject. Donald M. Gillmor's *Free Press and Fair Trial* and John Lofton's *Justice and the Press* give comprehensive overviews of the role of news reporters in courtrooms. One of the best of media bibliographies is Ralph McCoy's *Freedom of the Press: An Annotated Bibliography*, which covers all aspects of the subject from the middle ages onward and emphasizes events of the past century. Finally, mention must be made of a dated but still invaluable work that discusses the philosophy behind government action or inaction, *Government and Mass Communications* by Zechariah Chafee, Jr.

Turning to specialized broadcasting studies, we find an interesting collection of industry and academic views in *Issues in Broadcast Regulation*, edited by Don Le Duc. Examples of older but still useful analyses of issues facing broadcasters and regulators are Newton Minow's *Equal Time: The Private Broadcaster and the Public Interest* (speeches and policy statements by a former FCC chairman) and Elmer E. Smead's *Freedom of Speech by Radio and Television* (concentrates on programming but relates content to political and technical problems).

20.3–20.4 Monopoly

Recently, a number of valuable studies on media ownership issues have appeared. The best overview of research and policy work to date is Walter S. Baer et al., *Concentration of Mass Media Ownership: Assessing the State of Current Knowledge*. The shorter, policy-oriented *Newspaper-Television Station Cross-Ownership: Options for Federal Action* by Baer et al. sums up several years of research and many conflicting points of view and analyzes ways the government and the media themselves can approach the problem of ownership concentration. The large commercial television station's point of view is represented by Paul W. Cherington et al. in *Television Station Ownership: A Case*

Study of Federal Agency Regulation, based on a research study seeking to show that large, group-owned stations may actually serve the public interest better than smaller stations. The pioneering study of the point of view that media concentration (and especially local cross-ownership between broadcasting and newspapers) runs counter to the public interest is Harvey J. Levin's *Broadcast Regulation and Joint Ownership of Media*. Bryce Rucker's somewhat angry polemic, *The First Freedom*, argues along the same lines with many examples (and a wealth of historical trend tables and statistics) demonstrating the ills of concentration. A systematic industry defense is Martin H. Seiden's *Who Controls the Mass Media?* in which he argues that great diversity of control already exists. Many articles on the celebrated WHDH case can be found in the periodical indexes noted under chapter 18, and Sterling Quinlan has written a book-length summary, *The Million Dollar Lunch*. Finally, good reviews of government concern with the ownership question can be found in Warner's book on broadcast law (8.6) and in Herbert Howard's "Multiple Broadcast Ownership: Regulatory History."

20.5–20.11 Fairness, access, and bias

Probably the best statement of the FCC fairness doctrine is found in *The Fairness Doctrine and Public Interest Standards*, 39 FR 26372, 1974. An in-depth congressional investigation reviewed the doctrine's history, its enforcement and applications, and broadcasters' opinions of it in *The Fairness Doctrine*, a staff report prepared for the Senate Commerce Committee by Robert Lowe. A thoughtful analysis by the FCC's former general counsel, Henry Geller, may be found in *The Fairness Doctrine in Broadcasting: Problems and Suggested Courses of Action*. John M. Kittross and Kenneth Harwood edited a collection of articles on one aspect of the doctrine in *Free and Fair: Courtroom Access and the Fairness Doctrine*. CBS compiled materials on a specific fairness controversy in *CBS and Congress: "The Selling of the Pentagon,"* an excellent case history. Focusing more generally on fairness and questions of access are two recent works combining research and theory, Harry S. Ashmore's *Fear in the Air: Broadcasting and the First Amendment — the Anatomy of a Constitutional Crisis* and Jerome Barron's *Freedom of the Press for Whom? The Right of Access to Mass Media*. In *Presidential Television*, Newton Minow et al. examine the early years of the Nixon administration and suggest the need for more equalized coverage of the legislative and judiciary branches along with the executive branch. The official view of the "equal time" requirement is found in question-and-answer form in the FCC's *Use of Broadcast and Cablecast Facilities by Candidates for Public Office* (37 FR 5796, 1972), which is usually revised in presidential election years. The NAB goes over the same ground in *Political Broadcast Catechism*, which contains over 200 questions and answers about political broadcasts. Other books on broadcasting and politics are noted under 24.8.

CHAPTER 21 REGULATION AND THE PUBLIC INTEREST: FACTS AND FICTIONS

The standard critiques of the federal regulatory agencies include Marver H. Bernstein, *Regulating Business by Independent Commission*, and Louis M. Kohlmeier, *The Regulators: Watchdog Agencies and the Public Interest*, the most recent scholarly overview. Taking a strongly critical view of the agencies is *The Monopoly Makers: Ralph Nader's Study Group Report on Regulation and Competition*, edited by Mark J. Green. The most recent executive branch assessment of how to improve the independent agencies is the so-called "Ash Report" by The President's Advisory Council on Executive Reorganization, *A New Regulatory Framework: Report on Selected Independent Regulatory Agencies*.

CHAPTER 22 BEYOND THE FCC: NONREGULATORY SOCIAL CONTROLS

22.1 Industry self-regulation

The finest overview of the question of ethics in the media generally is William Rivers and Wilbur Schramm's *Responsibility in Mass Communications*. Bruce Linton deals with industry codes in his *Self-Regulation in Broadcasting*. Of course, the basic documents for study of self-regulation are the actual codes of industry associations. For broadcasting, see the NAB's *Broadcast Self-Regulation: Working Manual of the National Association of Broadcaster's Code Authority*, a loose-leaf publication containing the latest editions of the NAB Codes and the frequently issued guidelines and interpretations. The television code and the radio code are frequently revised and are available separately from the NAB. A number of other codes, including those of the Radio-Television News Directors' Association and the American Bar Association, are reprinted in Kittross and Harwood (see 20.5). For purposes of comparison, a good discussion of the motion picture code and rating process can be found in Stephen Farber's *The Movie Rating Game*, which includes many excerpts from the code and official rating guidelines.

22.6–22.9 Consumerism

The consumerism movement in broadcasting was given a major boost by Nicholas Johnson during his tenure as a commissioner. He summarizes his views in *How to Talk Back to Your Television Set*. His two longest official commentaries on FCC license renewal policies, backed up by extensive original research on actual practices, are found in *Broadcasting in America and the FCC's License Renewal Process: An Oklahoma Case Study* (14 FCC 2d 1, 1968) and *Broadcasting in America: The Performance of Network Affiliates in the Top 50 Markets* (42 FCC 2d 1, 1973). Many of Johnson's concerns had been

anticipated in a detailed and thoughtful proposal for radical reform of American broadcasting in Harry J. Skornia's *Television and Society: An Inquest and Agenda for Improvement*. Robert Bennett's *A Lawyer's Sourcebook: Representing the Audience in Broadcast Proceedings* gives practical advice on the role the public can play in station licensing and renewal procedures.

William Melody supplied ammunition for ACT's battle to ban advertising on children's programs in *Children's Television: The Economics of Exploitation*. And other materials on the subject include Charles Winick et al., *Children's Television Commercials: A Content Analysis* and special reports of ACT, announced in its newsletter.

Another type of citizen input into policy discussions is found in the Network Project's publications, especially a series titled *Notebooks*, each offering an antiestablishment view of a specific topic. See notes under 10.9 for material on public broadcasting as an alternative to commercial broadcasting.

CHAPTER 23 MASS COMMUNICATION RESEARCH AND THEORY

23.1–23.2 Scope and place of broadcasting research

Probably the best single place to find out how broadcasting fits into communication research generally is Ithiel de Sola Pool and Wilbur Schramm (eds.), *Handbook of Communication*, which reviews the status of research in 31 chapters and over 1,000 pages. A brief introduction in easily understood language is found in Wilbur Schramm's *Men, Messages and Media: A Look at Human Communication*. Bernard Berelson and Gary Steiner offer a detailed report on communication research findings as of the early 1960s in *Human Behavior: An Inventory of Scientific Findings*. Long the standard work on media effects and still useful, if somewhat outdated, is Joseph Klapper's *The Effects of Mass Communication*.

A more up-to-date review of research literature is found in Denis McQuail, *Towards a Sociology of Mass Communications*, which concludes with a fine annotated bibliography of major sources. Unannotated but well-organized as a guide to research results and methods is Donald A. Hansen and J. Hershel Parsons, *Mass Communication: A Research Bibliography*. Proceedings of a 1966 conference on the many types of research, on-going and needed, are reported in Frederick T. C. Yu's *Behavioral Sciences and the Mass Media*. Reports of British research methods and findings are found in William Belson's *The Impact of Television*. See also Leicester University (England), *Working Papers of the Television Research Committee*. Finally, a useful directory of current U.S. research is William Rivers and William Slater, *Aspen Handbook on the Media: Research, Publications, Organizations*.

23.3 Development of mass media research concepts

Hadley Cantril and Gordon Allport made the first scholarly attempt to assess the character, preferences, and reactions of the broadcast audience in *The*

Psychology of Radio, which reports on early experiments and theories of how the sound medium would affect audiences. Cantril followed this up five years later with the classic *The Invasion from Mars: A Study in the Psychology of Panic*, detailing the effects of the famous Orson Welles broadcast in 1938 and the ensuing rumor-fed panic. For a less research-oriented view of that broadcast and its effects, see *The Panic Broadcast: Portrait of an Event*, written by Howard Koch, the author of the radio script that caused it all. The first published study of the Princeton Office of Radio Research, *Social Stratification of the Radio Audience*, by H. M. Beville, Jr., used Hooperating material to derive some of the earliest information about audience characteristics on a large scale. Paul Lazarsfeld wrote a pioneer scholarly study in the Princeton series, *Radio and the Printed Page*. This comparison of print versus radio content and impact greatly influenced radio research for a decade. The Office of Radio Research was moved to Columbia University where it began a projected annual series, *Radio Research, 1941*, followed by *Radio Research, 1942–43*, both edited by Paul Lazarsfeld and Frank Stanton. World War II intervened and the series was not continued, although it did reappear as *Communications Research 1948–1949*. These three volumes contain a number of original research articles, pointing the way to future research methods.

The war gave impetus to government-funded research into media effects, especially those concerning propaganda. There were many studies of propaganda during and after the war. For an annotated list, see Bruce L. Smith and Chitra M. Smith, *International Communication and Political Opinion: A Guide to the Literature*. An example of media-related propaganda research is Carl Hovland et al., *Experiments on Mass Communication*, which analyzes army-made training films and their effects.

Postwar research took a theoretical turn. Chief among publications of this time that still exert an important influence are C. E. Shannon and W. Weaver, *The Mathematical Theory of Communication*, in which Weaver explains Shannon's theory in simple language; Norbert Wiener's *Cybernetics*; and Paul Lazarsfeld and Elihu Katz's *Personal Influence: The Part Played by People in the Flow of Mass Communications*.

23.4 "Who says what . . ."

The first survey-based study of public reactions to radio's programs and advertising was Paul F. Lazarsfeld and Harry Field, *The People Look at Radio*, based on 1945 survey data. Paul Lazarsfeld and Patricia Kendall updated it with 1947 data in *Radio Listening in America*. Together, these two works mark the apex of scholarly audience research in the radio period. They were followed by two studies on the television audience that took somewhat similar formats — Gary Steiner's *The People Look at Television* and Robert Bower's *Television and the Public*. Of value because they appear more often (but questioned because of possible bias in their format) are the series of Roper studies sponsored by the Television Information Office (see 13.12).

23.5 Problems of effects analysis

Studies on methodological problems appear mostly in scholarly journals (see the list of periodicals at the end of this guide). The following readers contain the most important methodology material in book form: Lewis Dexter and David Manning White (eds.), *People, Society, and Mass Communications*; Jeremy Tunstall (ed.), *Media Sociology: A Reader*; Wilbur Schramm and Donald F. Roberts (eds.), *The Process and Effects of Mass Communication*; Denis McQuail (ed.), *Sociology of Mass Communications*.

23.6 Theories about effects

Melvin De Fleur's *Theories of Mass Communication* gives a short introduction to this subject. Probably the most influential recent theorist is Marshall McLuhan (see 5.1). The best combination biography and explanation of McLuhan is Donald F. Theall's *The Medium is the Rear-View Mirror: Understanding McLuhan*. For a less enthusiastic view see Sidney Finkelstein's *Sense and Nonsense of McLuhan*.

Books surveying current theoretical approaches include F. Gerald Kline and Phillip J. Tichenor (eds.), *Current Perspectives in Mass Communications Research*; W. Phillips Davison and Frederick T. C. Yu (eds.), *Mass Communication Research: Major Issues and Future Directions* (although similarly titled, the two works do not overlap and are both valuable); and Peter Clarke (ed.), *New Models for Mass Communication Research*.

CHAPTER 24 EFFECTS OF BROADCASTING: PRAGMATIC ASSESSMENTS

24.1–24.2 Effects in general and on other media

Effects analysis from a technical point of view is found in Ben H. Bagdikian's *The Information Machines: Their Impact on Men and the Media* and in Gerbner et al. (4.8). A social and cultural view of television's impact on existing media is found in Leo Bogart's *The Age of Television*.

24.3–24.4 Generalized social effects

Certainly the best study of the role of media in crisis is the Greenberg and Parker book on the Kennedy assassination (10.8). One of the best studies of diffusion, including a lengthy bibliography, is Everett M. Rogers and F. Floyd Shoemaker, *Communication of Innovations: A Cross-Cultural Approach*. For a discussion of the role of rumor, see Tamotsu Shibutani's *Improvised News: A Sociological Study of Rumor*. A somewhat related work to all of this is Benjamin D. Singer's *Feedback and Society: A Study of the Uses of Mass Channels for Coping*.

24.5 Socialization effects

Studies of television's effect on children include Hilde Himmelweit, A. N. Oppenheim, and Pamela Vince, *Television and the Child* (based on British studies); Wilbur Schramm, Jack Lyle, and Edwin B. Parker, *Television in the Lives of Our Children* (a U.S. study); and Takeo Furu, *The Function of Television for Children and Adolescents* (done in Japan and the most recent of the three). Wilbur Schramm supplies a good bibliography of material on children and television up to the early 1960s in *The Effects of Television on Children and Adolescents*. A more recent but unannotated bibliography is Thomas F. Gordon and Mary Ellen Verna, *Mass Media and Socialization: A Selected Bibliography*. A collection of articles on children and media is found in F. Gerald Kline and Peter Clarke (eds.), *Mass Communications and Youth: Some Current Perspectives*.

Three works in a popular rather than a scholarly vein are Norman S. Morris's *Television's Child*, Gerald S. Lesser's *Children and Television: Lessons from Sesame Street*, and Evelyn Kaye's *The Family Guide to Children's Television*. The last-mentioned is the most prescriptive of the three.

The most important bibliography on the effects of television is George Comstock et al., *Television and Human Behavior*, issued in three carefully organized and comprehensively annotated volumes containing more than 2,300 citations.

24.6 Violence

The literature here is extensive, much of it dating from the report to the Surgeon General, *Television and Growing Up — The Impact of Televised Violence* and the debate that grew up around it and its five supplementary volumes of research studies. A good review of the background and findings of that report is found in Douglass Cater and Stephen Strickland, *TV Violence and the Child: The Evolution and Fate of the Surgeon General's Report*. Robert Liebert, John M. Neale, and Emily Davidson provide a layman's explanation of the research findings in *The Early Window: The Effects of Television on Children and Youth*. The following are studies of specific aspects of violence: Seymour Feshbach and Robert D. Singer, *Television and Aggression: An Experimental Field Study*, which supports the catharsis theory; Stanley Milgram and R. Lance Shotland, *Television and Antisocial Behavior: Field Experiments*, which reports on several interrelated effects experiments; a BBC audience research department report, *Violence on Television: Programme Content and Viewer Perception*, which presents some useful comparative data. Two earlier works contain more general material and are still valuable — Otto Larsen (ed.), *Violence and the Mass Media*, and Robert K. Baker and Sandra J. Ball, *Mass Media and Violence*, a staff report to the National Commission on the Causes and Prevention of Violence. See also the Comstock literature review (24.5).

24.7 Shaping of events

Certainly the best-known work on event shaping is Daniel J. Boorstin, *The Image: A Guide to Pseudo-Events in America*. Dealing more directly with some of the current problems in media is David LeRoy and Christopher Sterling (eds.), *Mass News: Practices, Controversies and Alternatives*, which details most of the items discussed in this section and offers a good annotated bibliography. Small's book on network news (10.8) provides a media-oriented view of the problems faced by bearers of bad tidings. Fred Siebert et al. cover the Canon 35 controversy in *Free Press and Fair Trial*; see also Kittross and Harwood (20.5). On the subject of news editing, see the CBS compilation mentioned under 20.5 and the House Interstate and Foreign Commerce Committee hearings on *Subpenaed Material re Certain TV News Documentaries*.

24.8 Political campaigns

The pioneer study of the effects of media on a campaign was Paul F. Lazarsfeld, Bernard Berelson, and Hazel Gaudet, *The People's Choice: How the Voter Makes Up His Mind in a Presidential Campaign*. An important follow-up study was reported by Bernard Berelson, Paul Lazarsfeld, and William McPhee in *Voting: A Study of Opinion Formation in a Presidential Campaign*. Other studies of effects, as well as a detailed and complete guide to the literature, are found in Linda Lee Kaid, Keith R. Sanders, and Robert O. Hirsch, *Political Campaign Communication: A Bibliography and Guide to the Literature*.

One of the earliest studies of television's political effect was Charles A. H. Thompson's *Television and Presidential Politics*, which detailed events in 1952 with a view to planning for 1956 and later campaigns. The standard history of the use of broadcasting in campaigning is Edward Chester's *Radio, Television, and American Politics* which deals with both media through the 1968 campaign and concentrates on the presidential level and actual campaigning. Robert Gilbert in *Television and Presidential Politics* focuses solely on television in the 1952–1968 period. Bernard Rubin's *Presidential Television* examines the 1960 and 1964 campaigns. Sidney Kraus, in *The Great Debates: Background, Perspective, Effects*, investigates this major media feature of the 1960 race. Joe McGinniss dissects the Nixon campaign in *The Selling of the President, 1968*. Providing facsimile reprints of *New York Times* articles on the role of the media in 1936–1971 political life is James Fixx (ed.), *The Mass Media and Politics*. Theodore White's quadrennial *The Making of the President* series contains a good deal about media coverage of the presidential campaigns since 1960.

Other useful studies of political communication include the following: Kurt and Gladys Lang, *Politics and Television*, which reprints results of some two decades of research by the authors; Herbert Mendelsohn and Irving Crespi, *Polls, Television, and the New Politics*, which discusses the importance of both to campaigning; Robert MacNeil, *The People Machine: The Influence of Televi-*

sion on *American Politics*, one of the broadest books in coverage in this listing; Gene Wyckoff; *The Image Candidates: American Politics in the Age of Television*, one of the earliest studies to analyze political image builders at work.

Studies offering a comparative view of British campaign television use include John Whale's *The Half-Shut Eye: Television and Politics in Britain and America*; Jay G. Blumler and Denis McQuail, *Television in Politics: Its Uses and Influence*, which deals with the 1964 general election and includes some comparative remarks on the 1959 election; and Colin Seymour-Ure (ed.), *The Political Impact of Mass Media*, which takes a broad approach to effects studies in a collection of articles.

24.9 Effects on conduct of government

The key studies of the impact of media generally on policy are Bernard C. Cohen's *The Press and Foreign Policy* and Leon V. Sigel's *Reporters and Officials: The Organization and Politics of Newsmaking*, both of which focus on the interaction of newsmen and public officials on various levels. Specifically examining the Washington reporter is William L. Rivers, *The Opinion-makers: The Washington Press Corps*. Focusing on a branch little covered compared to the executive arm is Robert O. Blanchard (ed.), *Congress and the News Media*.

Studies on media coverage of specific government policies or periods are not as common. Although there are several books on the McCarthy era, the best feeling for the 1954 army-McCarthy television hearings that had such an impact on the senator's final downfall is Emile de Antonio and Daniel Talbot, *Point of Order!* Somewhat surprisingly, few books on media coverage of the Vietnam war have appeared; the best are Don Oberdorfer's *Tet!*, which graphically shows the impact of television news coverage during the turning point of American opinion on the war, and Dale Minor's *The Information War*, which attacks the process of government news management in Vietnam and elsewhere.

The library of books on the Nixon era grows rapidly. Two contrasting pre-Watergate views are James Keogh's in *President Nixon and the Press*, which is sympathetic to the president, and Fred Powledge's, who makes a highly critical analysis for the ACLU in *The Engineering of Restraint: The Nixon Administration and the Press*. (See also Ben Bagdikian's *The Effete Conspiracy and Other Crimes by the Press*, which provides a media view of the arguments.) The Watergate crisis and the role of the media in it are covered best in Carl Bernstein and Bob Woodward, *All the President's Men*, which reads like a novel, and in Dan Rather, *The Palace Guard*. Studies of the coverage of the Watergate hearings are found in "The Ervin Committee Hearings and Communication Research," a special issue of *Communication Research* edited by Sidney Kraus and Steven Chaffee.

24.10 Effects on high culture

An early example of the numerous books that take the elitist point of view of the mass media is William Elliot, *Television's Impact on American Culture*, which stresses TV's unrealized educational potential. Perhaps the two most important recent works are Norman Jacobs (ed.), *Culture for the Millions? Mass Media in Modern Society*, and Jules Henry, *Culture Against Man*. Taking the opposing view are William Stephenson in *The Play Theory of Mass Communication*, a rather difficult methodological work, and Harold Mendelsohn in *Mass Entertainment*, which strongly defends popular culture.

The elitist point of view is upheld by Skornia (22.6), by Reuel Denney in *The Astonished Muse: Popular Culture in America*, and to a lesser degree by Gilbert Seldes in *The Public Arts* and *The New Mass Media: Challenges to a Free Society*. Finally, Gowans (9.6) suggests parallels and differences between popular and traditional art.

24.11 Gratification effects

For the most recent work, see Jay G. Blumler and Elihu Katz, *The Uses of Mass Communications: Current Perspectives on Gratification Research*, which contains an overview and several empirical studies. For television specifically, see Ira O. Glick and Sidney J. Levy, *Living with Television*, and William Kuhns, *Why We Watch Them: Interpreting TV Shows*, both of which explore the major entertainment factors that attract audiences.

BASIC BROADCAST-RELATED PERIODICALS

Following is a short list of key periodicals that deal with broadcasting. For full addresses and other information on these and many more periodicals, see William L. Rivers and William Slater, *Aspen Handbook of the Media*.

- Access* (1975, biweekly) Critical review of broadcasting industry from National Citizen's Committee on Broadcasting, emphasizing consumer-related policy issues.
- Advertising Age* (1929, weekly) The main trade paper for the industry with details of new accounts and agency doings and periodical statistical summaries.
- Billboard* (1894, weekly) The major popular music trade journal with news of records, music in broadcasting, and new acts and performers.
- Broadcast Management/Engineering* (1965, monthly) Combination management and technical journal with good summaries of FCC policies and regulations; issues a supplement on cable management and engineering topics.
- Broadcasting* (1931, weekly) The single most important broadcasting trade periodical; although it usually takes a strong proindustry editorial stance, it is indispensable for understanding current events, especially those concerning broadcast management and government relations. Issues annually the basic reference *Broadcasting Yearbook* (1935) and the similar *Cable Sourcebook* (1971), both of

which provide details on all stations (or systems), plus overall statistical reviews.

- Client* (1974, triannual) Mimeographed newsletter with invaluable information on broadcasting and cable regulation.
- Columbia Journalism Review* (1962, bimonthly) National critical review of journalistic media (print and broadcast) performance.
- EBU Review* (1951, monthly) Published by the European Broadcasting Union, every other issue is devoted to programs, administration, and law of European and other foreign and international systems; alternating month is a technical issue. Perhaps the best source of scholarly analysis and writings by foreign broadcasters on comparative systems.
- Federal Communications Bar Journal* (1946, triannual) Detailed, documented articles on law and regulation of broadcasting and on the roles of the FCC and the court system.
- Freedom of Information Center Reports* (1959, about 20 a year) Short research monographs, each devoted to a single topic, usually journalistic in emphasis. See also *FOI Digest* for bimonthly review of media legal decisions and analyses of government actions affecting FOI.
- Gazette* (1955, quarterly) Dutch periodical (in English) dealing with foreign and international communications in scholarly articles, emphasizing journalism topics.
- Journalism Quarterly* (1924, quarterly) Academic research on all aspects of American and foreign media journalism with excellent large book and journal review sections.
- Journal of Advertising Research* (1960, bimonthly) Reports findings of field and experimental studies related to the effect of advertising on consumers.
- Journal of Broadcasting* (1956, quarterly) Research studies on all aspects of broadcasting, cable and allied areas, plus reviews and bibliographies. Includes American and foreign/international systems.
- Journal of Communication* (1951, quarterly) Especially since 1974 editorial revision has published heavily in mass communications field, with research and opinion material as well as reviews.
- Journal of the SMPTE* (1916, monthly) Society of Motion Picture and Television Engineers technical material with occasional historical reviews and valuable current assessments of communications technology.
- Law and Contemporary Problems* (1933, quarterly) Single-topic monographs on legal topics.
- Mass Media Booknotes* (1969, monthly) Brief descriptive reviews of the latest books on broadcasting and other media. Each August issue reviews the year's media-oriented government documents.
- Network Project Notebooks* (1972, 5 times a year) Short typescript monographs, each devoted to a specific subject, usually related to policy questions and always from an antiestablishment viewpoint.
- Perry's Broadcasting and the Law* (1971, biweekly) Management newsletter on current changes in regulation of broadcasting with many question-answer overviews of entire areas of regulatory controversy.

- Proceedings of the IEEE* (1913, monthly) One of the best sources for the technical development of broadcasting.
- Public Opinion Quarterly* (1937, quarterly) Key research journal in polls, media, opinion measurement, etc., with frequent reference to the role of the media.
- Public Telecommunications Review* (1973, bimonthly) Educational and public broadcast developments and fiscal/programming policy dealt with in research and descriptive articles. Successor to *Educational Broadcasting Review* (1967–1973, bimonthly), which was more research oriented, and *NAEB Journal* (1941–1967).
- Quill* (1912, monthly) Journal of Sigma Delta Chi journalism fraternity; offers topical coverage of all journalistic matters with heavy broadcast journalism emphasis and self-improvement point of view.
- Radio Broadcast* (1922–1930, monthly) One of the best single sources for developmental years of radio with coverage of stations, programs, and personalities (but not a fan magazine).
- Sponsor* (1946–1968, varied) Useful for coverage of broadcast advertising trends in key years of radio-to-television transition.
- Television* (1944–1968, monthly) Excellent coverage of first quarter-century of U.S. television with in-depth articles on networks, early stations, programs and program trends, and key personnel.
- Television Digest* (1945, weekly) Newsletter format report of the previous week in the fields of broadcasting and consumer electronics with a wealth of statistics and in-depth reporting. Issues annual *Television Factbook* (1945) with directories and statistics and *CATV and Station Coverage Atlas* with weekly addenda to keep data current.
- Television Quarterly* (1962, quarterly) Comment and viewpoint, mainly of those active in commercial television, with occasional research material; issued by National Academy of Television Arts and Sciences.
- Television/Radio Age* (1953, weekly) Trade journal stressing advertising topics; special issues on news, FCC affairs, foreign television, etc.
- Topicator* (1965, monthly with annual index volume) Index to periodical literature of broadcasting and advertising, covering many periodicals in this list.
- Variety* (1905, weekly) The major trade paper for show business; besides coverage of stage and screen, offers detailed reviews of television programs, good analyses of trends, and critical comments on the industry.

Citations

The following list includes both the textual citations and the works annotated by Sterling in the guide to further reading.

AAAA (American Association of Advertising Agencies)

1954 *The Structure of the Advertising Agency Business*. AAAA, New York.

ABA (American Bar Association). Commission to Study the Federal Trade Commission

1969 *Report*. ABA, Chicago.

Abrams, Earl B.

1969 June 9 "Automated Radio: It's Alive and Prospering," *Broadcasting Special Report*: 54–65.

1974 Sept. 23 "Radio Robots Come to Life as Automated Formats Score Ratings Gains," *Broadcasting Special Report*: 33–41.

Abrams, Philip

1968 "The Nature of Radio and Television." In *Casty*: 82–86.

Abramson, Albert

1955, 1973 "A Short History of Television Recording," *Journal of the SMPTE* 64 (February): 72–76; and 82 (March): 188–195. (Repr. Arno Press, 1976)

1955 *Electronic Motion Pictures: A History of the Television Camera*. U. of California Press, Berkeley. (Repr. Arno Press, 1974)

AD (Appellate Division, New York Supreme Court)

1963 *John H. Faulk v. AWARE, Inc., et al.* 19 AD 2d 464.

Adler, Dick

1974 Oct. 1 "The Nielsen Ratings — and How I Penetrated Their Secret Network," *New York Times*: 74B.

Adler, Renata

1971 Dec. 25 "Concentration, Squares, Jeopardy, and Bouillon Cubes," *New Yorker*: 45–49.

1972 Feb. 12 "Afternoon Television: Unhappiness Enough, and Time," *New Yorker*: 74–83.

Adler, Richard, ed.

- 1975 *Television as a Social Force: New Approaches to TV Criticism*. Aspen Institute Program on Communications and Society, Palo Alto, Calif.

Adler, Richard, and Baer, Walter S., eds.

- 1974 *The Electronic Box Office: Humanities and Arts on the Cable*. Aspen Institute Program on Communications and Society, Palo Alto, Calif.

Advertising Age

- 1970 Oct. 19 "A Mere 305 Ads Hit Mom Every Day, Not 1,500, BBDO Reports": 10.
 1970 Nov. 2 "Spot TV Buyers Shift to 30s": 93.
 1974 Sept. 30 "Percentage of Sales Invested in Advertising in 1971-72": 76.

Albrook, Robert C.

- 1967 "TV's Autumn of Reappraisal," *Fortune* (October): 135.

Alexander, Sidney S.

- 1968 "Public Television and the 'Ought' of Public Policy," *Washington University Law Quarterly* (Winter): 35-70.

Alford, W. Wayne

- 1966 *NAEB History, 1954-1965*. NAEB, Washington, D.C.

Allen, Steve

- 1956 *The Funny Men*. Simon & Schuster, New York.

American Friends Service Committee

- [1971] "Countdown, September '71: A Handbook for Community Groups Concerned About Broadcasting." Mimeo. AFSC.

American Radio Relay League

- Annual *The Radio Amateur's Handbook*. A.A.R.L., Newington, Conn., 1926-
 1965 *Fifty Years of the A.A.R.L.* A.A.R.L., Newington, Conn.

A.N.A. (Association of National Advertisers)

- 1974 *Current Advertising Management Practices: Opinions As to Future Trends*. A.N.A., New York.

Anderson, Dave

- 1974 Nov. 2 "Of Blackouts, Sellouts and No-Shows," *TV Guide*: 24-26.

APBE (Association for Professional Broadcasting Education)

- 1970 *Organizational Patterns of Broadcast Instructional Programs in American Colleges and Universities*. APBE, Washington, D.C.

ARB (Arbitron)

- 1973 *The Effect of Measuring the Total Population vs. the Listed-Telephone Population*. ARB, Beltsville, Md.
 1974 *How Arbitron Measures Radio*. ARB, Beltsville, Md.

- Archer, Gleason L.
 1938 *History of Radio to 1926*. American Historical Society, New York. (Repr. Arno Press, 1971)
 1939 *Big Business and Radio*. American Historical Company, New York. (Repr. Arno Press, 1971)
- Arendt, Hannah
 1964 "Society and Culture." In Jacobs: 43–52.
- Arlen, Ann
 1972 "Will Public Access Be the Second Coming of Television?" *Foundation News* (May/June): 24–31.
- Arlen, Michael J.
 1969 *Living-Room War*. Viking, New York.
- ARMS (All- Radio Methodology Study)
 1966 *ARMS: What it Shows, How it Has Changed Radio Measurement*. NAB, Washington, D.C.
- Arnheim, Rudolf
 1944 "The World of the Daytime Serial." In Lazarsfeld and Stanton: 34–85.
- Arnold, Frank
 1933 *Broadcast Advertising: The Fourth Dimension — Television Edition*. Wiley, New York.
- Ashley, Paul
 1969 *Say It Safely: Legal Limits in Publishing, Radio and Television*. 4th ed. U. of Washington Press, Seattle.
- Ashmore, Harry S.
 1973 *Fear in the Air: Broadcasting and the First Amendment — the Anatomy of a Constitutional Crisis*. Norton, New York.
- Aurthur, Robert A.
 1973 March 17 "52 Plays a Year, All Original, All Live," *TV Guide*: 6–10.
- Ayer, N. W., Co.
 1972 *The Ayer Glossary of Advertising and Related Terms*. Ayer, Philadelphia.
- Baarslag, Karl
 1935 *SOS to the Rescue*. Oxford U. Press, New York.
- Backman, Jules
 1967 *Advertising and Competition*. New York U. Press, New York.
- Baer, Walter S.
 1973 *Cable Television: A Handbook for Decision Making*. Rand Corporation, Santa Monica, Calif.

- Baer, Walter S., et al.
 1974 *Concentration of Mass Media Ownership: Assessing the State of Current Knowledge*. Rand Corporation, Santa Monica, Calif.
- Baer, Walter S.; Geller, Henry; and Grundfest, Joseph A.
 1974 *Newspaper-Television Station Cross-Ownership: Options for Federal Action*. Rand Corporation, Santa Monica, Calif.
- Bagdikian, Ben H.
 1971 *The Information Machines: Their Impact on Men and Media*. Harper & Row, New York.
 1972 *The Effete Conspiracy and Other Crimes by the Press*. Harper & Row, New York.
 1974 "Pensions: The FCC's Dangerous Decision Against NBC," *Columbia Journalism Review* (March/April): 16–21.
- Baker, Charles R.
 1969 "How to Combat Air Pollution: A Manual on the FCC's Fairness Doctrine," Institute for American Democracy, Washington, D.C.
- Baker, Robert K., and Ball, Sandra J.
 1969 *Mass Media and Violence*. Staff Report No. 9 to National Commission on the Causes and Prevention of Violence. GPO, Washington, D.C.
- Baker, W. J.
 1972 *A History of the Marconi Company*. St. Martin's, New York.
- Baldwin, Thomas F., and Surlin, Stuart H.
 1970 "A Study of Broadcast Station License Application Exhibits on Ascertainment of Community Needs," *Journal of Broadcasting* 14 (Spring): 157–170.
- Banning, William P.
 1946 *Commercial Broadcasting Pioneer: The WEAJ Experiment, 1922–1926*. Harvard U. Press, Cambridge, Mass.
- Baran, Stanley J.
 1974 "Television as Teacher of Prosocial Behavior: What the Research Says," *Public Telecommunications Review* 2 (June): 46–51.
- Barber, Rowland
 1974 Aug. 10 "Just a Little List," *TV Guide*: 4–8.
- Barnett, H. J., and Greenberg, E. A.
 1967 "A Proposal for Wired City Television," Rand Corporation, Santa Monica, Calif.
- Barnouw, Erik
 1956 *Mass Communication: Television, Radio, Film, Press*. Rinehart, New York.
 1966 *A Tower in Babel: A History of Broadcasting in the United States to 1933*. Oxford U. Press, New York.

- 1968 *The Golden Web: A History of Broadcasting in the United States, 1933–1953*. Oxford U. Press, New York.
- 1970 *The Image Empire: A History of Broadcasting in the United States Since 1953*. Oxford U. Press, New York.
- 1975 *Tube of Plenty: The Development of American Television*. Oxford U. Press, New York.
- Barrett, Marvin, ed.
- 1969 *The Alfred I. duPont-Columbia University Survey of Broadcast Journalism, 1968–1969*. Grosset & Dunlap, New York.
- 1970 *The Alfred I. duPont-Columbia University Survey of Broadcast Journalism, 1969–1970: Year of Challenge, Year of Crisis*. Grosset & Dunlap, New York.
- 1971 *The Alfred I. duPont-Columbia University Survey of Broadcast Journalism, 1970–1971: A State of Siege*. Grosset & Dunlap, New York.
- 1973 *The Alfred I. duPont-Columbia University Survey of Broadcast Journalism, 1971–1972: The Politics of Broadcasting*. Thomas Y. Crowell, New York.
- 1975 *The Alfred I. duPont-Columbia University Survey of Broadcast Journalism, 1973–1974: Moments of Truth?* Thomas Y. Crowell, New York.
- Barron, Jerome A.
- 1973 *Freedom of the Press for Whom? The Right of Access to Mass Media*. Indiana U. Press, Bloomington.
- Barthel, Joan
- 1975 Jan. 5 “Boston Mothers Against Kidvid,” *New York Times Magazine*: 15–43.
- Barton, Roger, ed.
- 1970 *Handbook of Advertising Management*. McGraw-Hill, New York.
- Bauer, Raymond, and Greyser, Stephen, eds.
- 1968 *Advertising in America: The Consumer View*. Harvard Graduate School of Business Administration, Boston.
- BBC (British Broadcasting Corporation)
- Annual *BBC Handbook* (title varies). BBC, London, 1928–1952, 1955–
- BBD&O (Batten, Barton, Durstine & Osborn)
- Annual *BBDO Audience Coverage and Cost Guide*. BBD&O, New York, 1962–
- Beck, A. H. W.
- 1967 *Words and Waves: An Introduction to Electrical Communication*. McGraw-Hill, New York.
- Belsen, W. A.
- 1967 *The Impact of Television: Methods and Findings in Program Research*. Archon, Hamden, Conn.
- Belz, Carl
- 1972 *The Story of Rock*. 2d ed. Oxford U. Press, New York.
- Bendiner, Robert
- 1957 “FCC: Who Will Regulate the Regulators?” *The Reporter* (Sept.): 26–30.

- Bennett, Hank
 1971 *The Complete Short Wave Listener's Handbook*. TAB Books, Blue Ridge Summit, Pa.
- Bennett, Robert W.
 1974 *A Lawyer's Sourcebook: Representing the Audience in Broadcast Proceedings*. United Church of Christ, New York.
- Bennett, Sandra W.
 1972 "Ascertainment of Community Needs: Where is Public Broadcasting?" *Educational Broadcasting Review* 6 (February): 20–25.
- Berelson, Bernard; Lazarsfeld, Paul; and McPhee, William
 1954 *Voting: A Study of Opinion Formation in a Presidential Campaign*. U. of Chicago Press, Chicago.
- Berelson, Bernard, and Steiner, Gary A.
 1964 *Human Behavior: An Inventory of Scientific Findings*. Harcourt, Brace & World, New York.
- Berg, Thomas L.
 1970 *Mismarketing: Case Histories of Marketing Misfires*. Doubleday, Garden City, N. Y.
- Berkvist, Robert
 1972 Aug. 20 "Getting Wired, or, The Day the Fog Lifted in Our Living Room," *New York Times*: 15D.
- Bernstein, Carl, and Woodward, Bob
 1974 *All the President's Men*. Simon & Schuster, New York.
- Bernstein, Marver H.
 1955 *Regulating Business by Independent Commission*. Princeton U. Press, Princeton, N.J.
- Besen, S. M.
 1973 "The Value of Television Time and the Prospects for New Stations." Rand Corporation, Santa Monica, Calif.
- Beville, H. M., Jr.
 1939 *Social Stratification of the Radio Audience*. Princeton U. Office of Radio Research, Princeton, N.J.
- Bitting, Robert C., Jr.
 1965 "Creating an Industry," *Journal of the SMPTE* 74 (November): 1015–1023.
- Black, John
 1973 Nov. 10 "Confessions of an Area-21 Field Rep." *TV Guide*: 45–49.
- Blake, George
 1928 *History of Radio Telegraphy and Telephony*. Chapman & Hall, London. (Repr. Arno Press, 1974)

- Blakely, Robert J.
1971 *The People's Instrument: A Philosophy of Programming for Public Television*. Public Affairs Press, Washington, D.C.
- Blanchard, Robert O., ed.
1974 *Congress and the News Media*. Hastings House, New York.
- Bluem, A. William
1965 *Documentary in American Television: Form, Function, Method*. Hastings House, New York.
- Blum, Daniel
1959 *A Pictorial History of Television*. Chilton, New York.
- Blumler, Jay G., and Katz, Elihu
1975 *The Uses of Mass Communications: Current Perspectives on Gratification Research*. Sage, Beverly Hills, Calif.
- Blumler, Jay G., and McQuail, Denis
1969 *Television and Politics: Its Uses and Influence*. U. of Chicago Press, Chicago.
- BM/E (Broadcast Management/ Engineering)
1974 "Satellite to Schools — Some Via PTV Stations and Cable TV" (April): 54–82.
- Bogart, Leo
1972 *The Age of Television*. 3d ed. Ungar, New York.
- Boorstin, Daniel J.
1964 *The Image: A Guide to Pseudo-Events in America*. Harper & Row, New York.
- Borden, Neil H.
1942 *The Economic Effects of Advertising*. Irwin, Chicago.
- Bower, Robert T.
1973 *Television and the Public*. Holt, Rinehart and Winston, New York.
- Brand, Stephen, ed.
1974 *Whole Earth Epilog: Access to Tools*. Penguin, Baltimore.
- Braudy, Susan
1972 Sept. 17 "A Radio Station With Real Hair, Sweat and Body Odor," *New York Times Magazine*: 10.
- Bretz, Rudy
1970 *A Taxonomy of Communication Media*. Educational Technology, Englewood Cliffs, N.J.
- Briggs, Asa A.
1961 *The Birth of Broadcasting: The History of Broadcasting in the United Kingdom*, vol. 1. Oxford U. Press, London.
1965 *The Golden Age of Wireless: The History of Broadcasting in the United Kingdom*, vol. 2. Oxford U. Press, London.

1970 *The War of Words: The History of Broadcasting in the United Kingdom*, vol. 3. Oxford U. Press, London.

Broadcast Daily

1974 March 17 "1974 NAB Convention Syndication Lineup": 12-20.

Broadcasting

Annual *Broadcasting Yearbook*. Broadcasting Publications, Washington, D.C., 1935-

- 1973 Aug. 27 "The Way It Should Work" (editorial): 66.
 1973 Sept. 17 "Five Domsat Firms Get FCC Approval": 48.
 1973 Sept. 24 "The Rites of Passage Are All Over for FM Radio": 31-50.
 1973 Oct. 8 "Sacrifice Play: KTTV Gives Up Programs, Gets Renewal Moving": 59-60.
 1973 Dec. 10 "Hope-Linkletter Group Gets Brass Ring in Pasadena": 32.
 1973 Dec. 17 "Good Riddance" (editorial): 74.
 1974 Jan. 14 "ABC Casts a Dragnet to Prove White House Was Out to Get Networks": 13-14.
 1974 March 18 "Networks All Turn Down Gas Firm Ad": 65.
 1974 April 8 "Video-tape Producers Charge Noncommercials With Unfair Competition": 28.
 1974 May 6 "The Bounds of Barter Are Hard to Find" (Special Report): 22-27.
 1974 June 10 "Tempest Over Congressional Radio-TV Studios Threatening to Overtake Media": 46-47.
 1974 July 22 "The Votes Are in from PTV's New Station Cooperative": 28.
 1974 Aug. 26 "A Saddened Whitehead Leaves OTP": 17-18.
 1974 Sept. 23 "Back to Battle on Prime-Time Access, Majors Say It's a Flop": 18.

Brokenshire, Norman

1954 *This is Norman Brokenshire*. McKay, New York.

Brooks, John

1963 *The Fate of the Edsel and Other Business Adventures*. Harper & Row, New York.

Brower, Charles H.

1955 Jan. 17 "The Growing Pains of Advertising," *Broadcasting-Telecasting*: 37.

Brown, Les

- 1971 *Televi\$ion: The Business Behind the Box*. Harcourt Brace Jovanovich, New York.
 1974 Jan. 18 "'Secret Storm' Stilled by CBS," *New York Times*: 55M.
 1974 Feb. 13 "Corporation for Public Broadcasting Rules Out Setting Up Fourth Network," *New York Times*: 66M.
 1974 Feb. 19 "Ratings May Fail in Minority Areas," *New York Times*: 55M.
 1974 March 9 "Cable TV, Overextended, Is in Retreat in Cities," *New York Times*: 1.
 1974 April 17 "Large Expansion Seen for Pay-TV," *New York Times*: 71M.

1974 July 30 "NBC-TV Paying \$10-Million to Show 'Godfather' Once," *New York Times*: 59M.

Brown, Ronald

1970 *Telecommunications: The Booming Technology*. Doubleday, New York.

Bruce, Robert V.

1973 *Bell: Alexander Graham Bell and the Conquest of Solitude*. Little, Brown, Boston.

Bryson, Lyman, ed.

1948 *The Communication of Ideas*. Harper, New York.

1952 *The Next America: Prophecy and Faith*. Harper, New York.

Bulman, David

1945 *Molders of Opinion*. Bruce, Milwaukee.

Burke, John E.

1972 *The Public Broadcasting Act of 1967*. NAEB, Washington, D.C.

Busignies, Henri

1972 "Communication Channels" *Scientific American* (September): 99–113.

Buxton, Frank, and Owen, Bill

1972 *The Big Broadcast: 1920–1950*. Viking, 1972.

Buzzi, Giancarlo

1968 *Advertising: Its Cultural and Political Effects*. U. of Minnesota Press, Minneapolis.

Cabinet Committee on Cable Communications

1974 *Report to the President*. Office of Telecommunications Policy, Washington, D.C.

Cal (California Reports)

1966 *Weaver v. Jordan*. 64 Cal 2d 235.

Caldwell, Louis G.

1935 "Freedom of Speech and Radio Broadcasting." In *Radio: The Fifth Estate*, ed. Herman S. Hettinger, American Academy of Political and Social Science, Philadelphia: 179–207.

Canada. Radio-Television Commission

Annual *Annual Report*. Queen's Printer, Ottawa, 1968–

Canada. Special Senate Committee on Mass Media

1970 *Mass Media*. 3 vols. Queen's Printer, Ottawa.

Canada. Telecommission

1971 *Instant World: A Report on Telecommunications in Canada*. Information Canada, Ottawa.

- Cantor, Muriel G.
1972 *The Hollywood TV Producer: His Work and His Audience*. Basic Books, New York.
- Cantril, Hadley
1940 *The Invasion from Mars: A Study in the Psychology of Panic*. Princeton U. Press, Princeton, N.J.
- Cantril, Hadley, and Allport, Gordon
1935 *The Psychology of Radio*. Harper, New York. (Repr. Arno Press, 1971)
- Carey, William L.
1967 *Politics and Regulatory Agencies*. McGraw-Hill, New York.
- Carmen, Ira H.
1966 *Movies, Censorship, and the Law*. U. Of Michigan Press, Ann Arbor.
- Carpenter, Polly
1973 *Cable Television: A Guide for Educational Planners*. Rand Corporation, Santa Monica, Calif.
1973 *Cable Television: Uses in Education*. Rand Corporation, Santa Monica, Calif.
- Carroll, Maurice
1973 Jan. 28 "TV Ads Voting Studied In Jersey," *New York Times*: 50.
- Casty, Alan, ed.
1968 *Mass Media and Mass Man*. Holt, Rinehart and Winston, New York. (Rev. 1973)
- Cater, Douglass
1972 "The Politics of Public TV," *Columbia Journalism Review* (July/August): 8–15.
- Cater, Douglass, and Strickland, Stephen
1975 *TV Violence and the Child: The Evolution and Fate of the Surgeon General's Report*. Russell Sage, New York.
- Cawston, Richard
1962 "Television: A World Picture." In Shayon et al.: 1–14.
- CBS (Columbia Broadcasting System)
1955 "How Many Stations Can the United States Support Economically?" CBS, New York.
1956 *Network Practices*. CBS, New York.
1970 10:56:20 P.M., 7/20/69. CBS, New York.
1974 "Face the Nation." Transcript of panel interview with Clay T. Whitehead, Sept. 15.
- CCET (Carnegie Commission on Educational Television)
1967 *Public Television: A Program for Action*. Harper & Row, New York.
- Chafee, Zechariah, Jr.
1947 *Government and Mass Communications*. U. of Chicago Press, Chicago.

- Chappell, Matthew N., and Hooper, C. E.
1944 *Radio Audience Measurement*. Stephen Daye, New York.
- Charlton, Linda
1972 Feb. 19 "Study Aides Voice Misgivings About Report on TV-Violence," *New York Times*: 1.
- Charnley, Mitchell
1948 *News by Radio*. Macmillan, New York.
- Chase, Francis
1942 *Sound and Fury: An Informal History of Broadcasting*. Harper, New York.
- Cherington, Paul W.; Hirsch, Leon V.; and Brandwein, Robert
1971 *Television Station Ownership: A Case Study of Federal Agency Regulation*. Hastings House, New York.
- Cherry, Colin
1971 *World Communication — Threat or Promise? A Socio-Technical Approach*. Wiley, New York.
- Chester, Edward
1969 *Radio, Television, and American Politics*. Sheed & Ward, New York.
- Clark, David G.
1965 "H. V. Kaltenborn's First Year on the Air," *Journalism Quarterly* 42 (Summer): 373–381.
- Clarke, Arthur C.
1958 *Voice Across the Sea: The Story of Deep Sea Cable Laying, 1856–1958*. Harper, New York.
- Clarke, Peter, ed.
1973 *New Models for Mass Communication Research*. Sage, Beverly Hills, Calif.
- Coase, R. H.
1966 "The Economics of Broadcasting and Government Policy," *American Economic Review* 56 (May): 440–447.
- Codding, George
1952 *The International Telecommunication Union: An Experiment in International Cooperation*. Brill, Leiden. (Repr. Arno Press, 1972)
- Codel, Martin, ed.
1930 *Radio and Its Future*. Harper, New York. (Repr. Arno Press, 1971)
- Cogley, John
1956 *Report on Blacklisting II: Radio-Television*. Fund for the Republic, New York. (Repr. Arno Press, 1971)
- Cohen, Bernard C.
1963 *The Press and Foreign Policy*. Princeton U. Press, Princeton, N.J.

- Cohen, Herbert
1972 Oct. 1 "A Few Kinks in the Cable," *New York Times*: 19.
- Cole, Barry G., ed.
1970 *Television: A Selection of Readings from TV Guide Magazine*. Free Press, New York.
- Coleman, Howard W.
1970 *Case Studies in Broadcast Management*. Hastings House, New York.
- Commission on Obscenity and Pornography
1970 Report. Bantam, New York.
- COMSAT (Communications Satellite Corporation)
1973 *The First Ten Years: Report to The President and The Congress*. COMSAT, Washington, D.C.
- Comstock, George A.
1974 Review of *Television and Antisocial Behavior*, by Stanley Milgram and R. Lance Shotland, *Journal of Communication* 24 (Spring): 155–158.
- Comstock, George A., and Rubinstein, E., eds.
1972 *Television and Social Behavior: Media Content and Control*. GPO, Washington, D.C.
- Comstock, George A., et al.
1975 *Television and Human Behavior*. Vol. I, *A Guide to the Pertinent Scientific Literature*; vol. II, *The Key Studies*; vol. III, *The Research Horizon, Future and Present*. Rand Corporation, Santa Monica, Calif.
- Cone, Fairfax M.
1969 *With All Its Faults: A Candid Account of Forty Years in Advertising*. Little, Brown, Boston.
- Conly, John M.
1953 "Five Years of LP," *Atlantic Monthly* (September): 87–94.
- CONTAM (Committee on Nationwide Television Audience Measurement)
1969 "How Good Are Television Ratings? (Continued)," Television Information Office, New York.
1971 "Television Ratings Revisited: A Further Look at Television Audiences," Television Information Office, New York.
- Cooper, Eunice, and Jahoda, Marie
1947 "The Evasion of Propaganda: How Prejudiced People Respond to Antiprejudice Propaganda," *Journal of Psychology* 23 (January): 15–25.
- Cooper, Isabella
1942 *Bibliography on Educational Broadcasting*. U. of Chicago Press, Chicago. (Repr. Arno Press, 1971)

- Costigan, Daniel M.
1971 *Fax: The Principles and Practice of Facsimile Communication*. Chilton, Philadelphia.
- Counterattack
1950 *Red Channels: The Report of Communists in Radio and Television*. Counterattack, New York.
- Cox, Edward F.; Fellmeth, Robert C.; and Schultz, John N.
1969 *The Nader Report on the Federal Trade Commission*. Richard W. Baron, New York.
- Cox, Kenneth
1957 *Television Network Practices*. Staff Report for Senate Committee on Interstate and Foreign Commerce, Television Inquiry. 85th Cong., 1st Sess. GPO, Washington, D.C.
- Crater, Rufus
1974 Oct. 7 "The Upbeat Tempo of FM 1974," *Broadcasting Special Report*: 41–48.
- Crosby, John
1973 Sept. 22 "It Was New and We Were Very Innocent," *TV Guide*: 5–8.
- Crowther, Bosley
1957 *The Lion's Share: The Story of an Entertainment Empire*. Dutton, New York.
- CTW (Children's Television Workshop)
1973 *Annual Report*. CTW, New York.
- "Cyclops"
1973 Dec. 9 "Aren't 20 Million People a Public?" *New York Times*: 21D.
- Danielian, N. R.
1939 *A.T.&T.: The Story of Industrial Conquest*. Vanguard, New York. (Repr. Arno Press, 1971)
- Davis, Elmer
1963 "The Need for Interpretive Reporting." In *The Press in Perspective*, ed. Ralph D. Casey. Louisiana State U. Press, Baton Rouge: 50–67.
- Davis, H. P.
1928 "The Early History of Broadcasting in the United States." In *The Radio Industry*, Harvard University Graduate School of Business Administration. A. W. Shaw, Chicago: 189–225. (Repr. Arno Press, 1974)
- Davis, Stephen
1927 *The Law of Communication*. McGraw-Hill, New York.
- Davison, W. Phillips, and Yu, Frederick T. C., eds.
1974 *Mass Communication Research: Major Issues and Future Directions*. Praeger, New York.

- deAntonio, Emile, and Talbot, Daniel
 1964 *Point of Order: A Documentary of the Army-McCarthy Hearings*. Norton, New York.
- De Fleur, Melvin L.
 1970 *Theories of Mass Communication*. 2d ed. McKay, New York.
- de Forest, Lee
 1950 *Father of Radio*. Wilcox & Follett, Chicago.
- Denny, Reuel
 1957 *The Astonished Muse: Popular Culture in America*. U. of Chicago Press, Chicago.
- Department of Commerce
 1922 "Minutes of Open Meeting of Department of Commerce on Radio Telephony." Mimeo. Department of Commerce, Washington, D.C.
- De Soto, Clinton
 1936 *Two Hundred Meters and Down: The Story of Amateur Radio*. A.R.R.L., West Hartford, Conn.
- De Vol, Kenneth
 1971 *Mass Media and the Supreme Court: The Legacy of the Warren Years*. Hastings House, New York.
- Dexter, Lewis, and White, David M., eds.
 1974 *People, Society, and Mass Communications*. Free Press, New York.
- Diamant, Lincoln
 1970 *The Anatomy of a Television Commercial*. Hastings House, New York.
 1971 *Television's Classic Commercials: The Golden Years, 1948–1958*. Hastings House, New York.
- Dill, Clarence C.
 1935 "Radio and the Press: A Contrary View," *Annals of the American Academy of Political and Social Science* 177 (January): 170–175. (Repr. Arno Press, 1971)
- Dinsdale, A. A.
 1932 *First Principles of Television*. Wiley, New York. (Repr. Arno Press, 1971)
- Dizard, Wilson P.
 1966 *Television: A World View*. Syracuse U. Press, Syracuse, N.Y.
- Doan, Richard K.
 1973 May 12 "We Pause Briefly," *TV Guide*: 28–30, 34.
- Donohue, George A.; Tichenor, Phillip J.; and Olien, Clarice N.
 1972 "Gatekeeping: Mass Media Systems and Information Control." In Kline and Tichenor: 41–69.

- Dudley, David
1974 *Holography: A Survey*. NASA, Washington, D.C.
- Dugan, James
1953 *The Great Iron Ship*. Harper, New York.
- Dunlap, Orrin E., Jr.
1931 *Radio Advertising*. Harper, New York.
1938 *Marconi: The Man and His Wireless*. Rev. ed. Macmillan, New York. (Repr. Arno Press, 1971)
1944 *Radio's 100 Men of Science*. Harper, New York.
1951 *Dunlap's Radio and Television Almanac*. Harper, New York.
1970 *Communications in Space*. 3d ed. Harper & Row, New York.
- Dunn, S. Watson
1969 *Advertising: Its Role in Modern Marketing*. Holt, Rinehart and Winston, New York.
- Duscha, Julius
1974 June 23 "An Aggressive Mood at the F.T.C.," *New York Times*: 2F.
- Dybert, Warren
1939 *Radio as an Advertising Medium*. McGraw-Hill, New York.
- EBR (Educational Broadcasting Review)*
1970 "Agnew Views Television News: Comment and Reply," *EBR* 6 (February): 12–22.
1972 "CBS and Congress: 'The Selling of the Pentagon'," *EBR* Special Issue (Winter).
- Edelman, Murray
1950 *The Licensing of Radio Services in the United States, 1927–1947*. Illinois Studies in the Social Sciences, vol. 31. U. of Illinois Press, Urbana.
- Editor and Publisher*
Annual *International Yearbook*. Editor and Publisher, New York, 1923–
- Efron, Edith
1971 *The News Twisters*. Nash, Los Angeles.
1972 Nov. 11, 18, 15 "A Million Dollar Misunderstanding," *TV Guide*: 8–13, 36–44, 30–36.
- EIA (Electronic Industries Association)
Annual *Consumer Electronics*. EIA, Washington, D.C., 1969–
1969 *The Future of Broadband Communications*. Brief filed with FCC, Docket 18397. EIA, Washington, D.C.
- Elder, Robert E.
1968 *The Information Machine: The United States Information Agency and American Foreign Policy*. Syracuse U. Press, Syracuse, N.Y.

- Elliot, William
 1956 *Television's Impact on American Culture*. Michigan State U. Press, East Lansing.
- Elman, Philip
 1970 "The Regulatory Process: A Personal View." Address to American Bar Association, St. Louis, Mo., Aug. 11.
- Emerson, Thomas I.
 1970 *The System of Freedom of Expression*. Random House, New York.
 1972 "Communication and Freedom of Expression," *Scientific American* (September): 163-172.
- Emery, Edwin
 1972 *The Press and America: An Interpretive History of the Mass Media*. 3d ed. Prentice-Hall, Englewood Cliffs, N.J.
- Emery, Walter B.
 1961 *Broadcasting and Government: Responsibilities and Regulations*. Michigan State U. Press, East Lansing. (Rev. 1971)
 1969 *National and International Systems of Broadcasting: Their History, Operation and Control*. Michigan State U. Press, East Lansing.
- Enzensberger, Hans M.
 1972 "Constituents of a Theory of the Media." In McQuail: 99-116.
- Eoyang, Thomas T.
 1936 *An Economic Study of the Radio Industry in the United States of America*. Columbia U. Press, New York. (Repr. Arno Press, 1974)
- Epstein, Donald K., and DeBartolo, Dick
 1971 May 30 "Want to Be a Clutter Cutter?" *New York Times*: D15.
- Epstein, Edward J.
 1973 *News From Nowhere: Television and the News*. Random House, New York.
 1973 Sept. 29, Oct 6, Oct. 13 "What Happened vs. What We Saw," *TV Guide*: 7-10, 20-23, 49-73.
- Erickson, Don
 1974 *Armstrong's Fight for FM Broadcasting*. U. of Alabama Press, University.
- Etkin, Harry A.
 1970 *AM/FM Broadcast Station Planning Guide*. TAB Books, Blue Ridge Summit, Pa.
- Everson, George
 1949 *The Story of Television: The Life of Philo T. Farnsworth*. Norton, New York. (Repr. Arno Press, 1974)

F (Federal Reporter, 1st and 2d Series)

- 1916 *Marconi Wireless Telegraph Co. of America v. DeForest Radio & Telegraph Co.* 236 F 942.
- 1923 *Hoover v. Intercity.* 286 F 1003.
- 1926 *U.S. v. Zenith.* 12 F 2d 614.
- 1929 *U.S. v. American Bond & Mortgage.* 31 F 2d 448.
- 1929 *Technical Radio Laboratory v. F.R.C.* 36 F 2d 111.
- 1931 *KFKB v. F.R.C.* 47 F 2d 670.
- 1932 *Trinity Methodist Church, South v. F.R.C.* 62 F 2d 850.
- 1938 *Saginaw v. F.C.C.* 96 F 2d 554.
- 1940 *Sanders Brothers v. F.C.C.* 106 F 2d 321.
- 1946 *WOKO v. F.C.C.* 153 F 2d 623.
- 1948 *Simmons v. F.C.C.* 169 F 2d 670.
- 1951 *Scripps Howard Radio v. F.C.C.* 189 F 2d 677.
- 1959 *Carter v. F.T.C.* 268 F 2d 461.
- 1962 *Suburban Broadcasters v. F.C.C.* 302 F 2d 191.
- 1964 *Aeronautical Radio et al. v. U.S.* 335 F 2d 304.
- 1966 *Office of Communication v. F.C.C.* 359 F 2d 994.
- 1967 *Red Lion v. F.C.C.* 381 F 2d 908.
- 1968 *McCarthy v. F.C.C.* 390 F 2d 471.
- 1968 *Banzhaf v. F.C.C.* 405 F 2d 1082.
- 1969 *Office of Communication v. F.C.C.* 425 F 2d 543.
- 1970 *Hale v. F.C.C.* 425 F 2d 556.
- 1970 *Thill Securities Corp. v. New York Stock Exchange.* 433 F 2d 264.
- 1970 *Citizens Committee v. F.C.C.* 436 F 2d 263.
- 1971 *Citizens Communications Center v. F.C.C.* 447 F 2d 1201.
- 1971 *Friends of the Earth v. F.C.C.* 449 F 2d 1164.
- 1971 *Business Executives Move for Vietnam Peace v. F.C.C.* 450 F 2d 642.
- 1972 *Office of Communication v. F.C.C.* 465 F 2d 519.
- 1972 *Stone et al. v. F.C.C.* 466 F 2d 316.
- 1972 *Brandywine-Main Line Radio v. F.C.C.* 473 F 2d 16.
- 1973 *Yale Broadcasting Co. v. F.C.C.* 478 F 2d 594.
- 1974 *King's Garden, Inc. v. F.C.C.* 498 F 2d 51.
- 1974 *Delaware Citizens Committee v. F.C.C. Case 73-1652, Nov. 20.*
- 1974 *N.B.C. v. F.C.C. Case 73-2256, Sept. 17.*

Fabre, Maurice

- 1963 *A History of Communication.* Hawthorn, New York.

Fahie, J. J.

- 1901 *A History of Wireless Telegraphy.* Dodd, Mead, New York.

Fang, Irving E., and Whelan, John W., Jr.

- 1973 "Survey of Television Editorials and Ombudsman Segments," *Journal of Broadcasting* 17 (Summer): 363-371.

Farber, Stephen

1972 *The Movie Rating Game*. Public Affairs Press, Washington, D.C.

Faulk, John H.

1964 *Fear on Trial*. Simon & Schuster, New York.

FCBA (Federal Communications Bar Association)

1971 "F.C.B.A. Briefing Conference on Equal Employment Guidelines," *Federal Communications Bar Journal* 24: 3-79.

FCC (Federal Communications Commission)

Annual *AM-FM Financial Data*. FCC, Washington, D.C., 1946-

Annual *Annual Report*. GPO, Washington, D.C., 1935- . (1935-1955 repr. Arno Press, 1971)

Annual *Television Broadcast Programming Data*. FCC, Washington, D.C., 1973-

Annual *TV Broadcast Financial Data*. FCC, Washington, D.C.

1937 *Report on Social and Economic Data . . . on Broadcasting*. GPO, Washington, D.C. (Repr. Arno Press, 1974)

1939 *Investigation of the Telephone Industry in the United States*. GPO, Washington, D.C. (Repr. Arno Press, 1974)

1941 *Report on Chain Broadcasting*. GPO, Washington, D.C. (Repr. Arno Press, 1974)

1946 *Public Service Responsibility of Broadcast Licensees*. FCC, Washington, D.C. (Repr. Arno Press, 1974)

1947 "An Economic Study of Standard Broadcasting." Mimeo. FCC, Washington, D.C. (Repr. Arno Press, 1974)

1958 *Network Broadcasting*. Report by Office of Network Study to House Committee on Interstate and Foreign Commerce. House Report No. 1297. 85th Cong., 1st Sess. GPO, Washington, D.C.

1960 *Responsibility for Broadcast Matter*. Interim report by Office of Network Study. Mimeo. FCC, Washington, D.C.

1963 *Television Network Program Procurement*. Second interim report by Office of Network Study, Part 1, to House Committee on Interstate and Foreign Commerce. House Report No. 281. 88th Cong., 1st Sess. GPO, Washington, D.C.

1973 *A Cable Television Profile, 1971-1972*. Technical Report No. T-7301. FCC, Washington, D.C.

FCC (FCC Reports, 1st and 2d Series)

1935 *Scroggin (KFEQ)*. 1 FCC 194.

1941 *Mayflower Broadcasting Corp.* 8 FCC 333.

1946 *Robert Harold Scott*. 11 FCC 372.

1949 *Editorializing by Broadcast Licensees*. 13 FCC 1246.

1952 *Amendment of Sec. 3.606 . . . Sixth Report and Order [adopting new television rules]*. 41 FCC 148.

1964 *Pacifica Foundation*. 36 FCC 147.

1966 *Use of Broadcast Facilities by Candidates for Public Office*. 3 FCC 2d 463.

1967 *WCBS-TV*. 8 FCC 2d 381.

1968 *Carterfone Devices*. 13 FCC 2d 420.

- 1968 *Broadcasting in America and the FCC's License Renewal Process: An Oklahoma Case Study*. 14 FCC 2d 1.
- 1969 *WHDH, Inc.* 16 FCC 2d 1.
- 1969 *KCMC, Inc.* 19 FCC 2d 109.
- 1969 *Network Coverage of the Democratic National Convention*. 16 FCC 2d 650.
- 1969 *Complaints Covering CBS Program "Hunger in America."* 20 FCC 2d 143.
- 1969 *Allen C. Phelps*. 21 FCC 2d 12.
- 1970 *Comparative Hearings Involving Regular Renewal Applicants: Policy Statement*. 22 FCC 2d 424.
- 1970 *Nicholas Zapple*. 23 FCC 2d 707.
- 1970 *Use of Broadcast Facilities by Candidates for Public Office*. 24 FCC 2d 832.
- 1970 *Democratic National Committee*. 25 FCC 2d 216.
- 1970 *Committee for the Fair Broadcasting of Controversial Issues*. 25 FCC 2d 283.
- 1970 *Complaint by Faculty Senate . . . University of Alabama*. 25 FCC 2d 342.
- 1970 *KCMC, Inc.* 25 FCC 2d 603.
- 1971 *Brandywine-Main Line Radio*. 27 FCC 2d 565.
- 1971 *Licensee Responsibility to Review Records Before Their Broadcast*. 28 FCC 2d 409.
- 1971 *Alan F. Neckritz*. 29 FCC 2d 807.
- 1971 *CBS program . . . "The Selling of the Pentagon"*. 30 FCC 2d 150.
- 1971 *National Broadcasting Company*. 30 FCC 2d 643.
- 1971 *Licensee Responsibility to Review Records Before Their Broadcast*. 31 FCC 2d 377.
- 1972 *Alabama Educational Television Commission*. 33 FCC 2d 495.
- 1973 *Accuracy in Media, Inc.* 40 FCC 2d 958.
- 1973 *Apparent Liability of Station WGLD-FM*. 41 FCC 2d 919.
- 1973 *Broadcasting in America: The Performance of Network Affiliates in the Top 50 Markets*. 40 FCC 2d 1.
- 1975 *Alabama Educational Television Commission*. 50 FCC 2d 46.

Fearing, Franklin

- 1954 "Social Impact of the Mass Media of Communication." In *National Society for the Study of Education, Fifty-Third Yearbook, Part II: Mass Media and Education*. U. of Chicago Press, Chicago: 165–191.

Federal Communications Bar Journal

- Semi- "Congressional Oversight: The Congress and the Federal Communications annual Commission."

Felix, Edgar

- 1927 *Using Radio in Sales Promotion*. McGraw-Hill, New York.

Felsenthal, Norman

- 1971 "MPATI: A History (1959–1971)," *Educational Broadcasting Review* 5 (December): 36–44.

- Feshbach, Seymour, and Singer, Robert D.
1971 *Television and Aggression: An Experimental Field Study*. Jossey-Bass, San Francisco.
- Fessenden, Helen
1940 *Fessenden: Builder of Tomorrow*. Coward-McCann, New York. (Repr. Arno Press, 1974)
- Fink, Donald G., ed.
1943 *Television Standards and Practice: Selected Papers from the Proceedings of the National Television System Committee and Its Panels*. McGraw-Hill, New York.
- Fink, Donald G., and Lutyens, David M.
1960 *The Physics of Television*. Anchor Books, Garden City, N.Y.
- Finkelstein, Sidney
1969 *Sense and Nonsense of McLuhan*. International Publishers, New York.
- Finn, Bernard S.
1973 *Submarine Telegraphy: The Grand Victorian Technology*. To accompany an exhibition at the Science Museum, London. Eyre & Spottiswoode, Margate, England.
- Firestone, O. J.
1967 *Economic Implications of Advertising*. Methuen, Toronto.
- Fixx, James, ed.
1972 *The Mass Media and Politics*. Arno Press, New York.
- Fleming, John
1906 *The Principles of Electric Wave Telegraphy*. Longmans, Green, London. (Rev. 1910, 1916, 1919)
- Foley, Joseph M.
1973 "Broadcast Regulation Research: A Primer for Non-Lawyers," *Journal of Broadcasting* 17 (Spring): 131-157.
1974 "Broadcast Hearing Issues." In Le Duc (ed.): 10-16.
- Fortune
1939 "Revolution in Radio," October: 86.
- FR (Federal Register)
1944 *Newspaper Ownership of Radio Stations*. 9 FR 702.
1949 *Station of the Stars (KMPC)*. 14 FR 483.
1952 *Amendment of Sec. 3.606 . . . Sixth Report and Order [adopting new television rules]*. 17 FR 3905.
1955 *Frequency Allocation and Radio Treaty Matters [Special Communications Authorization]*. 20 FR 1821.
1960 *Network Programming Inquiry: Report and Statement of Policy*. 25 FR 7291.

- 1964 *Applicability of the Fairness Doctrine in the Handling of Controversial Issues of Public Importance*. 29 FR 10416.
- 1965 *Elimination of Objectionable Loudness of Commercial Announcements*. 30 FR 8967.
- 1965 *Comparative Broadcast Hearings: Policy Statement*. 30 FR 9660.
- 1969 *Ownership of Broadcast Stations by Persons or Entities with Other Business Interests: Notice of Inquiry*. 34 FR 2151.
- 1970 *Fraudulent Billing Practices: Memorandum Opinion and Order*. 35 FR 7899.
- 1970 *Multiple Ownership: First Report and Order*. 35 FR 5948.
- 1970 *Amendment of Rules Relating to Multiple Ownership*. 35 FR 5963.
- 1970 *Competition and Responsibility in Network Television Broadcasting: Report and Order*. 35 FR 7417.
- 1971 *Primer on Ascertainment of Community Problems by Broadcast Applicants: Report and Order*. 36 FR 4092.
- 1972 *Use of Broadcast and Cablecast Facilities by Candidates for Public Office*. 37 FR 5796.
- 1972 *Operator Requirements*. 37 FR 11538.
- 1972 *The Public and Broadcasting: A Procedure Manual*. 37 FR 20510.
- 1973 "Clipping" of Radio and Television Network Programs. 38 FR 6918.
- 1974 *Fairness Doctrine and Public Interest Standards*. 39 FR 26372.
- 1974 *Program-Length Commercials*. 39 FR 4042.
- 1974 *The Public and Broadcasting: A Procedural Manual*, rev. ed. 39 FR 32288.
- 1974 *Children's Television Programs: Report and Policy Statement*. 39 FR 39396.
- 1975 *Multiple Ownership . . . Second Report and Order*. 40 FR 6449.

Frank, Robert S.

- 1973 *Message Dimensions of Television News*. Lexington Books, Lexington, Mass.

FRC (Federal Radio Commission)

- Annual *Annual Report*. GPO, Washington, D.C., 1927–1933. (Repr. Arno Press, 1971)
- 1932 *Commercial Radio Advertising*. GPO, Washington, D.C. (Repr. Arno Press, 1974)

Freed, Fred

- 1972 "The Rise and Fall of the Television Documentary," *Television Quarterly* 10 (Fall): 55–62.

Friendly, Fred W.

- 1967 *Due to Circumstances Beyond Our Control . . .* Random House, New York.
- 1972 Feb. 27 "Dear Jack Gould, They Say You've Retired," *New York Times*: 17.
- 1973 "The Campaign to Politicize Broadcasting," *Columbia Journalism Review* (March/April): 9–18.
- 1975 March 30 "What's Fair on the Air," *New York Times Magazine*: 11–12, 37–48.

Friendly, Henry J.

- 1962 *The Federal Administrative Agencies: The Need for Better Definition of Standards*. Harvard U. Press, Cambridge, Mass.

- Frost, J. M., ed.
Annual *World Radio-TV Handbook*. Billboard Publications, New York, 1947–
- Frost, S. E., Jr.
1937 *Education's Own Stations*. U. of Chicago Press, Chicago. (Repr. Arno Press, 1971)
1937 *Is American Radio Democratic?* U. of Chicago Press, Chicago.
- F Sup (Federal Supplement)
1933 *U.S. v. "Ulysses."* 5 F Sup 182.
- FTC (Federal Trade Commission)
Annual *Annual Report*. GPO, Washington, D.C., 1915–
1924 *Report on the Radio Industry*. In response to H. Res. 548. 67th Cong., 4th Sess. GPO, Washington, D.C.
- Fuller, Leslie
1975 Jan. 6 "Radio's Credo for the 80's: Journalism Spoken Here," *Broadcasting*: 27–42.
- Funt, Peter
1974 Feb. 10 "Lucy, Lucy, Lucy, Lucy, Lucy . . .," *New York Times*: 1B.
1974 Aug. 11 "How TV Producers Sneak in a Few Extra Commercials," *New York Times*: 1B.
- Furu, Takeo
1971 *The Function of Television for Children and Adolescents*. Sophia U. Press, Tokyo.
- Galanoy, Terry
1970 *Down the Tube: Or, Making Television Commercials Is Such a Dog-Eat-Dog Business It's No Wonder They're Called Spots*. Regnery, Chicago.
- Galbraith, John K.
1969 *The Affluent Society*. 2d ed. Houghton Mifflin, Boston.
- Galloway, Jonathan
1972 *The Politics and Technology of Satellite Communications*. Lexington Books, Lexington, Mass.
- Gelatt, Roland
1965 *The Fabulous Phonograph*. 2d ed. Lippincott, Philadelphia.
- Geller, Henry
1973 *The Fairness Doctrine in Broadcasting: Problems and Suggested Courses of Action*. Rand Corporation, Santa Monica, Calif.
1974 "A Modest Proposal to Reform the Federal Communications Commission." Rand Corporation, Santa Monica, Calif.

Gelman, Morris

- 1969 Feb. 3 "Have Radio Doctor's Kit, Will Travel," *Broadcasting*: 46–53.
- 1970 Nov. 2 "Broadcasting at 50: Can It Adapt?" *Broadcasting Special Report*: 65–160.
- 1971 Oct. 18 "Yesteryear's Yarns, Tomorrow's Legends," *Broadcasting*: 29–73.

Georgetown Law Journal

- 1972 "Media and the First Amendment in a Free Society," 60 (March; entire issue): 865–1138.

Gerbner, George

- 1972a "Communications and Social Environment," *Scientific American* (September): 153–160.
- 1972b "The Structure and Process of Television Program Content Regulation in the United States." In Comstock and Rubinstein, 1972: 386–414.

Gerbner, George, and Gross, Larry

- 1974 "Violence Profile No. 6." Authors, U. of Pennsylvania, Philadelphia.

Gerbner, George; Gross, Larry; and Melody, William, eds.

- 1973 *Communications Technology and Social Policy: Understanding the "Cultural Revolution."* Wiley, New York.

Gerrold, David

- 1973 *The World of Star Trek*. Ballantine, New York.

Gifford, Frank

- 1962 "The Invisible Fans." In Shayon et al.: 207–214.

Gilbert, Robert E.

- 1972 *Television and Presidential Politics*. Christopher Publishing House, North Quincy, Mass.

Gillmor, Donald M.

- 1966 *Free Press and Fair Trial*. Public Affairs Press, Washington, D.C.

Gillmor, Donald M., and Barron, Jerome A.

- 1969 *Mass Communication Law: Cases and Comment*. West, St. Paul, Minn. (Rev. 1974)
- 1971 *Supplement to Mass Communication Law Cases and Comment*. West, St. Paul, Minn.

Glick, Ira O., and Levy, Sidney J.

- 1962 *Living with Television*. Aldine, Chicago.

Glut, Donald, and Harmon, Jim

- 1975 *The Great Television Heroes*. Doubleday, New York.

Glynn, Eugene D.

- 1968 "Television and the American Character — A Psychiatrist Looks at Television." In Casty: 76–82.

Goldin, H. H.

- 1965 "Discussion of 'Evaluation of Public Policy Relating to Radio and Television Broadcasting: Social and Economic Issues' (Coase)," *Land Economics* 41 (May): 167–169.

Goldmark, Peter C.

- 1972 "Communications and the Community," *Scientific American* (September): 143–150.

Goldsmith, Alfred N., and Lescarboua, Austin C.

- 1930 *This Thing Called Broadcasting*. Holt, New York.

Gordon, Thomas F., and Verna, Mary E.

- 1973 *Mass Media and Socialization: A Selected Bibliography*. Temple U. School of Communications and Theater, Philadelphia.

Gould, Jack

- 1951 June 27 "TV Makes Inroads on Big Radio Chains," *New York Times*: 1.

Goulden, Joseph C.

- 1968 *Monopoly*. Putnam, New York.

Gowans, Alan

- 1971 *The Unchanging Arts: New Forms for the Traditional Functions of Art in Society*. Lippincott, Philadelphia.

Graham, Irving, ed.

- 1969 *Encyclopedia of Advertising*. 2d ed. Fairchild, New York.

Great Britain. Committee on Broadcasting ("Pilkington Committee")

- 1962 *Report, 1960*, Cmnd. 1753. Her Majesty's Stationery Office, London.

Great Britain. Select Committee on Nationalized Industries

- 1972 *Second Report: Independent Broadcasting Authority*. Her Majesty's Stationery Office, London.

Greb, Gordon

- 1959 "The Golden Anniversary of Broadcasting," *Journal of Broadcasting* 3 (Winter): 3–13.

Green, Mark J., ed.

- 1973 *The Monopoly Makers: Ralph Nader's Study Group Report on Regulation and Competition*. Grossman, New York.

Green, Timothy

- 1972 *The Universal Eye: The World of Television*. Stein and Day, New York.

Greenberg, Bradley S., and Parker, Edwin B., eds.

- 1965 *The Kennedy Assassination and the American Public: Social Communication in Crisis*. Stanford U. Press, Stanford, Calif.

Groesbeck, Kenneth

- 1964 *The Advertising Agency Business: How to Enjoy it and Make it Pay*. Advertising Publications, Chicago.

Gross, Ben

- 1954 *I Looked and I Listened*. Random House, New York. (Rev. 1970)

Guback, Thomas, and Hill, Steven

- 1972 "The Beginnings of Soviet Broadcasting and the Role of V. I. Lenin," *Journalism Monographs* No. 28 (December).

Gunn, Hartford

- 1974 "Inside the Program Cooperative." Interview in *Public Telecommunications Review* 2 (August): 16-27.

Gunther, John

- 1960 *Taken at the Flood: The Story of Albert J. Lasker*. Harper, New York.

Gunther, Max

- 1974 Feb. 9 "Life in a Pressure Cooker," Part 1, *TV Guide*: 4-8.

Hachten, William A.

- 1968 *The Supreme Court on Freedom of the Press: Decisions and Dissents*. Iowa State U. Press, Ames.

Halstead, W. S., and Mazzola, R. A.

- 1970 "Highway Communication Using Wide-Band Cable and Inductive Transmission Methods," *IEEE Transactions on Vehicular Technology* 19: 59-68.

Hammond, John

- 1941 *Men and Volts: The Story of General Electric*. Lippincott, Philadelphia.

Hancock, Harry

- 1950 *Wireless at Sea: The First 50 Years*. Marconi International Marine Communication Co., Chelmsford, England. (Repr. Arno Press, 1974)

Hand, Learned

- 1952 *The Spirit of Liberty*. Knopf, New York.

Hanley, Anne

- 1973 *Cable Television and Education: A Report from the Field*. National Cable Television Association, Washington, D.C.

Hansen, Donald A., and Parsons, J. Hershel

- 1968 *Mass Communication: A Research Bibliography*. Glendessary Press, Santa Barbara, Calif.

Harkness, Richard C.

- 1973 *Telecommunications Substitutes for Travel*. Department of Commerce, Washington, D.C.

Harlow, Alvin

- 1936 *Old Wires and New Waves: The History of the Telegraph, Telephone and Wireless*. Century, New York. (Repr. Arno Press, 1971)

Harmon, Jim

- 1967 *The Great Radio Comedians*. Doubleday, New York.
1970 *The Great Radio Heroes*. Doubleday, New York.

Harris, Paul

- 1968 *When Pirates Ruled the Waves*. Impulse Publications, Aberdeen, Scotland.

Harris, Richard

- 1973 Oct. 1 "The President and the Press," *New Yorker*: 122–128.

Hayakawa, S. I.

- 1958 "Why the Edsel Laid an Egg," *ETC.: A Review of General Semantics* 15 (Spring): 217–221.

Head, Sydney W.

- 1974 *Broadcasting in Africa: A Continental Survey of Radio and Television*. Temple U. Press, Philadelphia.

Head, Sydney W., and Martin, Leo

- 1956 "Broadcasting and Higher Education: A New Era," *Journal of Broadcasting* 1 (Winter): 39–46.

Heiss, Robert G.

- 1970 "The Texarkana Agreement as a Model Strategy for Citizen Participation in FCC License Renewals," *Harvard Journal on Legislation* 7: 627–643.

Helffrich, Stockton

- 1974 "The Broadcast Code." In Le Duc (ed.): 89–92.

Henderson, John

- 1969 *The United States Information Agency*. Praeger, New York.

Henry, Jules

- 1963 *Culture Against Man*. Random House, New York.

Herrmann, Robert O.

- 1970 "The Consumer Movement in Historical Perspective." Pennsylvania State U. Agricultural Station, University Park.

Herzog, Herta

- 1944 "What Do We Really Know about Daytime Serial Listeners?" In Lazarsfeld and Stanton: 3–33.

Hettinger, Herman S.

- 1933 *A Decade of Radio Advertising*. U. of Chicago Press, Chicago. (Repr. Arno Press, 1971)

- Hill, Harold
1965 *NAEB History, 1925–1954*. 2d ed. NAEB, Washington, D.C.
- Himmelweit, Hilde
1963 “An Experimental Study of Taste Development in Children.” In *Television and Human Behavior: Tomorrow’s Research in Mass Communication*, ed. Leon Arons and Mark A. May. Appleton-Century-Crofts, New York.
- Himmelweit, Hilde; Oppenheim, A. N.; and Vince, Pamela
1961 *Television and the Child: An Empirical Study of the Effect of Television on the Young*. Oxford U. Press, London.
- Hocking, William E.
1947 *Freedom of the Press: A Framework of Principle*. U. of Chicago Press, Chicago.
- Hollander, Gayle D.
1972 *Soviet Political Indoctrination: Developments in Mass Media and Propaganda Since Stalin*. Praeger, New York.
- Hollonquist, Tore, and Suchman, Edward
1944 “Listening to the Listener: Experiences with the Lazarsfeld-Stanton Program Analyzer.” In *Lazarsfeld and Stanton*: 265–334.
- Holt, Samuel C.
1969 “The Public Radio Study Report.” Corporation for Public Broadcasting, New York.
- Honomichl, Jack J.
1974 July 15 “Research Top Ten: Who They Are and What They Do,” *Advertising Age*: 24.
- Hoover, Cynthia
1971 *Music Machines—American Style*. Smithsonian Institution Press, Washington, D.C.
- Hoover, Herbert
1952 *Memoirs*. Macmillan, New York.
- Hopkins, Mark W.
1970 *Mass Media in the Soviet Union*. Pegasus, New York.
- House CIFIC (U.S. Congress. House of Representatives. Committee on Interstate and Foreign Commerce)
1951 *Amendment of the Communications Act of 1934*. Hearings on S. 658. 88th Cong., 1st Sess.
1958 *Network Broadcasting*. Report of the FCC Network Study Staff, House Report 1297. 85th Cong., 1st Sess.
1958 *Regulation of Broadcasting: Half a Century of Government Regulation of Broadcasting and the Need for Further Legislative Action*. 85th Cong., 2d Sess.
1960 *Investigation of Television Quiz Shows*. Hearings. 86th Cong., 1st Sess.

- 1960 *Responsibilities of Broadcast Licensees and Station Personnel (Payola and Other Deceptive Practices in the Broadcasting Field)*. Hearings. 86th Cong., 2d Sess.
- 1963 *Broadcast Advertisements*. Hearings on H.R. 8316, etc. 88th Cong., 1st Sess.
- 1963 *Broadcasting Ratings: The Methodology, Accuracy, and Use of Ratings in Broadcasting*. Hearings, in 4 parts. 88th Cong., 1st and 2d Sess.
- 1963 *Television Network Program Procurement*. Prepared by FCC Office of Network Study. House Report 281. 88th Cong., 1st Sess.
- 1965 *Regulation of Community Antenna Television*. Hearings on H.R. 7715. 89th Cong., 1st Sess.
- 1966 *Broadcast Ratings: A Progress Report on Industry and Programs Involving Broadcast Ratings*. House Report 1212. 89th Cong., 2d Sess.
- 1967 *Public Broadcasting Act of 1967*. Report 572, to accompany H.R. 6736. 90th Cong., 1st Sess.
- 1969 *Trafficking in Broadcast Station Licenses and Construction Permits*. Hearings. 90th Cong., 1st and 2d Sess.
- 1969 *Self-Regulation by the Broadcasting Industry of Radio and TV Cigarette Advertising*. Hearings. 91st Cong., 1st Sess.
- 1971 *Subpenaed Material re Certain TV News Documentary Programs*. Hearings. 92d Cong., 1st Sess.
- 1973 *Broadcast License Renewal*. Hearings on H.R. 5546, etc. 93d Cong., 1st Sess.
- House CJ (U.S. Congress. House of Representatives. Committee on the Judiciary)
- 1957 *Monopoly Problems in Regulated Agencies, Part 2: Television*. 84th Cong., 2d Sess.
- House CMMF (U.S. Congress. House of Representatives. Committee on Merchant Marine and Fisheries)
- 1917 *Radio Communication*. Hearings on H.R. 19350. 64th Cong.
- 1919 *Government Control of Radio Communication*. Hearings on H.R. 13159. 65th Cong.
- 1924 *Regulation of Radio Communication*. Hearings on H.R. 7357. 68th Cong.
- House SCSB (U.S. Congress. House of Representatives. Select Committee on Small Business)
- 1966 *Activities of Regulatory and Enforcement Agencies Relating to Small Business (Federal Communications Commission)*. Report of Subcommittee 6 on H.R. 13. 89th Cong., 2d Sess.
- 1971 *Advertising and Small Business*. Hearings on H.R. 5 and 19. 92d Cong., 2d Sess.
- Hovland, C.I.; Lumsdaine, A.A.; and Sheffield, F. C.
- 1949 *Experiments on Mass Communication*. Princeton U. Press, Princeton, N.J.
- Howard, Herbert
- 1974 "Multiple Broadcast Ownership: Regulatory History," *Federal Communications Bar Journal* 27: 1-70.

- Hower, Ralph M.
1949 *The History of an Advertising Agency: N. W. Ayer & Son at Work, 1869–1949*. Rev. ed. Harvard U. Press, Cambridge, Mass.
- Howeth, L. S.
1963 *History of Communications Electronics in the United States Navy*. GPO, Washington, D.C.
- Hubbell, Richard
1944 *4000 Years of Television*. Putnam, New York.
- Husing, Ted
1935 *Ten Years Before the Mike*. Farrar & Rinehart, New York.
- Hutchins, Robert M.
1959 "Is Democracy Possible?" *Fund for the Republic Bulletin* (February).
- Hyman, Sidney
1969 *The Lives of William Benton*. U. of Chicago Press, Chicago.
- Independent Broadcasting Authority
Annual *Guide to Independent Television*. IBA, London, 1963–
- Institute for Education by Radio and Television
Annual *Education on the Air*. Ohio State U. Press, Columbus, 1930–1953, 1959.
- IRAC (Interdepartmental Radio Advisory Committee)
1972 *Fifty Years of Service*. Office of Telecommunications Policy, Washington, D.C.
- IRE/RTMA (Institute of Radio Engineers/Radio-Television Manufacturers Association).
Joint Technical Advisory Committee
1952 *Radio Spectrum Conservation*. McGraw-Hill, New York.
1952 *Radio Spectrum Utilization: United States Use and Management*. McGraw-Hill, New York.
- Irwin, Manley R.
1971 *The Telecommunications Industry: Integration vs. Competition*. Praeger, New York.
- ITU (International Telecommunication Union)
1965 *From Semaphore to Satellite*. ITU, Geneva.
- Ivey, John E.
1948 "Communications as a Social Instrument." In *Communications in Modern Society*, U. of Illinois Institute for Communications Research, Urbana: 142–155.
- Jacobs, Norman
1964 *Culture for the Millions? Mass Media in Modern Society*. Beacon Press, Boston.
- Jaffe, Alfred J.
1971 Feb. 13 "The TV Program Chief: Getting What He's Worth?" *Television/Radio Age*: 27.

- 1973 Jan. 22 "Competitive Radio Scene Triggers 'Hypoing' Effect," *Television/Radio Age*: 21.
- 1973 Oct. 15 "New Network Radio Buying Trend — Guaranteed Cost per 1,000 — Reflects Client Dissatisfaction," *Television/Radio Age*: 28–30, 64–65.
- Jennings, Ralph M., and Richard, Pamela
 1974 *How to Protect Your Rights in Television and Radio*. Rev. ed. United Church of Christ, New York.
- Jennings, Ralph M., et al.
 Annual *Television Station Employment Practices: The Status of Minorities and Women*. United Church of Christ, New York, 1972–
- Johnson, Joseph S., and Jones, Kenneth
 1972 *Modern Radio Station Practices*. Wadsworth, Belmont, Calif.
- Johnson, Nicholas
 1969 Dec. 6 "No, We Don't," *New Republic*: 16–19.
 1970 *How to Talk Back to Your Television Set*. Little, Brown, Boston.
 1973 *Broadcasting in America: The Performance of Network Affiliates in the Top 50 Markets*. Published as dissenting opinion, in *FCC Reports*, 42 *FCC 2d* 1–72.
- Johnson, Nicholas, and Dystel, John
 1973 "A Day in the Life: The Federal Communications Commission," *Yale Law Journal* 82: 1575–1634.
- Jolly, W. P.
 1972 *Marconi*. Stein and Day, New York.
- Jome, Hiram L.
 1925 *Economics of the Radio Industry*. A. W. Shaw, Chicago. (Repr. Arno Press, 1971)
- Jones, Robert F.
 1955 *Investigation of Television Networks and the UHF-VHF Problem*. Progress Report prepared for Senate Committee on Interstate and Foreign Commerce. 84th Cong., 1st Sess. GPO, Washington, D.C.
- Journal of Broadcasting*
 1970 "A Bibliography of Articles on Broadcasting in Law Periodicals, 1920–1968," 12 (Winter): Part 2, 83–156.
 1972 "Topic and Author Index to Vol. I through Vol. XV (Winter 1956–7 Through Fall 1971)."
- Kahn, Frank J., ed.
 1973 *Documents of American Broadcasting*. 3d ed. Appleton-Century-Crofts, New York.
- Kaid, Linda L.; Sanders, Keith R.; and Hirsch, Robert O.
 1974 *Political Campaign Communication: A Bibliography and Guide to the Literature*. Scarecrow Press, Metuchen, N.J.

- Kamen, Ira
1973 *Questions and Answers About Pay-TV*. Sams, Indianapolis.
- Kanfer, Stefan
1973 June 25 "Watergate on TV: Show Biz and Anguished Ritual," *Time*: 14–15.
- Katona, George
1964 *The Mass Consumption Society*. McGraw-Hill, New York.
- Katz, Elihu; Blumler, Jay G.; and Gurevitch, Michael
1974 "Uses of Mass Communication by the Individual." In Davison and Yu: 11–35.
- Katzman, Natan
1972 *One Week of Public Television No. 7: April, 1972*. Corporation for Public Broadcasting, Washington, D.C.
- Kaye, Evelyn
1974 *The Family Guide to Children's Television*. Pantheon, New York.
- Kendrick, Alexander
1969 *Prime Time: The Life of Edward R. Murrow*. Little, Brown, Boston.
- Keogh, James
1972 *President Nixon and the Press*. Funk & Wagnalls, New York.
- Kiester, Edwin, Jr.
1974 Oct. 5 "That 'News' Item May Be a Commercial," *TV Guide*: 10–13.
- Kilpatrick, James J.
1974 Aug. 17 "TV May Calm a Nation's Passions," *TV Guide*: A3–4.
- Kittross, John M., and Harwood, Kenneth, eds.
1970 *Free and Fair: Courtroom Access and the Fairness Doctrine*. APBE, Philadelphia.
- Kiver, Milton S.
1960 *FM Simplified*. 3d ed. Van Nostrand, Princeton, N.J.
- Kiver, Milton, and Kaufman, Milton
1973 *Television Simplified*. 7th ed. Van Nostrand-Reinhold, New York.
- Klapper, Joseph T.
1960 *The Effects of Mass Communication*. Free Press, New York.
- Klein, Paul
1971 Jan. 25 "The Men Who Run TV Aren't That Stupid . . . They Know Us Better Than You Think," *New York*: 20–29.
- Klein, Stanley
1973 March 11 "Battle of the Gadgets for Telephone Lines," *New York Times*: 5F.
- Kletter, Richard C.
1973 *Cable Television: Making Public Access Effective*. Rand Corporation, Santa Monica, Calif.

- Kline, F. Gerald
 1972 "Theory in Mass Communication Research," In Kline and Tichenor: 17-40.
- Kline, F. Gerald, and Clarke, Peter, eds.
 1971 *Mass Communications and Youth: Some Current Perspectives*. Sage, Beverly Hills, Calif.
- Kline, F. Gerald, and Tichenor, Phillip J.
 1972 *Current Perspectives in Mass Communication Research*. Sage, Beverly Hills, Calif.
- Koch, Howard
 1970 *The Panic Broadcast: Portrait of an Event*. Little, Brown, Boston.
- Kock, Winston E.
 1969 *Lasers and Holography: An Introduction to Coherent Optics*. Doubleday, Garden City, N.Y.
- Koenig, Allen E., ed.
 1970 *Broadcasting and Bargaining: Labor Relations in Radio and Television*. U. of Wisconsin Press, Madison.
- Kohlmeier, Louis M.
 1969 *The Regulators: Watchdog Agencies and the Public Interest*. Harper & Row, New York.
- Kottke, Frank J.
 1944 *Electrical Technology and the Public Interest*. American Council on Public Affairs, Washington, D.C.
- Krasnow, Erwin G., and Longley, Laurence D.
 1973 *The Politics of Broadcast Regulation*. St. Martin's, New York.
- Krasnow, Erwin G., and Quale, John C.
 1974 "Ascertainment: The Quest for the Holy Grail," *Public Telecommunications Review* 2 (June): 6-13.
- Kraus, Sidney
 1962 *The Great Debates: Background, Perspective, Effects*. Indiana U. Press, Bloomington.
- Kraus, Sidney, and Chaffee, Steven H., eds.
 1974 "The Ervin Committee Hearings and Communication Research," *Communication Research* 1 (October): 339-448.
- Krebs, Albin
 1972 Sept. 15 "President Supports Coast Unions' Fight Against TV Reruns," *New York Times*: 1.
 1972 Nov. 11 "Disputes on Program Authority Splits Public TV and Fund Arm," *New York Times*: 1.

- 1973 Jan. 31 "Public TV's Freedom Is Called Stunted," *New York Times*: 67M.
 1973 Apr. 19 "Curtis Resignation from C.P.B. Draws Mixed Reaction," *New York Times*: 78M.
- Krislov, Samuel, and Musolf, Lloyd
 1964 *The Politics of Regulation: A Reader*. Houghton Mifflin, Boston.
- Kuhns, William
 1970 *Why We Watch Them: Interpreting TV Shows*. Benziger, New York.
- Kushner, James M.
 1972 "KDAS(FM): Want-Ad Radio in Los Angeles," *Journal of Broadcasting* 16 (Summer): 267-276.
- Lacy, Dan
 1971 Nov. 27 "The © Quagmire," *Saturday Review*: 24-28.
- Land, Herman W., Associates
 1967 *The Hidden Medium: A Status Report on Educational Radio in the United States*. NAEB, Washington, D.C.
 1968 *Television and the Wired City: A Study of the Implications of a Change in the Mode of Transmission*. NAB, Washington, D.C.
- Landis, James M.
 1960 *Report on Regulatory Agencies to the President-Elect*. Committee of the Judiciary Subcommittee on Administrative Practice and Procedure. GPO, Washington, D.C.
- Landry, Robert
 1946 *This Fascinating Radio Business*. Bobbs-Merrill, Indianapolis.
- Lang, Kurt, and Lang, Gladys E.
 1968 *Politics and Television*. Quadrangle, Chicago.
- Larsen, Otto N., ed.
 1968 *Violence and the Mass Media*. Harper & Row, New York.
- Lasswell, Harold D.
 1948 "The Structure and Function of Communications in Society." In Bryson: 37-51.
 1952 "Educational Broadcasters as Social Scientists," *Quarterly of Film, Radio, and Television* 7 (Winter): 150-162.
- Laurent, Lawrence
 1962 "Wanted: The Complete Television Critic." In Shayon et al.: 155-171.
- Lawhorne, Clifton O.
 1971 *Defamation and Public Officials: The Evolving Law of Libel*. Southern Illinois U. Press, Carbondale.

- Lazarsfeld, Paul F.
 1940 *Radio and the Printed Page*. Duell, Sloan & Pearce, New York. (Repr. Arno Press, 1971)
- Lazarsfeld, Paul F.; Berelson, Bernard; and Gaudet, Hazel
 1944 *The People's Choice: How the Voter Makes Up His Mind in a Presidential Campaign*. Duell, Sloan & Pearce, New York.
- Lazarsfeld, Paul F., and Field, Harry N.
 1946 *The People Look at Radio*. U. of North Carolina Press, Chapel Hill.
- Lazarsfeld, Paul F., and Katz, Elihu
 1955 *Personal Influence: The Part Played by People in the Flow of Mass Communications*. Free Press, Glencoe, Ill.
- Lazarsfeld, Paul F., and Kendall, Patricia L.
 1948 *Radio Listening in America*. Prentice-Hall, New York.
- Lazarsfeld, Paul F., and Merton, Robert K.
 1948 "Mass Communication, Popular Taste and Organized Social Action." In Bryson: 95–118.
- Lazarsfeld, Paul F., and Stanton, Frank N., eds.
 1942 *Radio Research, 1941*. Duell, Sloan & Pearce, New York.
 1944 *Radio Research, 1942–1943*. Duell, Sloan & Pearce, New York.
 1949 *Communications Research, 1948–1949*. Harper, New York.
- Le Duc, Don R.
 1973 "Broadcast Legal Documentation: A Four-Dimensional Guide," *Journal of Broadcasting* 17 (Spring): 131–157.
 1973 *Cable Television and the FCC: A Crisis in Media Control*. Temple U. Press, Philadelphia.
- Le Duc, Don R., ed.
 1974 *Issues in Broadcast Regulation*. Broadcast Education Association Monographs No. 1. BEA/NAB, Washington, D.C.
- Lee, Robert E.
 1970 "Don't Kill the Goose!" Address to Association of National Advertisers, April 13.
- Lee, S. Young, and Pedone, Ronald J.
 1973 *Status Report on Public Broadcasting*. CPB, Washington, D.C.
 1974a *Broadcast and Production Statistics of Public Television Licensees: Fiscal Year 1972*. CPB, Washington, D.C.
 1974b *Summary Statistics of CPB-Qualified Public Radio Stations: Fiscal Year 1972*. CPB, Washington, D.C.
 1974 *Summary Statistics of Public TV Licensees, 1972*. CPB, Washington, D.C.
- Leicester University. Television Research Committee.
 1965 *Working Papers*. Leicester U. Press, Leicester, England.

- Leive, David
 1970 *International Telecommunications and International Law: The Regulation of the Radio Spectrum*. Oceana Publications, Dobbs Ferry, N.Y.
- Lerner, Daniel
 1974 "Mass Communication in the Nation State." In Davison and Yu: 83–92.
- Le Roy, David, and Sterling, Christopher, eds.
 1973 *Mass News: Practices, Controversies and Alternatives*. Prentice-Hall, Englewood Cliffs, N.J.
- Lesser, Gerald S.
 1974 *Children and Television: Lessons from Sesame Street*. Random House, New York.
- Lessing, Lawrence
 1956 *Man of High Fidelity: Edwin Howard Armstrong*. Lippincott, New York.
- Levin, Harvey J.
 1960 *Broadcast Regulation and Joint Ownership of Media*. New York U. Press, New York.
 1971 *The Invisible Resource: Use and Regulation of the Radio Spectrum*. Johns Hopkins Press, Baltimore.
- Levitan, Eli
 1970 *An Alphabetical Guide to Motion Picture, Television, and Videotape Production*. McGraw-Hill, New York.
- Library of Congress. Congressional Research Service.
 1974 *Congress and Mass Communications: An Institutional Perspective*. Study conducted for the Joint Committee on Congressional Operations. GPO, Washington, D.C.
- Lichtenstein, Grace
 1974 Aug. 10 "CBS News Tells of Payola on Records," *New York Times*: 47M.
- Lichty, Lawrence W., and Blankenburg, William B.
 1974 "Challenging a TV License: The Madison Story." In Le Duc (ed.): 148–151.
- Lichty, Lawrence, and Topping, Malachi, eds.
 1975 *American Broadcasting: A Source Book on the History of Radio and Television*. Hastings House, New York.
- Lieban, Ruth
 1969 "Trouble in Paradise." In Barrett: 112–126.
- Liebert, Robert M.; Neale, John M.; and Davidson, Emily S.
 1973 *The Early Window: The Effects of Television on Children and Youth*. Pergamon, New York.
- Lilienthal, David E.
 1953 *Big Business: A New Era*. Harper, New York.

- Lindzey, Gardner, and Aronson, Elliot, eds.
1969 *The Handbook of Social Psychology*. 5 vols. Addison-Wesley, Reading, Mass.
- Linton, Bruce A.
1967 *Self-Regulation in Broadcasting: A Three-Part College-Level Study Guide*. NAB, Washington, D.C.
- Lisann, Maurey
1975 *The Impact of Foreign Broadcasting in the USSR*. Praeger, New York.
- Little, Arthur D., Inc.
1969 "Television Program Production, Procurement, Distribution and Scheduling." Arthur D. Little, Cambridge, Mass.
- Litwin, George H., and Wroth, William H.
1969 *The Effects of Common Ownership on Media Content and Influence: A Research Evaluation of Media Ownership and Public Interest*. NAB, Washington, D.C.
- Liu, Alan P.
1971 *Communications and National Integration in Communist China*. U. of California Press, Berkeley.
- Loevinger, Lee
1974 "The FCC and Content Control." In Le Duc (ed.): 60–72.
- Lofton, John
1966 *Justice and the Press*. Beacon Press, Boston.
- Lowe, Robert
1968 *The Fairness Doctrine*. Staff Report for Senate Committee on Commerce. 90th Cong., 2d Sess. GPO, Washington, D.C.
- Lowenthal, Leo
1964 "An Historical Preface to the Popular Culture Debate." In Jacobs: 28–42.
- Lowman, Charles E.
1972 *Magnetic Recording*. McGraw-Hill, New York.
- Lumley, Frederick
1934 *Measurement in Radio*. Ohio State U. Press, Columbus. (Repr. Arno Press, 1971)
- Lyons, Eugene
1966 *David Sarnoff: A Biography*. Harper & Row, New York.
- McCombs, Maxwell, and Shaw, Donald L.
1974 "A Progress Report on Agenda-Setting Research." Paper read at Association for Education in Journalism convention, San Diego.

- McCoy, Ralph E.
1968 *Freedom of the Press: An Annotated Bibliography*. Southern Illinois U. Press, Carbondale.
- MacDonald, Dwight
1953 "Theory of Mass Culture," *Diogenes* 3 (Summer): 5, 13–14.
- Macdonald, Torbert H.
1972 Remarks at Massachusetts Broadcasters Association meeting, South Egremont, Mass., Sept. 30.
- McGinniss, Joe
1969 *The Selling of the President, 1968*. Trident, New York.
- McKinney, Eleanor, ed.
1966 *The Exacting Ear: The Story of Listener-Sponsored Radio*. Random House, New York.
- Maclaurin, W. Rupert
1949 *Invention and Innovation in the Radio Industry*. Macmillan, New York. (Repr. Arno Press, 1971)
- McLeod, Jack M., and O'Keefe, Garrett J.
1972 "The Socialization Perspective and Communication Behavior." In Kline and Tichenor: 121–168.
- McLuhan, Marshall
1964 *Understanding Media: The Extensions of Man*. McGraw-Hill, New York.
- McLuhan, Marshall, and Fiore, Quentin
1967 *The Medium is the Massage: An Inventory of Effects*. Bantam, New York.
- McNamee, Graham
1926 *You're on the Air*. Harper, New York.
- MacNeil, Robert
1968 *The People Machine: The Influence of Television on American Politics*. Harper & Row, New York.
- McNicol, Donald
1946 *Radio's Conquest of Space*. Murray Hill Books, New York. (Repr. Arno Press, 1974)
- McQuail, Denis
1969 *Towards a Sociology of Mass Communications*. Collier-Macmillan, London.
- McQuail, Denis, ed.
1972 *Sociology of Mass Communications*. Penguin, Baltimore.
- McQuail, Denis; Blumler, Jay G.; and Brown, J. R.
1972 "The Television Audience: A Revised Perspective." In McQuail: 135–165.

- Macy, John, Jr.
 1974 *To Irrigate a Wasteland: The Struggle to Shape a Public Television System in the United States*. U. of California Press, Berkeley.
- Maddox, Brenda
 1972 *Beyond Babel: New Directions in Communications*. Simon & Schuster, New York.
- Madow, William G., et al.
 1961 *Evaluation of Statistical Methods Used in Obtaining Broadcast Ratings*. House Report 193. 87th Cong., 1st Sess. GPO, Washington, D.C.
- Magnuson, Warren, and Carper, Jean
 1968 *The Dark Side of the Market Place*. Prentice-Hall, Englewood Cliffs, N.J.
- Maidenberg, H. J.
 1972 May 18 "Peru Sharply Restricts Broadcast Programming and Advertising," *New York Times*: 2.
- Malko, George
 1973 Aug. 18 "Haggling at the Refrigerator, Bracelet and Mink-Stole Bazaar," *TV Guide*: 20-23.
- Mamber, Stephen
 1974 *Cinema Verite in America: Studies in Uncontrolled Documentary*. MIT Press, Cambridge, Mass.
- Manning, Willard G.
 1973 *The Supply of Prime-Time Entertainment Television Programs*. Center for Research in Economic Growth, Stanford, Calif.
- Marchetti, Victor L., and Marks, John D.
 1974 *The C.I.A. and the Cult of Intelligence*. Knopf, New York.
- Marconi, Degna
 1962 *My Father, Marconi*. McGraw-Hill, New York.
- Marcus, Geoffrey
 1969 *The Maiden Voyage*. Viking, New York.
- Marcuse, Herbert
 1969 "Repressive Tolerance." In *A Critique of Pure Tolerance* by Robert P. Wolff, Barrington Moore, Jr., and Herbert Marcuse. Beacon Press, Boston: 81-123.
- Marland, E. A.
 1964 *Early Electrical Communication*. Abelard-Schuman, London.
- Marsh, C. S., ed.
 1937 *Educational Broadcasting, 1936: Proceedings of the First National Conference on Educational Broadcasting*. U. of Chicago Press, Chicago.

Marsh, Ken

- 1974 *Independent Video: A Complete Guide to the Physics, Operation, and Application of the New Television for the Student, the Artist and for Community TV*. Straight Arrow Books, San Francisco.

Martin, James

- 1971 *Future Developments in Telecommunications*. Prentice-Hall, Englewood Cliffs, N.J.

Mason, William F., et al.

- 1972 *Urban Cable Systems: Summary*. Mitre Corporation, McLean, Va.

Mayer, Martin

- 1962 "The Intelligent Man's Guide to Broadcast Ratings." American Research Foundation, New York.
 1958 *Madison Avenue, U.S.A.* Harper, New York.
 1972 "How Television News Covers the World (in 4000 Words or Less)," *Esquire* (January): 86.
 1973 Feb. 3 "The Challengers," *TV Guide*: 5-21.

Mayeux, Peter E.

- 1970 "Three Television Critics: Stated vs. Manifest Functions," *Journal of Broadcasting* 14 (Winter): 25-36.

Mead, Margaret

- 1973 Jan. 6 "'As Significant as the Invention of Drama or the Novel,'" *TV Guide*: 21-23.

Melody, William

- 1973 *Children's Television: The Economics of Exploitation*. Yale U. Press, New Haven, Conn.

Mendelsohn, Harold

- 1966 *Mass Entertainment*. College & University Press, New Haven, Conn.

Mendelsohn, Herbert, and Crespi, Irving

- 1970 *Polls, Television, and the New Politics*. Chandler, Scranton, Pa.

Merton, Robert K.

- 1946 *Mass Persuasion: The Social Psychology of a War Bond Drive*. Harper, New York.

Metz, Robert

- 1975 *CBS: Reflections in a Bloodshot Eye*. Playboy Press, Chicago.

Meyer, Edward H.

- 1970 "Is the Golden Goose Beginning to Lay Leaden Eggs?" Mimeo. Grey Advertising, Inc., New York.

- Meyer, Timothy J.
1974 "Media Credibility: The State of the Research," *Public Communications Review* 2 (August): 48–52.
- Meyerhoff, Arthur E.
1965 *The Strategy of Persuasion: The Use of Advertising Skills in Fighting the Cold War*. Coward-McCann, New York.
- Meyersohn, Rolf B.
1957 "Social Research in Television." In Rosenberg and White: 345–357.
- Michael, Paul, and Parish, James R.
1970 *The Emmy Awards: A Pictorial History*. Crown, New York.
- Michener, James A.
1970 *The Quality of Life*. Lippincott, New York.
- Midgley, Ned
1948 *The Advertising and Business Side of Radio*. Prentice-Hall, New York.
- Milam, Lorenzo W.
1972 *Sex and Broadcasting: A Handbook on Starting Community Radio Stations*. 2d ed. Dildo Press, Saratoga, Calif.
- Milgram, Stanley, and Shotland, R. Lance
1974 *Television and Antisocial Behavior: Field Experiments*. Academic, New York.
- Mill, John S.
1946 *On Liberty*. Blackwell, Oxford, England.
- Millard, Steve
1971 Nov. 8 "The Story of Public Broadcasting," *Broadcasting Special Report*: 30–36.
- Miller, Merle
1952 *The Judges and the Judged*. Doubleday, Garden City, N.Y. (Repr. Arno Press, 1971)
- Miller, Merle, and Rhodes, Evan
1965 *Only You, Dick Daring*. Bantam, New York.
- Minor, Dale
1970 *The Information War*. Hawthorn, New York.
- Minow, Newton N.
1964 *Equal Time: The Private Broadcaster and the Public Interest*. Atheneum, New York.
- Minow, Newton N.; Martin, John B.; and Mitchell, Lee M.
1973 *Presidential Television: A Twentieth Century Fund Report*. Basic Books, New York.

- Morison, John R., and McNeil, Donald K.
 1970 "State Supreme Court Rules Political Programming May Not Be Restricted,"
Educational Broadcasting Review 4 (August): 7–14.
- Morris, James
 1973 *The Preachers*. St. Martin's, New York.
- Morris, Norman S.
 1971 *Television's Child*. Little, Brown, Boston.
- Moskin, J. Robert
 1973 *The Case for Advertising: Highlights of the Industry Presentation to the Federal Trade Commission*. AAAA, New York.
- Mott, Frank L.
 1962 *American Journalism: A History, 1690–1960*. 3d ed. Macmillan, New York.
- Murrow, Edward R., and Friendly, Fred W., eds.
 1955 *See It Now*. Simon & Schuster, New York.
- NAB (National Association of Broadcasters)
 Seriatim *Broadcast Self-Regulation: Manual of the National Association of Broadcasters' Code Authority* (loose-leaf). NAB, Washington, D.C.
- Monthly *Code News*. NAB, Washington, D.C.
- 1966 "A Broadcast Research Primer." NAB, Washington, D.C.
 1968 "Television Station Organization Charts." NAB, Washington, D.C.
 1969a "Radio Station Organization Charts." NAB, Washington, D.C.
 1969b "Radio-Television Program Log Recommendations." NAB, Washington, D.C.
 1972 "Political Broadcast Catechism." 7th ed. NAB, Washington, D.C.
 1973a *Radio Financial Report*. NAB, Washington, D.C.
 1973b *Standard Definitions of Broadcast Research Terms*. 2d ed. NAB, Washington, D.C.
 1973c *Television Financial Report*. NAB, Washington, D.C.
 1974a "Broadcasting and the Federal Lottery Laws." 5th ed. NAB, Washington, D.C.
 1974b "The Radio Code." 18th ed. NAB, Washington, D.C.
 1974c "The Television Code." 17th ed. NAB, Washington, D.C.
- Nader, Ralph, et al.
 1972 *Whistle Blowing: The Report of the Conference on Professional Responsibility*. Bantam, New York.
- NAE (National Academy of Engineering). Committee on Telecommunications
 1971 *Communications Technology for Urban Improvement*. NAE, Washington, D.C.
- NAEB (National Association of Educational Broadcasters)
 1964 *Standards of Television Transmission: Factors Affecting Microwave Relay and Closed-Circuit Transmission of Educational Materials*. NAEB, Washington, D.C.
 1974 *Directory of Educational Telecommunications*. NAEB, Washington, D.C.

- Namurois, Albert
 1972 *Structures and Organization of Broadcasting in the Framework of Radiocommunications*. Rev. ed. EBU Legal Monographs No. 8. EBU, Geneva.
- National Advisory Commission on Civil Disorders
 1968 Report. Bantam, New York.
- National Commission on the Causes and Prevention of Violence
 1970 *To Establish Justice, To Insure Domestic Tranquility*. Bantam, New York.
- National Radio Conferences
 1924 *Recommendations for Regulation of Radio*. (3d conf.) GPO, Washington, D.C. (Repr. Arno Press, 1976).
 1926 *Proceedings and Recommendations for Regulation of Radio*. (4th conf.) GPO, Washington, D.C. (Repr. Arno Press, 1976)
- Naughton, James M.
 1973 Nov. 2 "White House Papers Outline '70 Effort to Get TV Networks to Ease Criticism," *New York Times*: 24.
- NBC (National Broadcasting Company)
 1966 *C.R.A.M. — Cumulative Radio-Audience Method*. NBC, New York.
 1971 Comments of NBC on FCC Docket 19154, Nov. 11, NBC, New York.
- NCCB (National Citizens Committee for Broadcasting)
 1974 *Demystifying Broadcasting*. NCCB, Washington, D.C.
- NCTA (National Cable Television Association)
 1973 *Local Origination Directory, 1973*. NCTA, Washington, D.C.
- Nelson, Harold, and Teeter, Dwight
 1973 *Law of Mass Communications*. 2d ed. Foundation Press, Mineola, N.Y.
- Newman, Edwin
 1974 *Strictly Speaking: Will America Be the Death of English?* Bobbs-Merrill, New York.
- Newsom, Carroll V.
 1973 "Communication Satellites: A New Hazard for World Cultures," *Educational Broadcasting Review* 7 (April): 77–85.
- Newsweek
 1963 Dec. 9 "As 175 Million Americans Watched": 52.
 1967 Mar. 6 "The Message of Marshall McLuhan," Special Report: 41–45.
- New Yorker
 1974 June 3 "The Talk of the Town: Notes and Comment": 27.
- New York Times
 1972 Sept. 9 "Charles Correll, the Andy of Radio, Dies": 46M.
 1972 Oct. 18 "Criticizing the President" (editorial): 46.
 1974 Mar. 3 "So Much for Conventional Wisdom" (reprint of editorial from *The Daily Freeman-Journal*, Webster City, Iowa): 13E.

New Zealand. Committee on Broadcasting

1973 *The Broadcasting Future for New Zealand*. Government Printer, Wellington, N.Z.

Nichols, Josef C.

1974 "Some Aspects of Direct Satellite Broadcasting," *EBU Review* 25 (May): 10–19.

Nielsen, A. C., Co.

Annual "Nielsen Television." Nielsen, Northbrook, Ill., 1955–

1964 "What the Ratings Really Mean." Nielsen, Chicago.

1972 "The Use of Random Number Phone Samples for NSI Diary Placements." Nielsen, New York.

1974 *Nielsen Station Index Reference Supplement: NSI Methodology, Techniques, and Data Interpretation*. Nielsen, Northbrook, Ill.

1974 1974–75 *NTI/NAC Reference Supplement*. Nielsen, Northbrook, Ill.

Nielsen Newscast

1974 "All Time Top 10 Programs," 22 (4): 6.

Niven, Harold

1972 "Thirteenth Survey of Colleges and Universities Offering Courses in Broadcasting, 1971–1972." *Journal of Broadcasting* 16 (Summer): 331–370.

Nixon, Raymond B.

1954 "Trends in Newspaper Ownership since 1945," *Journalism Quarterly* 31 (Winter): 3–14.

Nixon, Richard M.

1972 July 3 "Veto of Public Broadcasting Bill," *Weekly Compilation of Presidential Documents* 8: 1119.

Nizer, Louis

1966 *The Jury Returns*. Doubleday, Garden City, N.Y.

Noll, Roger G.; Merton, J. Peck; and McGowan, John

1973 *Economic Aspects of Television Regulation*. Brookings, Washington, D.C.

Nye, Russell B.

1970 *The Unembarrassed Muse: The Popular Arts in America*. Dial, New York.

Oates, Whitney J.

1948 "Classic Theories of Communication." In Bryson: 27–36.

Oberdorfer, Don

1972 *Tet!* Doubleday, New York.

O'Connor, John J.

1973 Jan. 11 "Whitehead Asserts Nixon's Bill Does Not Seek to Curtail Freedom of Broadcasters," *New York Times*: 37M.

1973 Oct. 1 "Fred Wiseman's 'Juvenile Court,' a Portrait," *New York Times*: 63M.

1974 July 26 "TV Networks and the White House," *New York Times*: 59M.

- Ogilvy, David
1964 *Confessions of an Advertising Man*. Dell, New York.
- Opinion Research Corporation
1973 "Advertising: The Public Supports Stricter Controls," *ORC Public Opinion Index* 33, Princeton, N.J.
- Opotowsky, Stan
1962 *TV — the Big Picture*. Collier, New York.
- Othmer, David
1973 *The Wired Island: The First Two Years of Public Access to Cable Television in Manhattan*. Fund for the City of New York, New York.
- OTM (Office of Telecommunications Management)
1969 *The Radio Frequency Spectrum: United States Use and Management*. OTM, Washington, D.C.
- OTP (Office of Telecommunications Policy)
1973 "Technical Analysis of VHF Television Broadcasting Frequency Assignment Criteria." OTP, Washington, D.C.
1973 *The Radio Frequency Spectrum: United States Use and Management*. OTP, Washington, D.C.
- Owen, Bruce; Beebe, Jack H.; and Manning, Willard, Jr.
1974 *Television Economics*. Lexington Books, Lexington, Mass.
- Padover, Saul K., ed.
1946 *Thomas Jefferson on Democracy*. New American Library, New York.
- Page, Arthur
1941 *The Bell Telephone System*. Harper, New York.
- Palmer, Edward L.
1969 "Research at the Children's Workshop," *Educational Broadcasting Review* 3 (October): 43–48.
- Pannitt, Merrill
1972 "America Out of Focus." Reprint from *TV Guide*, Radnor, Pa.
- Park, Rolla E., ed.
1973 *The Role of Analysis in Regulatory Decisionmaking: The Case of Cable Television*. Lexington Books, Lexington, Mass.
1974 *New Television Networks*. Rand Corporation, Santa Monica, Calif.
- Parker, Lorne A.
1969 *SCA: A New Medium*. U. of Wisconsin Press, Madison.
- Passman, A.
1971 *The DJs*. Macmillan, New York.

- Patterson, Thomas E., and McClure, Robert D.
 [1974] "Political Advertising: Voter Reaction to Televised Political Commercials." Citizens' Research Foundation, Princeton, N.J.
- Paulu, Burton
 1967 *Radio and Television Broadcasting on the European Continent*. U. of Minnesota Press, Minneapolis.
 1974 *Radio and Television Broadcasting in Eastern Europe*. U. of Minnesota Press, Minneapolis.
- Pawley, Edward
 1972 *BBC Engineering: 1922–1972*. BBC, London.
- Peabody, Robert L., et al.
 1972 *To Enact a Law: Congress and Campaign Financing*. Praeger, New York.
- Pearce, Michael; Scott, M. Cunningham; and Miller, Avon
 1971 *Appraising the Economic and Social Effects of Advertising: A Review of Issues and Evidence*. Marketing Science Institute, Cambridge, Mass.
- Pease, Otis
 1958 *The Responsibility of American Advertisers: Private Control and Public Influence, 1920–1940*. Yale U. Press, New Haven, Conn.
- Pember, Don R.
 1972 *Privacy and the Press: The Law, the Mass Media, and the First Amendment*. U. of Washington Press, Seattle.
- Perry, Armstrong
 1929 *Radio in Education: The Ohio School of the Air and Other Experiments*. Payne Fund, New York.
- Phillips, Mary
 1971 *CATV: A History of Community Antenna Television*. Northwestern U. Press, Evanston, Ill.
- Pierce, John
 1964 *Electrons and Waves: An Introduction to the Science of Electronics and Communication*. Doubleday, New York.
- Pilnick, Carl, and Baer, Walter S.
 1973 *Cable Television: A Guide to the Technology*. Rand Corporation, Santa Monica, Calif.
- Ploman, Edward
 1972 *A Guide to Satellite Communication*. Reports and Papers on Mass Communication No. 66. Unesco, Paris.
- Plotkin, Harry M.
 1955 *Television Network Regulation and the UHF Problem*. Memorandum prepared

for Senate Committee on Interstate and Foreign Commerce. GPO, Washington, D.C.

Polsky, Richard M.

1974 *Getting to Sesame Street: Origins of the Children's Television Workshop*. Praeger, New York.

Pool, Ithiel de Sola, ed.

1973 *Talking Back: Citizen Feedback and Cable Technology*. MIT Press, Cambridge, Mass.

Pool, Ithiel de Sola, and Schramm, Wilbur, eds.

1973 *Handbook of Communication*. Rand McNally, Chicago.

Posner, Richard

1973 *Regulation of Advertising by the FTC*. American Enterprise Institute for Public Policy Research, Washington, D.C.

Postmaster General

1914 *Government Ownership of Electrical Means of Communication*. Senate Document 399. 63d Cong., 2d Sess. GPO, Washington, D.C.

Potter, David M.

1945 *People of Plenty: Economic Abundance and the American Character*. U. of Chicago Press, Chicago.

Powell, John W.

1962 *Channels of Learning: The Story of Educational Television*. Public Affairs Press, Washington, D.C.

Powers, Ron, and Oppenheim, Jerrold

1973 "The Failed Promise of All-News Radio," *Columbia Journalism Review* (September/October): 21-28.

Powledge, Fred

1971 *The Engineering of Restraint: The Nixon Administration and the Press*. Public Affairs Press, Washington, D.C.

1972 *Public Television: A Question of Survival*. Public Affairs Press, Washington, D.C.

Presbrey, Frank

1929 *The History and Development of Advertising*. Doubleday, New York.

President of the United States

1934 *Federal Communications Commission*. Message recommending that Congress create a new agency. . . . Senate Document 144. 73d Cong., 2d Sess.

President's Advisory Council on Executive Organization

1971 *A New Regulatory Framework: Report on Selected Independent Agencies*. GPO, Washington, D.C.

- President's Communications Policy Board
1951 *Telecommunications: A Program for Progress*. GPO, Washington, D.C. (Repr. Arno Press, 1976)
- President's Task Force on Communications Policy
1968 *Final Report*. GPO, Washington, D.C.
- Price, Monroe, and Wicklein, John
1972 *Cable Television: A Guide for Citizen Action*. Pilgrim Press, Philadelphia.
- Prowitt, Marsha O.
1971 "Guide to Citizen Action in Radio and Television," United Church of Christ, New York.
- Quaal, Ward, and Martin, Leo
1968 *Broadcast Management: Radio and Television*. Hastings House, New York.
- Quinlan, Sterling
1974 *The Hundred Million Dollar Lunch*. O'Hara, Chicago.
- Radin, Max
1931 *The Lawful Pursuit of Gain*. Houghton Mifflin, Boston.
- Randall, R. S.
1967 *Censorship of the Movies: The Social and Political Control of a Mass Medium*. U. of Wisconsin Press, Madison.
- Read, Oliver, and Welsh, Walter
1959 *From Tin Foil to Stereo: Evolution of the Phonograph*. Sams, Indianapolis. (Repr. Arno Press, 1976)
- Redd, Lawrence N.
1974 *Rock Is Rhythm and Blues: The Impact of Mass Media*. Michigan State U. Press, East Lansing.
- Reekie, A. F.
1972 "Cable Distribution of Broadcast Programmes in Europe," *EBU Review* 136 (December): 269-274.
- Rhodes, Frederick L.
1929 *Beginnings of Telephony*. Harper, New York. (Repr. Arno Press, 1974)
- Rivers, William L.
1967 *The Opinion Makers: The Washington Press Corps*. 2d ed. Beacon Press, Boston.
- Rivers, William L.; Peterson, Theodore; and Jensen, Jay W.
1971 *The Mass Media and Modern Society*. 2d ed. Rinehart Press, San Francisco.
- Rivers, William L., and Schramm, Wilbur
1969 *Responsibility in Mass Communication*. Rev. ed. Harper & Row, New York.

- Rivers, William L., and Slater, William, eds.
 1975 *Aspen Handbook on the Media: Research, Publications, Organizations*. 2d ed. Aspen Program on Communications and Society, Palo Alto, Calif.
- Rivkin, Steven R.
 1973 *Cable Television: A Guide to Federal Regulations*. Rand Corporation, Santa Monica, Calif.
- Robertson, Bruce
 1954 Oct. 25 "A New Harmony for an Old Discord," *Broadcasting-Telecasting*: 103.
- Robertson, James, and Yokom, Gerald G.
 1973 "Educational Radio: The Fifty-Year-Old Adolescent," *Educational Broadcasting Review* 7 (April): 107-115.
- Robertson, Nan
 1974 July 4 "France Divides State TV Network into Rival Units," *New York Times*: 33M.
- Robinson, John P.
 1972 "Mass Communication and Information Diffusion." In Kline and Tichenor: 71-93.
- Robinson, Richard
 1974 *The Video Primer: Equipment, Production and Concepts*. Hyperion Press, Westport, Conn.
- Robinson, Thomas P.
 1943 *Radio Networks and the Federal Government*. Columbia U. Press, New York.
- Roe, Yale, ed.
 1964 *Television Station Management*. Hastings House, New York.
- Rogers, Everett M., and Shoemaker, F. Floyd
 1971 *Communication of Innovations: A Cross-Cultural Approach*. 2d ed. Free Press, New York.
- Roper Organization
 1973 "What People Think of Television and Other Mass Media, 1959-1972." Television Information Office, New York.
 1975 "Trends in Public Attitudes Toward Television and Other Mass Media, 1959-1974." Television Information Office, New York.
- Rose, C. B., Jr.
 1940 *National Policy for Radio Broadcasting*. Harper, New York. (Repr. Arno Press, 1971)
- Rosenberg, Bernard, and White, David M., eds.
 1957 *Mass Culture: The Popular Arts in America*. Free Press, Glencoe, Ill.

Rosenbloom, Joel

- 1961 "Authority of the Federal Communications Commission." In *Freedom and Responsibility in Broadcasting*, ed. John Coons. Northwestern U. Press, Evanston, Ill.: 96–170.

Rosenblum, Victor G.

- 1962 "How to Get into TV: The Federal Communications Commission and Miami's Channel 10." In *The Uses of Power: Seven Cases in American Politics*, ed. Alan F. Westin. Harcourt Brace Jovanovich, New York.

Rosewater, Victor

- 1930 *History of Cooperative News-Gathering in the United States*. Appleton, New York.

Rosse, James N.; Owen, Bruce M.; and Grey, David L.

- 1970 "Economic Issues in the Joint Ownership of Newspaper Media." *Studies in the Economics of Mass Communication*, Memorandum No. 97. Research Center in Economic Growth, Stanford, Calif.

Rothafel, Samuel, and Yates, Raymond F.

- 1925 *Broadcasting: Its New Day*. Century, New York. (Repr. Arno Press, 1971)

Routt, Edd

- 1972 *The Business of Radio Broadcasting*. TAB Books, Blue Ridge Summit, Pa.

Rowsome, Frank

- 1970 *Think Small: The Story of Those Volkswagen Ads*. Greene, Brattleboro, Vt.

Rubin, Bernard

- 1967 *Political Television*. Wadsworth, Belmont, Calif.

Rucker, Bryce W.

- 1968 *The First Freedom*. Southern Illinois U. Press, Carbondale.

Sackman, Harold, and Boehm, Barry, eds.

- 1972 *Planning Community Information Utilities*. AFIPS Press, Montvale, N.J.

Sackman, Harold, and Nie, Norman, eds.

- 1971 *The Information Utility and Social Choice*. AFIPS Press, Montvale, N.J.

Saettler, Paul

- 1968 *A History of Instructional Technology*. McGraw-Hill, New York.

Sandage, C. G., and Fryberger, Vernon

- 1971 *Advertising Theory and Practice*. 18th ed. Irwin, Homewood, Ill.

Sarnoff, David

- 1968 *Looking Ahead: The Papers of David Sarnoff*. McGraw-Hill, New York.

Saudek, Robert

- 1965 "Program Coming in Fine. Please Play Japanese Sandman," *American Heritage* (August): 24–27.

- Saunders, Dero A.
1952 "Record Industry: The Classics Are Hot," *Fortune* (December): 128–131, 175–182.
- Schickel, Richard
1974 Apr. 1 "New B Movies," *Time*: 51.
- Schiller, Herbert I.
1969 *Mass Communications and American Empire*. Augustus M. Kelley, New York.
1974 "Freedom from the 'Free Flow'," *Journal of Communications* 24 (Winter): 110–117.
- Schmeckebier, Laurence F.
1932 *The Federal Radio Commission: Its History, Activities and Organization*. Brookings, Washington, D.C. (Repr. Arno Press, 1976)
- Schramm, Wilbur
1964 *The Effects of Television on Children and Adolescents*. Reports and Papers on Mass Communication No. 43. Unesco, Paris.
1964 *Mass Media and National Development: The Role of Information in Developing Countries*. Stanford U. Press, Stanford, Calif.
1973 *Men, Messages, and Media: A Look at Human Communication*. Harper & Row, New York.
- Schramm, Wilbur; Lyle, Jack; and Parker, Edwin B.
1961 *Television in the Lives of Our Children*. Stanford U. Press, Stanford, Calif.
- Schramm, Wilbur, and Nelson, Lyle
1972 *The Financing of Public Television*. Aspen Institute for Humanistic Studies and the Academy for Educational Development, Palo Alto, Calif.
- Schramm, Wilbur, and Roberts, D. F., eds.
1971 *The Process and Effects of Mass Communication*. Rev. ed. U. of Illinois Press, Urbana.
- Schubert, Paul
1928 *The Electric Word: The Rise of Radio*. Macmillan, New York. (Repr. Arno Press, 1971)
- Schumpeter, Joseph A.
1939 *Business Cycles*. 2 vols. McGraw-Hill, New York.
- Schwartz, Bernard
1959 *The Professor and the Commissions*. Knopf, New York.
1973 *The Economic Regulation of Business and Industry: A Legislative History of U.S. Regulatory Agencies*. 5 vols. Chelsea House, New York.
- Schwartz, Louis, and Woods, Robert A.
1972 "Access Avenues for Public Broadcasters," *Educational Broadcasting Review* 6 (February): 1–19.

Seehafer, Eugene, and Laemmar, J. W.

1959 *Successful Radio and Television Advertising*. McGraw-Hill, New York.

Seiden, Martin H.

1972 *Cable Television U.S.A.: An Analysis of Government Policy*. Praeger, New York.

1974 *Who Controls the Media? Popular Myths and Economic Realities*. Basic Books, New York.

Seldes, Gilbert

1950 *The Great Audience*. Viking, New York.

1956 *The Public Arts*. Simon & Schuster, New York.

1962 "Beg, Borrow or Annex." In Shayon et al.: 101-108.

1968 *The New Mass Media: Challenges to a Free Society*. Public Affairs Press, Washington, D.C.

Senate CA (U.S. Congress. Senate. Committee on Appropriations)

1974 *Independent Agencies Appropriations*. Hearings. 93d Cong., 1st Sess.

Senate CC (U.S. Congress. Senate. Committee on Commerce.) Called Committee on Commerce until 1947; Committee on Interstate and Foreign Commerce from January 1947 to April 1961.

1930 *Commission on Communications*. Hearings on S. 6. 71st Cong. 2d Sess.

1944 *To Amend the Communications Act of 1934*. Hearings on S. 814. 78th Cong., 1st Sess.

1948 *Progress of FM Radio: Certain Charges Involving Development of FM Radio and RCA Patent Policies*. Hearings. 80th Cong., 2d Sess.

1950 *The Present Status of Color Television*. Report. 81st Cong.

1956 *Television Inquiry*. Hearings in 6 parts. 84th Cong., 2d Sess.; 85th Cong. 1st Sess.; 85th Cong., 2d Sess.

1959 *VHF Boosters and Community Antenna Regulation*. Hearings in 2 parts on S. 1939 et al. 86th Cong., 1st Sess.

1972 *Surgeon General's Report by Scientific Advisory Council on Television and Social Behavior*. Hearings. 92d Cong., 2d Sess.

1974 *Broadcast License Renewal Act*. Report on H.R. 12993. 92d Cong., 2d Sess

1974 *Nomination, January, 1974*. Hearings . . . on nomination of James H. Quello. . . . 93d Cong., 2d Sess.

Senate CJ (U.S. Congress. Senate. Committee on the Judiciary)

1963 *Pacifica Foundation*. Hearings in 3 parts. 88th Cong., 1st Sess.

1966 *Possible Anti-Competitive Effects of Sale of Network TV Advertising*. 89th Cong., 2d Sess.

Sereno, Kenneth K., and Mortensen, C. David, eds.

1970 *Foundations of Communication Theory*. Harper & Row, New York.

- Settel, Irving
1967 *A Pictorial History of Radio*. Grosset & Dunlap, New York.
- Settel, Irving, and Laas, William
1969 *A Pictorial History of Television*. Grosset & Dunlap, New York.
- Seymour-Ure, Colin
1974 *The Political Impact of Mass Media*. Sage, Beverly Hills, Calif.
- Shain, Michael
1971 Dec. 27 "It's a Family Affair," *Broadcasting Special Report*: 32–48.
- Shamberg, Michael, and Raindance Corp.
1971 *Guerilla Television*. Holt, Rinehart and Winston, New York.
- Shannon, Claude E., and Weaver, W.
1949 *The Mathematical Theory of Communication*. U. of Illinois Press, Urbana.
- Shayon, Robert L.
1971 *Open to Criticism*. Beacon Press, Boston.
- Shayon, Robert L., et al.
1962 *The Eighth Art*. Holt, Rinehart and Winston, New York.
- Shelby, Maurice E., Jr.
1973 "Criticism and Longevity of Television Programs," *Journal of Broadcasting* 17 (Summer): 277–286.
- Shibutani, Tamotsu
1966 *Improvised News: A Sociological Study of Rumor*. Bobbs-Merrill, Indianapolis.
- Shiers, George, and Shiers, May
1972 *Bibliography of the History of Electronics*. Scarecrow Press, Metuchen, N.J.
- Shiers, George, ed.
1976 *The Technical Development of Television*. Arno Press, New York.
- Shosteck, Herschel
1974 "Ascertainment Procedures: Rule and Reality." In Le Duc (ed.): 41–48.
- Shulman, Arthur, and Youman, Roger
1966 *How Sweet It Was: Television — A Pictorial Commentary*. Shorecrest, New York.
1973 *The Television Years*. Popular Library, New York.
- Shurick, E. P. J.
1946 *The First Quarter-Century of American Broadcasting*. Midland, Kansas City.
- Siebert, Fred, et al.
1970 *Free Press and Fair Trial: Some Dimensions of the Problem*. U. of Georgia Press, Athens.

- Siepmann, Charles
 1946 *Radio's Second Chance*. Atlantic-Little, Brown, Boston.
 1950 *Radio, Television and American Society*. Oxford U. Press, New York.
- Sigel, Leon V.
 1973 *Reporters and Officials: The Organization and Politics of Newsmaking*. D. C. Heath, Lexington, Mass.
- Simkins, Tina
 1974 "Public Radio: Coming Out of Hiding," *Educational Broadcasting* (May/June): 15-19.
- Simko, George J.
 1973 "TV Clutter: What We Know About It, What We Can Do About It." A.N.A., New York.
- Sinclair, Upton
 1935 *I, Candidate for Governor, and How I Got Licked*. Farrar & Rinehart, New York.
- Singer, Benjamin D.
 1973 *Feedback and Society: A Study of the Uses of Mass Channels for Coping*. Lexington Books, Lexington, Mass.
- Skornia, Harry T.
 1965 *Television and Society: An Inquest and Agenda for Improvement*. McGraw-Hill, New York.
- Sloane, Leonard
 1971 Apr. 11 "DuPont's \$100-Million Edsel: Market Research Doomed Corfam," *New York Times*: 3F.
- Small, William
 1970 *To Kill a Messenger: Television News and the Real World*. Hastings House, New York.
- Smead, Elmer E.
 1959 *Freedom of Speech by Radio and Television*. Public Affairs Press, Washington, D.C.
- Smith, Anthony
 1973 *The Shadow in the Cave: The Broadcaster, His Audience, and the State*. U. of Illinois Press, Urbana.
- Smith, Bruce L.; Lasswell, Harold D.; and Casey, Ralph D.
 1946 *Propaganda, Communication and Public Opinion*. Princeton U. Press, Princeton, N.J.
- Smith, Bruce L., and Smith, Chitra M.
 1956 *International Communication and Political Opinion: A Guide to the Literature*. Princeton U. Press, Princeton, N.J.

- Smith, F. Leslie
 1974 "Hunger in America Controversy: Another View," *Journal of Broadcasting* 18 (Winter): 79–83.
- Smith, Leon C.
 1971 "Local Station Liability for Deceptive Advertising," *Journal of Broadcasting* 15 (Winter): 107–112.
- Smith, Ralph L.
 1972 *The Wired Nation: Cable TV, the Electronic Communications Highway*. Harper & Row, New York.
- Smith, R. Franklin
 1960 "Oldest Station in the Nation?" *Journal of Broadcasting* 4 (Winter): 40–55.
- Smith, Richard A.
 1954 "TV: The Coming Showdown," *Fortune* (September): 138–139, 164.
- Smith, Robert R.
 1965 "The Origins of the Radio Network News Commentary," *Journal of Broadcasting* 9 (Spring): 113–122.
- Smith, Robert R., and Prince, Paul T.
 1974a "WHDH: The Unconscionable Delay," *Journal of Broadcasting* 18 (Winter): 85–96.
 1974b "WHDH: Two Issues." In Le Duc (ed.): 34–38.
- Smothers, Tom
 1969 "The Whole World Is Watching!" In *TV70*, by Dave Kaufman, Signet, New York: 6–9.
- Smythe, Dallas
 1957 *Structure and Policy of Electrical Communications*. U. of Illinois Press, Urbana.
- Socolow, A. Walter
 1939 *The Law of Radio Broadcasting*. 2 vols. Baker, Voorhis, New York.
- Sorensen, Thomas C.
 1968 *The Word War: The Story of American Propaganda*. Harper & Row, New York.
- Spalding, John W.
 1964 "1928: Radio Becomes a Mass Advertising Medium," *Journal of Broadcasting* 8 (Winter): 31–34.
- Sperry, Robert
 1975 "A Selected Bibliography of Works on the Federal Communications Commission," *Journal of Broadcasting* 19 (Winter): 55–113.
- Sponsor
 1965 Sept. 13 "CBS: Documenting 38 Years of Exciting History": entire issue.
 1966 May 16 "NBC: A Documentary": entire issue.

Spottiswoode, Raymond, ed.

1969 *The Focal Encyclopedia of Film and Television Techniques*. Hastings House, New York.

Star, Shirley, and Hughes, Helen

1950 "Report on an Educational Campaign: The Cincinnati Plan for the United Nations," *American Journal of Sociology* 50: 389–400.

Statistical Research, Inc.

1972 *A Study of Television Usage in Four Local Markets*. NAB, Washington, D.C.

Stebbins, Gene R.

1970 "Pacifica's Battle for Free Expression," *Educational Broadcasting Review* 4 (June): 19–28.

Stedman, Raymond

1971 *The Serials: Suspense and Drama by Installment*. U. of Oklahoma Press, Norman.

Stein, Robert

1972 *Media Power: Who Is Shaping Your Picture of the World?* Houghton Mifflin, Boston.

Steiner, Gary A.

1963 *The People Look at Television: A Study of Audience Attitudes*. Knopf, New York.

Stephenson, William

1967 *The Play Theory of Mass Communication*. U. of Chicago Press, Chicago.

Stern, Bill

1959 *The Taste of Ashes: An Autobiography*. Holt, New York.

Stevenson, Robert L., et al.

1973 "Untwisting The News Twisters: A Replication of Efron's Study," *Journalism Quarterly* 50 (Summer): 211–219.

Summers, Harrison B.

1958 *A Thirty-Year History of Programs Carried on National Radio Networks in the United States: 1926–1956*. Ohio State U. Speech Department, Columbus. (Repr. Arno Press, 1971)

Surgeon General. Scientific Advisory Committee on Television and Social Behavior

1972 *Television and Growing Up: The Impact of Televised Violence*. Report of the Committee to the Surgeon General. GPO, Washington, D.C.

Surlin, Stuart H., and Bradley, Les

1974 "Ascertainment Through Community Leaders," *Journal of Broadcasting* 18 (Winter): 97–107.

Survey and Data Services

- 1973 "The President and the Media: An Evaluation of Credibility Among the Public." CBS News, New York.

Swisshelm, George

- 1973 Oct. 15 "As Barter Branches Out, Will It Foul Spot's Well?" *Television/Radio Age*: 23-25, 56-60.

Tate, Charles, ed.

- 1971 *Cable Television in the Cities: Community Control, Public Access, and Minority Ownership*. Urban Institute, Washington, D.C.

Taylor, John P.

- 1973 Sept. 3 "With Microwave and Satellites Passing Blue-Sky Stage, Webs Could Give AT&T a Loud Hang-up," *Television/Radio Age*: 26-31, 67.
 1974 July 8 "'Two-Way' Pay-Cable System Automates Many Functions, Including Monitoring Audience," *Television/Radio Age*: 22-26, 84-88.

Tebbel, John

- 1969 *The American Magazine: A Compact History*. Hawthorn, New York.
 1975 *The Media in America*. Crowell, New York.

Television Digest, Inc.

- Annual *Television Factbook*. Television Digest, Washington, D.C., 1945-

Television/Radio Age

- 1973 Dec. 10 "FM's Share of Audience Spikes 11% in Past Year: RADAR IX": 38-40, 81-86.

Theall, Donald F.

- 1971 *The Medium Is the Rear-View Mirror: Understanding McLuhan*. McGill-Queen's U. Press, Montreal.

Thompson, A. H.

- 1956 *Television and Presidential Politics*. Brookings, Washington, D.C.

Thompson, Robert L.

- 1947 *Wiring a Continent: The History of the Telegraph Industry in the United States, 1832-66*. Princeton U. Press, Princeton, N.J. (Repr. Arno Press, 1972)

Thompson, Thomas

- 1971 Dec. 10 "The Crapshoot for Half a Billion," *Life*: 46-58.

Time

- 1957 Apr. 22 "The \$60 Million Question": 78-82.
 1970 Apr. 27 "Soundings on the Right": 19.
 1971 Apr. 12 "The Art of 'Cut and Paste' ": 56.
 1971 Dec. 27 "The Fellow on the Bridge": 57.
 1972 Nov. 27 "Purge Week": 58.

- 1973 July 9 "The Reselling of the President?": 20–21.
 1974 June 3 "Nixon's Defenders Close Ranks": 13.

Tobin, Richard

- 1971 Jan. 9 "The Second Half Century of Radio," *Saturday Review*: 39–40.

Toohey, Daniel W.

- 1972 "Section 399: The Constitution Giveth and Congress Taketh Away," *Educational Broadcasting Review* 6 (February): 31–37.

Toohey, Daniel W.; Marks, Richard D.; and Lutzker, Arnold P.

- 1974 *Legal Problems in Broadcasting: Identification and Analysis of Selected Issues*. Great Plains National Instructional Television Library, Lincoln, Nebr.

Townley, Richard

- 1974 Mar. 9 and 16 "The News Merchants," *TV Guide*: 6–11, 13–18.

Toynbee, Arnold

- 1962 *America and the World Revolution and Other Lectures*. Oxford U. Press, New York.

Troldahl, Verling C.

- 1966 "A Field Test of a Modified 'Two-Step Flow of Communication' Model," *Public Opinion Quarterly* 30 (Winter): 609–623.

Tunstall, Jeremy, ed.

- 1970 *Media Sociology: A Reader*. U. of Illinois Press, Urbana.

Turner, Ernest S.

- 1953 *The Shocking History of Advertising*. Dutton, New York.

TV Guide

- 1973 Apr. 7 "As We See It" (editorial): 4.
 1973 Sept. 22 "As We See It" (editorial): 4.

Twentieth Century Fund

- 1974 *Openly Arrived At*. Report of the Task Force on Broadcasting and the Legislature. Twentieth Century Fund, New York.

Tyler, Tracy

- 1933 *An Appraisal of Radio Broadcasting in the Land-Grant Colleges and State Universities*. National Committee on Education by Radio, Washington, D.C.

Udell, Gilman, comp.

- 1972 *Radio Laws of the United States*. GPO, Washington, D.C.

Unesco (United Nations Educational, Scientific and Cultural Organization)

- Annual *Statistical Yearbook*. Unesco, Paris, 1963– .
 1953 *News Agencies: Their Structure and Operation*. Unesco, Paris. (Repr. Greenwood Press, 1971)
 1975 *World Communications: A 200 Country Survey of Press, Radio, Television, Film*. 5th ed. Unesco, Paris.

United Church of Christ

[1970] *Racial Justice in Broadcasting*. UCC, New York.

Upton, Monroe

1962 *Electronics for Everyone*. Signet, New York.

1964 *Inside Electronics: The How and Why of Radio, TV, Stereo, and Hi-Fi*. Devin-Adair, New York.

US (United States Reports)

1888 *People's Telephone Co. v. American Bell Telephone Co.* 126 US 1.

1919 *Schenck v. U.S.* 249 US 47.

1931 *Stromberg v. California.* 283 US 359.

1933 *F.R.C. v. Nelson Bros.* 289 US 282.

1934 *Radio Corporation of America, et al. v. Radio Engineering Laboratories, Inc.* 293 US 1.

1940 *F.C.C. v. Sanders Bros.* 309 US 470.

1942 *C.B.S. v. U.S.* 316 US 407.

1943 *N.B.C. v. U.S.* 319 US 190.

1943 *Marconi Wireless Telegraph Company of America v. U.S.* 320 US 1.

1945 *Associated Press v. U.S.* 326 US 1.

1945 *Ashbacker Radio Corp. v. F.C.C.* 326 US 327.

1948 *U.S. v. Paramount Pictures, Inc.* 334 US 131.

1951 *Dennis v. U.S.* 341 US 494.

1952 *Public Utilities Commission v. Pollack.* 343 US 451.

1953 *F.C.C. v. R.C.A.* 346 US 86.

1955 *F.C.C. v. Allentown.* 349 US 358.

1957 *Roth v. U.S.* 354 US 476.

1959 *Farmers Educational Cooperative v. WDAY.* 360 US 525.

1964 *New York Times v. Sullivan.* 376 US 254.

1964 *Grove Press v. Gerstein.* 378 US 577.

1965 *F.T.C. v. Colgate-Palmolive.* 380 US 374.

1965 *Estes v. Texas.* 381 US 532.

1967 *Associated Press v. Walker.* 388 US 130.

1968 *U.S. v. Southwestern Cable.* 392 US 157.

1968 *Fortnightly Corp. v. United Artists Television.* 392 US 390.

1969 *Red Lion v. F.C.C.* 395 US 367.

1971 *Rosenbloom v. Metromedia.* 403 US 29.

1971 *U.S. v. New York Times and Washington Post.* 403 US 713.

1971 *WHDH v. F.C.C.* 403 US 923.

1973 *C.B.S. v. Democratic National Committee.* 412 US 94.

1973 *Miller v. California.* 413 US 15.

1974 *National Cable Television Association v. U.S. and F.C.C.* 415 US 336.

1974 *Miami Herald v. Tornillo.* 418 US 241.

1974 *Gertz v. Welch.* 418 US 323.

U.S. Army. Chief Signal Officer

1919 *Report to the Secretary of War*. GPO, Washington, D.C. (Repr. Arno Press, 1974)

USIA (United States Information Agency)

1972 *39th Semiannual Report to Congress, July/December 1972*. USIA, Washington, D.C.

Van Bol, Jean-Marie, and Fakhfakh, Abdelfatah

1971 *The Use of Mass Media in the Developing Countries*. Bibliographical Enquiries No. 1. International Centre for African Social and Economic Documentation, Brussels.

Vanocur, Sander

1972 "How the Media Massaged Me: My Fifteen Years of Conditioning by Network News," *Esquire* (January): 82–85, 146–150.

Variety

1971 Feb. 17 "Reasoner-Smith Newscast on Upside, but Primary Preempts a Hex to ABC": 36.

Varis, Tapio

1974 "Global Traffic in Television," *Journal of Communication* 24 (Winter): 102–109.

Vaughn, Robert

1972 *Only Victims: A Study of Show Business Blacklisting*. Putnam, New York.

Videofreex

1973 *The Spaghetti City Video Manual*. Praeger, New York.

Vitt, Sam

1967 "The 30-Second Commercial: Spot TV's Newest Trend." Association of National Advertisers, New York.

1972 Dec. 18 "The 15-Second Commercial," *New York Times* advertisement: 67C.

Vronitsyn, S.

1965 "The Modernization of Soviet Propaganda," *Institute for the Study of the USSR Bulletin* (Munich) 12 (October): 32–39.

Waldron, Martin

1973 Jan. 28 "Johnson, Virtually Penniless in 1937, Left a Fortune Valued at \$20 Million," *New York Times*: 43.

Waldrop, Frank C., and Borkin, Joseph

1938 *Television: A Struggle for Power*. Morrow, New York. (Repr. Arno Press, 1971)

Waller, Judith

1950 *Radio, the Fifth Estate*. 2d ed. Houghton Mifflin, Boston.

Warner, Harry P.

1948 *Radio and Television Law*. Matthew Bender, Albany, N.Y.

1953 *Radio and Television Rights*. Matthew Bender, Albany, N.Y.

- Weaver, Sylvester L.
1955 May 30 "The Form of the Future," *Broadcasting-Telecasting*: 56.
- Weinberg, Meyer
1962 *TV and America: The Morality of Hard Cash*. Ballantine, New York.
- Weiner, Peter
1973 *Making the Media Revolution: A Handbook for Video Tape Productions*. Macmillan, New York.
- Weiss, Walter
1969 "Effects of Mass Media of Communication." In Lindzey and Aronson 5: 77-195.
- Westley, Bruce H., and MacLean, Malcolm S.
1970 "A Conceptual Model for Communications Research." In Sereno and Mortensen: 73-82.
- Westman, Harold P., ed.
1945 *Radio Pioneers, 1945*. Institute of Radio Engineers, New York.
- Wetmore, R. Evans
1974 "DATE: A Digital Audio System for Television," *Journal of the SMPTE* 83: 180-185.
- Whale, John
1969 *The Half-Shut Eye: Television and Politics in Britain and America*. St. Martin's, New York.
- White, David M.
1950 "The 'Gate Keeper': A Case Study in the Selection of News," *Journalism Quarterly* 27 (Fall): 383-390.
- White, David M., and Averson, Richard
1968 *Sight, Sound, and Society: Motion Pictures and Television in America*. Beacon Press, Boston.
- White, Llewellyn
1947 *The American Radio*. U. of Chicago Press, Chicago. (Repr. Arno Press, 1971)
- White, Paul
1947 *News on the Air*. Harcourt, Brace, New York.
- White, Theodore
1969 *The Making of the President*. Atheneum, New York.
- Whitehead, Clay T.
1971 Address at NAEB 47th Annual Convention, Miami Beach, Oct. 20. In Barrett, 1973: 219-225.
- Whiteside, Thomas
1969 Sept. 27 "The Man from Iron City," *New Yorker*: 47-92.
1975 March 17 "Shaking the Tree," *New Yorker*: 41-90.

- Whitfield, Stephen, and Roddenberry, Gene
1968 *The Making of Star Trek*. Ballantine, New York.
- Whitman, Alden
1973 Mar. 3 "William Benton Dies Here at 73, Leader in Politics and Education," *New York Times*: 1.
- Whitney, Dwight
1974 July 20 "Cinema's Stepchild Grows Up," *TV Guide*: 21–26.
- Wiebe, Gerhardt D.
1951 "Merchandising Commodities and Citizenship on Television," *Public Opinion Quarterly* 15 (Winter): 679–691.
1970 "Two Psychological Factors in Audience Behavior," *Public Opinion Quarterly* 33 (Winter): 523–536.
- Wiener, Norbert
1950 *The Human Use of Human Beings*. Houghton Mifflin, Boston.
1961 *Cybernetics*. 2d ed. MIT Press, New York.
- Wilson, H. H.
1961 *Pressure Groups: The Campaign for Commercial Television*. Rutgers U. Press, New Brunswick, N.J.
- Winick, Charles, et al.
1973 *Children's Television Commercials: A Content Analysis*. Praeger, New York.
- Wolf, Frank
1972 *Television Programming for News and Public Affairs: A Quantitative Analysis of Networks and Stations*. Praeger, New York.
- Wolfe, Charles H., ed.
1949 *Modern Radio Advertising*. Funk & Wagnalls, New York.
- Wolfe, Harry D., et al.
1966 *Evaluating Media*. National Industrial Conference Board, New York.
- Wood, James P.
1958 *The Story of Advertising*. Ronald, New York.
1971 *Magazines in the United States*. 3d ed. Ronald, New York.
- Wood, Richard
1969 *Shortwave Voices of the World*. Gilfer Associates, Park Ridge, N.J.
- Wood, Robert D.
1972 "Facts and Fallacies About First Runs and Reruns." Address to Hollywood Radio and Television Society, Sept. 12.
- Wright, Robert A.
1972 Nov. 26 "In Los Angeles, Even Cars Ride Into Airport on Radio Beam," *New York Times*: 23.

- Wyckoff, Gene
1968 *The Image Candidate: American Politics in the Age of Television*. Macmillan, New York.
- Yale University. Committee on Freedom of Expression
1975 Report. Yale U., New Haven, Conn.
- Yellin, David G.
1973 *Special: Fred Freed and the Television Documentary*. Macmillan, New York.
- Yin, Robert K.
1973 *Cable Television: Applications for Municipal Services*. Rand Corporation, Santa Monica, Calif.
- Yu, Frederick T. C., ed.
1968 *Behavioral Sciences and the Mass Media*. Russell Sage, New York.
- Zeidenberg, Leonard
1971 Sept. 20 and 27 "The Struggle over Broadcast Access," *Broadcasting Special Report*: 32-43, 24-29.
1974 July 15 "The Making of the FCC: 1974," *Broadcasting*: 32-38.

Index

- AAAA, see American Association of Advertising Agencies
- Abbott and Costello, 173–174
- ABC, see American Broadcasting Company
- Access: to consumer information, 447; and localism doctrine, 329–330; to means of expression, 405–406. See also Localism doctrine
- Access channels, CATV, 116, 195–197, 379
- Accuracy in Media (AIM), 409
- Action for Children's Television (ACT), 450
- Actors' Equity, 303
- ADIs, see Areas of dominant influence
- Administration, of stations, 219
- Administrative Law Judge (ALJ), 133, 324, 348
- Administrative Procedure Act of 1946, 411
- Advertising: acceptability of, 280; in broadcasting v. print media, 271; case against, 262–264; case for, 264–267; clutter, 268–269, 275; cooperative, 284; corrective, 431; creative aspects of, 291–295; editorial, 403–405; effects of, 260–262, 478; expenditures for, 257 (table), 258 (table); exposure to, 256n; and First Amendment, 381; growth rate of, 259 (fig.); as inducement to violence, 299; integration of, 270–271; length of, 274–275, 276 (table); local, network, and national spot, 285–286; loudness of, 274, 360n, 369; major buyers of, 287 (table); market for, 256–258; on noncommercial stations, 365–366; as percentage of sales, 258; persuasive, 262; public attitudes toward, 267–269; rates for, 275–280; regulation of, 368–369; as reinforcement, 266; routing of, 290 (fig.); salience of, 274–275; as station format, 156; styles of, 274; as subsidy, 258, 260; unethical, 153, 337, 360–361; vehicles for, 271–274; Volkswagen, 291–292. See also Federal Trade Commission
- Advertising agencies: boutique, 289, 295; early, 288, 292–293; functions of, 286–291; largest, 289 (table); program control by, 122, 168–169
- Advertising Council, 263
- Advisory opinions, 347
- Advocates, 185
- AETC decision, 366
- Affluence: age of, 261, 263, 264; as pictured in television, 15, 298–299
- AFRTS, see American Forces Radio and Television Service
- Afternoon Film Festival, 175
- AFTRA, see American Federation of Television and Radio Artists
- Agency, see Advertising agencies
- Agenda-setting function of media, 477
- Agnew, Spiro T., 407
- AGVA, see American Guild of Variety Artists
- Aided-recall interview, 239
- AIM, see Accuracy in Media
- Alexanderson, Ernst, 100
- All-channel receivers: radio, 157; television, 167
- Allen, Fred, 171
- Allied Artists Television, 172
- All in the Family*, 177, 463, 480
- All-news radio, 156, 354
- All-Radio Methodology Study (ARMS), 249
- All Things Considered*, 158

- Alternating current (AC), 89
 Alternative media, 159, 195
 Alternator, Alexanderson, 100, 101, 103
 Am, see Amplitude modulation
 Amateurs, 93, 94
 America, 4
 American Association of Advertising Agencies (AAAA), 290
 American Bar Association, 429, 495
 American Broadcasting Company (ABC): and antitrust suit, 421; v. CBS and NBC, 306; and feature films, 175; merger with ITT, 394, 425; origins of, 141–142; radio network, 157; television network, 169
 American Council for Better Broadcasts, 444
 American Family, An, 180
 American Federation of Musicians, 138
 American Federation of Television and Radio Artists (AFTRA), 222, 303
 American Forces Radio and Television Service (AFRTS), 3, 15
 American Guild of Variety Artists (AGVA), 222
 American Marconi, 93, 98, 100, 101, 103–104
 American Research Bureau, see Arbitron
 American Society of Composers, Authors, and Publishers (ASCAP), 143–144
 American Telephone and Telegraph Company (AT&T): and cross-licensing, 106, 118–119; intervention in broadcasting, 112–117; and network interconnection, 65, 119; origin of, 87–88; and picturephone, 203; sponsorship of H. V. Kaltenborn, 146; use of audion by, 97–98; and wireless telephony, 101; withdrawal from broadcasting, 118–120
 Amos 'n' Andy, 135, 138, 142, 143, 171, 178
 Ampex, 62–63
 Amplitude, 23
 Amplitude modulation (am), 27, 28 (fig.), 53, 54 (fig.). See also Standard broadcasting
 Announcements: length of, 274–275. See also Advertising; Commercials
 Announcers, 135
 Anonymity, of radio stations, 154
 Antennas: am, 30; CATV, 74; directional, 31–32, 38, 44, 53; fm, 42; function of, 29–30; height of, 38; MDS, 73; microwave relay, 67 (photo.); optimum length of, 94–95; satellite, 68–69, 70 (photo.), 71 (fig.); television, 54 (fig.), 55 (photo.)
 Anticommercials, 403–404
 Antitrust laws, and self-regulation, 435. See also Monopoly
 Appeals, right to, 325
 Applications Technology Satellite (ATS-F), 70–71
 Arbitron: ADIs, 228, 229 (map); method used by, 238–240
 Areas of dominant influence (ADIs), 228, 229 (map)
 ARMS, see All-Radio Methodology Study
 Armstrong, Edwin, 98, 100, 149
 Army-McCarthy hearings, 503
 Arnold, Harold D., 97
 ASCAP, see American Society of Composers, Authors, and Publishers
 Ashbacker doctrine, 359
 Associated Press: 85, 145–146; 1945 case involving, 391; 1967 case involving, 382
 As the World Turns, 147
 AT&T, see American Telephone and Telegraph Company
 Atlantic cable, 84
 ATS-F, see Applications Technology Satellite
 Attenuation: of radio waves, 31; of satellite signals, 67–68; of sound energy, 25; of uhf signals, 52
 Auctions, fund-raising, 366
 Audience: characteristics of, 252–255, 470–471; composition of, 241, 243–244; and flow concept, 246; research, 226–227, 251–252, 310
 Audience participation programs, 147
 Audimeter, 239–241
 Audion, 95–98
 Audit Bureau of Circulation, 226–227
 Augmentation: of CATV services, 191–192; of satellite receivers, 70; of telephone calls, 250
 Aurthur, Robert Alan, 171
 Austro-German Telegraphic Union, 126
 Authoritarianism, 6–7
 Autobiography of Miss Jane Pittman, 176
 Automation, 64, 194
 Ayer & Son, N. W., 288
 Balance, in news: fallacy of, 410
 "Banks and the Poor," 313
 Barefoot in the Park, 177
 Barter, in advertising, 282
 Batman, 309
 BBC, see British Broadcasting Corporation
 BEA, see Broadcast Education Association
 Belgium, 6
 Bell, Alexander Graham, 85
 BEM decision, 404
 Benny, Jack, 142, 153, 171

- Benton, William, 292–293
 Bergen, Edgar, 142
 Berle, Milton, 163
 Berlin Convention of 1906, 127, 128
Beverly Hillbillies, 173
 Bias: in news and public affairs programs, 408–410; socioeconomic, 298–299
Big Surprise, 299
 Billing, fraudulent, 284–285
 Bill of Rights, 371–373, 389
 Bimodality, 177, 255
 Binary code, 27, 57, 84
Black Journal, 312
 Blacklisting, 301–305
 Blackstone, William, 384
 Black weeks, 238n
 Blanking signal, 49
 Block booking, 175
 “Blue Book,” 350, 423, 424, 426
 Blue Network, 120, 141–142
 BMI, see Broadcast Music, Inc.
 Bonanza, 173
Book Beat, 188
 Boomerang effect, 463
 Boutique agency, 289, 295
 Boycotts, 307–308, 444
 Brand loyalty, 265
Bridge on the River Kwai, 175
 Brinkley, David, 171
 British Broadcasting Corporation (BBC): effects of monopoly on taste, 309–310; as paternalistic system, 10; professionalism of, 12; programs on PBS, 184–185; as television pioneer, 160
 British Marconi, 91, 93, 103–104
 Broadband cable systems, 76, 200–203
 Broadcast Education Association (BEA), 439
 Broadcasting: as advertising medium, 262; as attention-getter, 7; as “commerce,” 332–333; comparison of U.S. and world, 1–4, 9–10, 16–17; conservatism of, 378; and consumerism, 443–444; cost to consumer, 258–260; definition of, 102, 107–108, 114–116, 327–329; experimental, 98–99; first station, 110–111; influence of U.S., abroad, 14–16; monopolistic nature of, 392; physical nature of, 5, 21; public image of, 469–470; research, 457–460; role of, in social unrest, 298–299; toll, 116–117; types of stations, 36 (table); world, 2 (table), 3 (table), 4–14, 53, 336–337. See also Effects of broadcasting; Radio broadcasting; Television
 Broadcast Music, Inc. (BMI), 144
 Brokers, time, 282–283, 287–288, 357
 Brown, Les, 439–440, 442
 Burch, Dean, 421, 428, 453
 Burns and Allen, 142
 Cable: Atlantic, 84, 101; coaxial, 65, 66 (fig.), 74
 Cable television, see Community antenna television
 Call letters: authority to designate, 323; international regulation of, 337
 Canada, 13
 Candidates for political office, see Political candidates
 Canon 35, 495
 Carnegie Commission on Educational Television: on competition, 13; concept of network, 186; public broadcasting concept of, 441; report, 182–183; on technology, 199
 Carriage rules, CATV, 192–194
 Carrier current, 73
 Carrier wave, 26, 38
 Carter case, 429–430
 Cartridge: tape, 61; video, 64
 Cases and decisions, see specific cases and decisions
 Cassettes: tape, 61; video, 64
 Catharsis, 491–492, 509
 CATV, see Community antenna television
 Caveat emptor doctrine, 267–268, 443
 CBS Incorporated: and all-news radio, 156; and audience research, 251–252; and jawboning by executive branch, 421; origins of, 120–121; radio network, 136; and Surgeon General's study, 493; talent raid by, 142; television network, 168
 CBS Reports, 385
 CCIR, see International Radio Consultative Committee
 Cease-and-desist orders: FCC, 336; FTC, 337
 Censorship: of news, 407–408; as previous restraint, 384–386
 Central Intelligence Agency, 385n
 Chain broadcasting regulations: content of, 363–365; origin of, 141–142. See also Networks
 Channel capacity: am, 38–39; definition of, 21–22, 26; fm, 43; of motion pictures, 44–46
 Channels: CATV, 194–197; clear, 40–42; in communication research, 469; definition of, 22, 26; fm, 42, 149; intermixture of vhf and uhf, 424; picture, 44–47; reservation of, 42,

- Channels (cont.)
 124–125, 165–166, 181–182, 222–223; sale of, 429; specifications of, 52 (table); standard broadcast, 40 (table), 41 (table), 132; television, 51–52; types of, 21–22
- Channel 10 case, 414
- “Checkers” speech, 498
- Children: socialization of, 489–490; viewing by, 254–255
- Children’s programs, commercials in, 276, 448
- Children’s Television Workshop, 183, 184
- Chilling effect, as form of previous restraint, 385
- Christian Crusade, 383
- “Christmas in Korea,” 171, 179
- Cigarette advertising ban, 217, 380, 403
- Cinéma vérité, 180
- Circulation area, 228, 229
- Citizens Committee case, 360n, 450
- Citizens Communication Center, 359, 449
- Civilisation, 184
- Civil Rights Act of 1964, 338
- Clark, Dick, 171
- Clearance, network: economics of, 215; operation of, 305–309; right of preemption, 364; White House attack on, 420
- Clear and present danger test, 376
- Clear channels, 40–42
- Clerk-Maxwell, James, 90–91
- Clipping, of network programs, 284–285
- “Cliquot Club Eskimos,” 124 (photo.)
- Clooney, Rosemary, 265
- Closed circuit mode: in CATV, 75, 194; in television, 56, 59
- Clutter, advertising, 268–269, 274–275
- Coaxial cable: in CATV, 74; origin of, 65, 66 (fig.)
- Coincidental telephone method, 238–239, 247–250
- Colgate-Palmolive case, 368
- Color television, 56–57, 161, 163–164
- COLTRAM, see Committee on Local Television and Radio Audience Measurement
- Columbia Broadcasting System, see CBS Incorporated
- Columbia University Bureau of Applied Social Research, 469, 470
- Commentary, radio, 145, 146
- Commercial clutter, 268–269, 274–275
- Commercialism: opposition to, 123–124; origins of, 116–117; and pluralistic systems, 11–12; triumph of, 121–122. See also Advertising; Public broadcasting
- Commercials: in children’s programs, 276, 448; editorial, 403–405; legal definition of, 343, 346; length of, 274–275; logging of, 343–344, 344 (fig.), 346–347; political, 498, 500–504; program-length, 370; refutation of, 403–404; ways of integrating, 270–273. See also Advertising; NAB Codes
- Commission, agency, 280, 290–291
- Commission on Civil Disorders, 298
- Commission on Obscenity and Pornography, 380
- Committee on Local Television and Radio Audience Measurement (COLTRAM), 249
- Committee on Nationwide Television Audience Measurements (CONTAM), 247–248
- Common carriers: and access concept, 379, 406; and broadcasting concept, 115, 328; definition of, 327
- Communication process: 21–22, 23 (fig.), 465
- Communication research, see Research, communication
- Communications Act: constitutional basis of, 319–320; constitutionality of, 332–334; criticism of, 134; enforcement provisions of, 335–336; licensing provisions of, 326–327; passage of, 133; program regulation by, 330–332. See also Federal Communications Commission
- Communication theories, 473–474
- “Communist Encirclement,” 401
- Community antenna television (CATV): access channels of, 195–197, 406; advertising on, 193; consensus agreement on, 367; and copyright, 194, 339n; development of, 190–192; dimensions of, 190; distribution system of, 75 (fig.); and education, 196; FCC rules on, 193–195, 366–368; impact on broadcasting, 192–194, 484–485; leased time on, 197; and obscenity laws, 379; origination by, 194–197; promise of, 199–203, 387; rural, 192; state regulation of, 191; subscriber terminals for, 202 (fig.); and subscription television, 197–199; technology of, 74–76; two-way systems, 201; urban, 191–193
- Community needs, ascertainment of: myth of, 424–425; by public broadcasting stations, 366; rules for, 352–355, 525
- Comparative hearings, 348–349, 422
- Competition, preservation of, 425. See also Monopoly
- Complaints to FCC, public, 355, 356 (table), 358, 401
- “Composition of the traffic” doctrine, 375

- Computers, CATV and, 77
- Comsat: earth station, 70 (photo.); and FCC, 366; satellite, 71 (photo.)
- Confidence levels in survey research, 236–237
- Conglomerates, 390, 393–394
- Congress: balance of power between president and, 372, 502, 504; broadcast hearings of, 503; investigation of *ex parte* cases by, 413–414; investigation of ratings by, 245; oversight of FCC, 340–341, 418–419; passage of Communications Act by, 133–134; passage of Radio Act of 1927 by, 131; plan to broadcast sessions of, 503–504; recording studios of, 502–503; role in broadcast regulation, 319–321. *See also* Presidential television; Section 315
- Congruence, 466
- Conrad, Frank, 108–109
- Constitution, U.S.: fear of, 372–373; justification for broadcast regulation in, 320; on patents, 86. *See also* Communications Act; First Amendment
- Construction Permit (CP), 326, 327
- Consultants: for news, 497; for radio programs, 156; as syndicators, 172
- Consumerism: abuses of, 451–453; and advertising, 431; and broadcasting, 444; development of, 267, 380–381, 411, 443; mechanisms of, 444–448; and negotiated settlements, 448–451
- Consumers: manipulation by advertising, 263–266, 267–268; representation before FCC, 422
- CONTAM, *see* Committee on Nationwide Television Audience Measurements
- Content analysis: of fictive populations, 488; of news programs, 408; role in research, 468–469; of violence, 490–491
- Contour, coverage, 31, 228–229
- Coolidge, Calvin, 131, 498
- Cooperative advertising, 284
- Co-production, 4, 184
- Copyright: and CATV, 144, 194; legal basis of, 86; and music, 143–144; statutory, 339
- Corporation for Public Broadcasting (CPB): and congressional broadcasts, 504; description of, 183; legal basis of, 334–335; and NPR, 158; station funding by, 224. *See also* Public broadcasting; Public Broadcasting Service
- Corrective commercials, 403n, 431
- Corwin, Norman, 138
- Cost per thousand (CPM), 243–244
- Counteradvertising, 403, 431
- Coverage areas, 31, 39–40, 191, 228, 229
- CPB, *see* Corporation for Public Broadcasting
- C.R.A.M., *see* Cumulative Radio Audience Method
- Credibility, media, 470
- Criticism of broadcasting: basis for, 510; influence of, 439–440
- Crosby, Bing, 171, 265
- Crosby, John, 170
- Cross-channel affiliation, 393
- Cross-licensing: broadcasting phase, 118–120; prebroadcasting phase, 106–107
- Crystal receiver, 112 (illus.)
- Cultural democracy, 309–311
- Culture, effect of broadcasting on, 504–507
- Cumulative Radio Audience Method (C.R.A.M.), 250
- Cumulative rating (cume), 231
- Cycle, 24 (illus.); definition of, 23
- DATE, 26
- Daytime-only stations, 40
- Defamation, 381
- Definition, picture, 44, 45 (fig.)
- DeForest, Lee, 99 (photo.); broadcasting experiments of, 98–99, 107; and invention of audion, 96–97; Marconi suit against, 93; and motion picture sound, 98
- Delayed broadcasts, 339n
- Deletion, license, 360–363
- Delivery, *v.* distribution in mass media, 65
- Della Femina, Jerry, 295
- Democratic Convention of 1968, 487, 495
- Demographics: and CPM, 243–244; and program preferences, 255; in research, 470–471
- Demonstrations, and deceptive advertising, 368
- Department of Commerce, 133, 142
- Depression, radio in, 137–138
- Deputy Dawg, 173
- Dial-access, 200
- Diaries, in audience research, 239, 240 (fig.), 247, 249
- Diffusion: of information, 486–488; of innovations, 474
- Diode, 96
- Directional antennas, *see* Antennas
- Direct mail advertising, 257
- Directors' Guild of America, 222
- Direct waves, 32–34
- Disc jockeys (DJs): evolution of, 147–148; on television, 171; in Top 40 format, 154
- Discounts, in advertising, 280–281
- Distribution: by relay, 65; by satellite, 69

- Diversification: in comparative hearings, 349, 350, 393; lack of, 422–423; and monopolies, 391; of program sources, 215–218
- Documentaries: charges of bias in, 408–410; clearance for, 306–307; radio, 145–146; television, 179–181
- Doerfer, John C., 413
- Domsats, 69
- Double billing, 284
- Double-system sound recording, 62
- Dragnet, 173
- Drive-time, 253
- Drop-in channels, 166n, 170
- Drug lyrics, 155, 380
- Dumont Network, 169
- Duopoly, 364
- Durr, Clifford, 416
- DX listening, 110
- Dynamic range, fm, 43
- Earth station, 70 (photo.)
- EBU, see European Broadcasting Union
- Economic injury, law of, 333
- Economics, of noncommercial broadcasting, 222–225
- Edison, Thomas A., 87, 89, 96
- Edison effect, 96
- Editing, of actuality, 496–497
- Editorial advertising, 403–405
- Editorializing by licensee, 146, 397–398
- Edsel, failure of, 264
- Educational radio: origins of, 124–125, 150–152. See also National Public Radio; Public broadcasting
- Educational Television Facilities Act of 1962, 182, 334
- Education for broadcasting, 438–439
- Effectiveness of mass media, conditions for, 477–479
- Effects of broadcasting: on conduct of government, 500–504; on consumption, 260–264; on diffusion of information, 486–488; functional perspective on, 475–477; on high culture, 504–507; on other media, 481–485; on politics, 497–500; problems of analyzing, 471–473; on shape of events, 495–497; on social change, 485–486; as socialization, 488–490; on social violence, 491–494; theories about, 473–474; varieties of, 480–481; on Vietnam War, 487–488
- 8XK, 108
- Eisenhower, Dwight D., 1952 campaign of, 293–294
- Electrical transcription (ET), 60
- Electromagnetic energy, 29
- Electromagnetic spectrum: description of, 27–30; as public property, 5, 319
- Electron gun: in pickup tube, 48; in receiver, 54
- Embassy Newsreel Theater, 482–483
- Emerson, Thomas I., 373n
- Employment: in broadcasting, 220–222; fair, 338, 359, 447
- Encoding-decoding process, 22
- Enforcement, of FCC rules, 335–336, 422–427
- Engineering practice, standards of, 133
- Engman, Lewis A., 430
- Equal time law, 330–332, 395–397, 401
- Equitability of service, 329–330
- Escape function of media, 475–476, 507
- Estes case, 495
- ETV Facilities Act of 1962, 157–158
- European Broadcasting Union (EBU), 4
- Eveready Hour, 288
- Exclusivity of affiliation, 364
- Executive branch, intervention by, 419–422, 428. See also Nixon, Richard M.
- Ex parte interventions, 348, 349, 362, 413–414
- Experimental methods in research, 472–473
- Export of programs: by U.K., 4; by U.S., 14–16
- Face the Nation, 420n
- Facsimile, 56, 77, 150, 200
- Fairness doctrine: applicability of, 401–402, 405–406; complaints concerning, 356 (table); development of, 398–400; and local access, 329–330; and monopoly, 391; paradox of access under, 405; and “Pensions” case, 409–410; and personal attack rules, 383; and political broadcasts, 402–403; in practice, 400–401; theoretical basis of, 375
- Family standards, 357n
- Faulk, John Henry, 303–304
- Feature films, on television, 175, 217, 483
- Federal Communications Commission (FCC): and advertising regulation, 368–369; budget of, 341; CATV rules of, 193–194, 366–368; commissioners of, 413–418, 427; and consumer, 422, 446, 451; discretionary powers of, 323–324; and editorial advertising, 403–405; enforcement powers of, 335–336; fee schedule of, 191; functions of, 321–322; hybrid role of, 340; inconsistency of, 412; jurisdiction of, 320; leniency of, 297–298, 423–424; licensing powers of,

- 326–327; opinion writing by, 412; organization of, 341, 342 (fig.); origin of, 134; and prior restraint, 384–386; program criteria used in licensing, 350–352; reform of, 427–429; rules and regulations of, 341, 343, 345–347; as “traffic officer,” 375; workload of, 341
- Federal Election Campaign Act of 1972, 331
- Federal Radio Commission (FRC), 132–133
- Federal Trade Commission (FTC): history of, 411; and monopoly, 392; and rating research, 246; reform of, 429–431; regulation by, 294, 337, 368
- Feedback, theory of, 465
- Feedback circuit, 97
- Fees, FCC, 191, 327, 341
- Fessenden, Reginald, 100, 111
- Fiber optics, 77
- Fiction, role of violence in, 488–489, 491–492
- Fictions, regulatory, 422–427
- Fiduciary responsibility, 374, 400, 423
- Field, Cyrus W., 84
- Field frequency: motion picture, 47; television, 48
- Film: sizes of, 44–45; sound, 46 (photo.)
- Films, see Feature films
- Firing Line*, 185, 188
- First Amendment: and access to means of expression, 405–406; and advertising, 381, 404; and broadcasting, 373–375; and Communications Act, 333–334; and editing function, 409–410; and equal time rule, 395; exceptions to, 375–377; fear of, 372–373; and libel, 381–384; and monopoly, 391–392; New Left view of, 387–388; and obscenity statutes, 377–379; origin of, 371–372; and peaceful social change, 485–486; and prior restraint, 384–386; and social value test, 379–381
- First-run syndication, 174–175, 215
- Fleming, Ambrose, 96
- Flicker: in motion pictures, 46–47; in television, 48–49
- Flipper, 172
- Fly, James, 415–416
- Food and Drug Administration, 337
- Ford, Gerald R., 502
- Ford Foundation, 172, 181, 184
- Foreign-language programs: monitoring of, 356, 357; scheduling of, 10
- Forfeitures, 336
- Format change, opposition to, 348, 450
- Formula radio, 154–157
- Forsythe Saga, 4, 184, 312
- Foundations, role in public broadcasting, 224 (table), 312
- Fourth network: commercial, 170; noncommercial, 185–188
- Frame, sampling, 234
- Frames: motion picture, 44–47; television, 48
- Fraud statute, 332, 337–338
- Fraudulent billing, 284–285
- FRC, see Federal Radio Commission
- Freberg, Stan, 291
- Freedom of expression, see First Amendment
- Free enterprise, see Private enterprise
- “Free form” radio, 154
- Freeze, television, 162–167
- French Chef*, 184
- Frequency: as coverage factor, 39; as determinant of wave behavior, 31–34; frame and field of, 45–49; of sound waves, 25
- Frequency modulation (fm): advantages of, 42–43; advent of, 149–150; auxiliary services of, 56–57; basis of, 27; functional, 150, 329; reserved channels of, 151–152; revival of, 156–157; in television, 53
- Frequency spectrum: characteristics of, 33 (fig.); divisions of, 31 (table); of electromagnetic energy, 30 (fig.)
- Friendly, Fred, 179, 187n
- Friends of the Earth* case, 403
- FTC, see Federal Trade Commission
- Functional fm, 150, 329
- Fund for Adult Education, 223, 312, 441
- Gain, 53–54
- Galbraith, John Kenneth, 262–264
- Gatekeeping, 467–468
- General Electric: and Alexanderson alternator, 101; and audion, 97; and cross-licensing, 106; origin of, 89; and RCA, 103, 104, 141; and television research, 161; and 10-watt fm, 151
- Geosynchronous orbit, 68
- Geritol* case, 430
- German Federal Republic, 12–13
- Gertz case, 383
- Ghosts, in television, 191
- Giveaway programs, legality of, 381
- “Giving the people what they want,” 309–311
- Global village, 195
- “Glow and flow” concept, 508
- Godfather*, 175
- Gone With the Wind*, 175
- Gould, Jack, 171, 439, 440

- Grade A contour, 228–229
 Gratification function, 475, 507–509
 Gray, Elisha, 85
 Great Debates, 331–332, 498–499
 Ground waves, 32–34, 38–39
 Group ownership, 214, 392–393, 423
 Guiding Light, 147
- Haldeman, H. R., 499
 “Harvest of Shame,” 16
 Headend, in CATV, 74, 197
 Headmaster, 177
 Hearings: broadcast of, 503; comparative, 348–349, 422; on renewals, 359; rights to, 324–325
 Hee Haw, 177
 Hennock, Frieda B., 416 (photo.), 417–418
 Here’s Lucy, 173
 Hertz, Heinrich, 26, 91
 Hertz (Hz), 26, 91
 Heterogeneity, of broadcast audience, 81
 High fidelity, 150
 High frequency (hf) bands, 43 (table)
 Hindenburg dirigible fire, 143
 Holland, 6, 11
 Home Box Office, 198–199
 Homogenization, of culture, 505, 506
 Hooks, Benjamin L., 417 (photo.)
 Hoover, Herbert, 114, 130 (photo.), 322
 Hope, Bob, 153, 171
 Hospital, 185
 Households using radio (HUR), 232
 Households using television (HUT), 232, 233 (fig.)
 Hughes Television Network, 169
 “Hunger in America,” 408, 409
 Huntley, Chet, 171, 304
 Hybrid communication systems, 71–73
 Hypoing, 175, 238n, 246, 350
- IATSE, see International Alliance of Theatrical Stage Employees
 IBEW, see International Brotherhood of Electrical Workers
 Iconoscope, 161, 165 (photo.)
 ID (station identification), 271n, 345
 IFRB, see International Frequency Registration Board
 Image orthicon tube, 161
 Impeachment proceedings, broadcast of, 486–503
 Imported signals in CATV, 192
- Income of broadcasting, 208 (table), 209–210
 Independent Broadcasting Authority, in U.K., 12
 Independent regulatory agencies, 340–341
 Inertia, tuning, 253
 Information control, 467
 Information theory, 21–22, 465
 Innovation v. invention, 86–87
 Instant analysis, 421
 Instantaneous rating, 231
 Instant replay, 64, 149
 Instructional Television Fixed Services (ITFS), 72, 442
 Integrated circuits, 96
 Intelsat, 68, 71 (fig.)
 Interactive terminals, of CATV, 75–76, 197, 201–202
 Interconnection facilities, 119
 Interdepartmental Radio Advisory Committee (IRAC), 321
 Interference: by adjacent channel, 37; by co-channel, 37–38; electrical, 27; in 1922–1972 period, 128–131
 Interlace scanning, 161
 International Alliance of Theatrical Stage Employees and Moving Picture Machine Operators of the United States and Canada (IATSE), 222
 International broadcasting treaties, 336–337
 International Brotherhood of Electrical Workers (IBEW), 222
 International Frequency Registration Board (IFRB), 337
 International News Service, 144
 International Radio and Television Organization (OIRT), 4
 International Radio Consultative Committee (CCIR), 336–337
 International Telecommunication Union (ITU), 126–127, 336–337
 International Telegraphic Convention, 126
 International Telephone and Telegraph Corporation (ITT), 394, 425, 431
 Interstate Commerce Act, 127
 Interstate Commerce Commission, 340, 411
 Intervening variables, 462
 Interviewers, influence of, 248
 Invasion from Mars, 463, 479
 Invention v. innovation, 86–87
 Investment, in broadcasting: by industry, 208 (table), 209 (table); by public, 189, 207, 258, 260
 Ionosphere, 32 (fig.), 38

- IRAC, see Interdepartmental Radio Advisory Committee
I Spy, 178
 ITFS, see Instructional Television Fixed Services
- Japan, 13
Japanese Film Festival, 188
 Jawboning, 357n, 421
 Jefferson, Thomas, 372
 Johnson, Lyndon B.: broadcast interests of, 182, 419n; and presidential television, 502
 Johnson, Nicholas: and consumerism, 446; as critic of FCC, 416–417; on professionalism, 436
 Journalism schools, 461
Julia, 178
 Juvenile Court, 180
- Kaltenborn, H. V., 146
 KDKA, 99, 113 (photo.), 174, 337, 498; origin of, 109–110
 Kennedy, John F., 83, 181, 332, 486
 Kennedy, Robert, 490
 KFKB, 136; loss of license by, 136–137
 KGEF, 137
 Kinescope recording, 62
 Kinescope tube, 54, 57
 King, Martin Luther, 490
 Kirkpatrick, Miles W., 430
 Klapper, Joseph: on effects studies, 471; on Surgeon General's study, 493; on violence, 491
 Klein, Paul, 177, 252–253
 KOA, 337
 KPTV, 167
 KQED, 184
 KQW, 110
 KREM-TV, 402
 KSL, 451–452
 KTAL, 449, 453
 KTTV, 450
 KUHT, 181
 KYW, 231
- Laissez faire doctrine, 390
 Langmuir, Irving, 97, 98
 Laser, 77
 Lasswell, Harold, 466–467, 475
Laugh-In, 177
 Law of the press, 338
- Lawrence Welk Show*, 174
 Lazarsfeld, Paul, 251, 464
 Leaks, news, 501
 Leapfrogging, 192–193
 Least Objectionable Program Theory (LOP), 252
Leslie Uggams Show, 178
 Libel: Faulk case, 303–304; law of, 381–384
 License(s): deletion of, 136–137, 361 (table); obtaining, 347–349; operating rules for, 355–357; for operators, 326n; program criteria in granting, 350–352; revocation and nonrenewal of, 335–336, 360–363
 Licensees: disclosure of financial data by, 360; as fiduciaries, 374, 404, 423; legal qualifications of, 327; promises v. performance of, 425–426; qualifications of, 349–350; responsibility for programs, 356–357, 400–401, 405, 425, 453; unethical, 361
 License renewal, 132, 357–360; intervention in, 445–446, 447, 449, 453, 478–479; legal basis for, 327, 335–336; petitions to deny, 451, 452 (table); and policy reform, 428
 Live programming, 169, 170–172
 “Living Should Be Fun,” 400
 Lobbying, 412
 Local advertising, v. network and national spot, 285–286, 287 (table)
 Localism doctrine: and access, 38, 329–330; and ascertainment rules, 352–355; and marginal stations, 296–298; and multiple ownership, 393–394; myth of, 424; in public broadcasting, 186–188; and qualifications of licensee, 350; and substantiality measurement, 352
 Local origination, of CATV, 191–192, 194–197
 Local programming, decline of, 221–222
 Logs: as content analysis, 468; origin of, 133; in public file, 447; rules for, 343, 344 (fig.), 345–347
 Lone Ranger, 142
 Long-play recordings, 60
 Lord and Thomas agency, 292–293
 Lottery statute, 332, 337–338, 381
 Loudness, of commercials, 274, 360n, 369
 Loudspeaker, dynamic, 132
Luci-Desi Comedy Hour, 173
- MacArthur, Douglas, 496
 McCarthy, Joseph, 179, 292, 503
 McGinniss, Joe, 499
 McGovern, George, 500
 Mack, Richard A., 414

- MacLeish, Archibald, 138
 McLuhan, Marshall, 476, 480, 506–507
 McNamee, Graham, 124 (photo.)
 McPherson, Aimée Semple, 129
 Made-for-television feature films, 175–176
 Madison Avenue, 287, 304
 Magazine format, 168
 Magazines, impact of television on, 483
 Magid Associates, Frank N., 497
 Magnetic recording: of pictures, 62, 63 (fig.), 64; of sound, 60–61, 62
 Mail: advertising through, 257; audience, 226–227, 302. See also Complaints to FCC
 Make Believe Ballroom, 147
 Manhattan Sterling CATV system, 195
 “Man Is Ten Feet Tall, A,” 171
 Ma Perkins, 147
 March of Time, 145
 Marconi, Guglielmo, 1, 90–91, 92 (photo.), 103
 Marcuse, Herbert, 387–388
 Marginal stations, 296–298, 423
 Maritime radio, 93–95
 Market, concepts of, 227–228
 Marketplace of ideas, 389–390
 Market research, 227, 251, 265, 293
 Mass communication: development of, 81–83; as field of study, 461
 Mass consumption, 261
 Mass society, 504
 Masterpiece Theatre, 223
 Matt Lincoln, 177
 Maude, 307–308
 Maxwell House Showboat, 293
 Mayflower decision, 397–398
 MBS, see Mutual Broadcasting System
 MDS, see Multipoint Distribution Service
 Mechanical rights, copyright of, 339
 Media management, 499–500
 Media parity, 386
 Medical Center, 473
 “Medical Question Box,” 136
 Medium frequency (mf) band, 30 (fig.), 31 (table), 33 (fig.), 34, 38
 Medium wave broadcasting, 38–42
 Meet the Press, 177
 Meters, in audience research, 239–240, 247
 Methodological studies of ratings, 245, 247–250
 Metropolitan Opera, 163
 MGM-TV, 172
 Microwave relays, 32 (fig.), 65–66, 67 (photo.), 88, 367
 Mike Douglas Show, 174
 Mill, John Stuart, 387–390
 Miller case, 378
 Miniaturization, 96
 Minorities, services to, 153, 244, 298–299, 445, 449
 Minow, Newton, 176, 412, 415, 416
 Mission Impossible, 178
 Mitre Corporation, 201–202
 Mod Squad, 178
 Modulation: of carrier wave, 26–27; in optical sound recording, 62; in telegraphy, 83–84; in telephony, 84–85; by triode, 97
 Moline case, 426
 Monopoly: alleged against networks, 421; by governments, 2, 102; media concentration, 392–394; newspaper cross-ownership, 394–395; types of, 390–391
 Morse, Samuel F. B., 83–84
 Morse code, 84
 Motion, illusion of, 45–46
 Motion pictures: effect of broadcasting on, 482–483; made-for-television, 175–176; sound, 61–62; as syndication, 172–173, 175
 Much Ado About Nothing, 311
 Muir, Jean, 302
 Multiplexing: definition of, 35; in fm, 43, 150; in television, 50
 Multipoint Distribution Service (MDS), 73
 Murrow, Edward R.: as head of USIA, 16; v. McCarthy, 179; and network clearance, 306; and radio documentaries, 145–146; and television documentaries, 171, 178–180
 Musicasting, 150
 “Music Box” memo, 107–108, 115, 119
 Music copyright, 143, 339
 Music formats, radio, 154–156
 Music license fees, 143, 211 (table), 212 (table)
 Mutual Broadcasting System (MBS), 141–143, 157, 169
 Myths of regulation, 422–427
 NAB, see National Association of Broadcasters
 NAB Codes: administration of, 432–435; advertising standards of, 274–275, 276 (table), 369; and children’s programs, 448; content of, 434; critique of, 437; origin of, 432–433; sanitizing effect of, 491; subscribers to, 434 (table)
 Nader, Ralph, 429
 NARBA, see North American Regional Broadcast Agreement

- Narcotizing dysfunction, 492
- National Advertising Review Board, 435
- National Advisory Commission on Civil Disorders, 485
- National Aeronautical and Space Administration (NASA), 71
- National Association for Better Broadcasting, 444, 450, 451
- National Association of Broadcast Engineers and Employees (NABET), 222
- National Association of Broadcasters (NAB): advertising code of, 122; and BEA, 439; and BMI, 143–144; Commissioner Fly and, 416; membership in, 434 (table); at 1925 conference, 322; role of, 433. *See also* NAB Codes
- National Association of Educational Broadcasters (NAEB), 158
- National Association of Television and Radio Announcers (NATRA), 222
- National Broadcasting Company (NBC): and audience research, 250; and chain broadcasting case, 375; corporate character of, 141; defense of “Pensions,” 409–410; and feature films, 175; origins of, 120–121; radio network, 136; Red Network, 141–142; television network, 168–169
- National Commission on the Causes and Prevention of Violence, 489, 490
- National Public Affairs Center for Television (NPACT), 183, 184
- National Public Radio (NPR), 157–158
- National radio conferences of 1922–1925, 122, 131, 322, 327
- National representatives (reps), 286
- National spot advertising, 285–286, 287 (table)
- National Television System Committee (NTSC), 56, 161
- Navy, U.S., 93, 94, 101, 102
- NBC Reports, 409
- Needs: gratification of, 475, 507–509; v. wants, 263, 265–267, 310–311
- NET, 312
- Network advertising, 285–286, 287 (table)
- Network case, 363
- Network clearance: by commercial stations, 305–309; by noncommercial stations, 312–313
- Networks: audiences of, 252–255; cable television, 75; control over programs by, 215; economics of, 212–215; employment by, 221 (table); functions of, 212–213; income of, 209 (table); interconnection of, 65–66, 106–107; numbers of affiliates of, 169 (table); operating expenses of, 211, 212 (table); origins of, 117–118, 120–121; and prime-time access rule, 215–218; program costs of, 214 (table); public television, 185–188; radio, 140–143, 153–154; radio research methods, 250; rates of, 277; regional advertising by, 285n; regulation of, 215, 305–306, 308, 363–365; risk-taking by, 169; rivalry of, in television, 168–170; role in resisting pressures, 308; syndication by, 140–143, 173, 365; as syndicators, 58–59; value to affiliates, 213, 215. *See also* National Public Radio; Public Broadcasting Service
- New Left, 387
- News: balance in, 410; on CATV, 194; complaints about, 356 (table); consultants for, 497; editing of, 497; effects of, on subjects, 494; radio, 144–146; management of, 501; role in local production, 221; selectivity of, 494; staging of, 495–496; syndication of, 85; television, development of, 171; visual bias of, 494
- News and public affairs: and bias, 407–410; clearance for, 306–309; cost of, 214; and laws of the press, 338; and political candidates, 331–332; in station organization, 219; in substantiality measurement, 351, 352 (table); on television, 178–181
- News Council, National, 470n
- Newspapers: development of, 82–83; impact of television on, 484; ownership of broadcasting stations, 394–395; right of reply to, 375
- Newsreels, impact of television on, 482–483
- News wire services: origin of, 85; and radio, 144–145
- New York Times* case, 382
- New York Times*–*Washington Post* case, 384–385
- New Zealand, 13
- Nielsen, A. C., 238, 239, 241
- Nigeria, 6
- Nipkow, Paul, 160
- Nixon, Richard M.: attack on network news, 470; China visit of, 194; debate with Kennedy, 332; impeachment proceedings against, 486; 1960 campaign of, 498; 1968 campaign of, 498, 499; 1972 campaign of, 174n, 499–500
- Nixon administration: and fairness doctrine complaints, 402–403; and First Amendment, 372, 373; news media management

- Nixon administration (cont.)
 by, 419–422, 499–500, 501–502; and
 Watergate hearings, 486
- Noise, 22
- Nonbroadcast video systems, 56–57
- Noncommercial broadcasting, see Educational radio; Public broadcasting
- Noncooperation, in audience research, 235, 245, 248–250
- Nonprofit v. noncommercial broadcasting, 222–223
- Norms, cultural, 474
- North American Regional Broadcast Agreement (NARBA), 336
- Nostalgia, cult of, 135, 170
- Novelty, search for, 177
- NPACT, see National Public Affairs Center for Television
- NPR, see National Public Radio
- NTSC, see National Television System Committee
- Oboler, Arch, 138
- Obscenity: complaints about, 356 (table); law of, 332, 377–379; statute against, 337–338
- O'Connor, John J., 439
- Office of Telecommunications Policy: and CATV regulation, 367–368; functions of, 321; political role of, 186, 419–420
- Off-network syndication, 173, 217
- Offset scanning, 49
- OIRT, see International Radio and Television Organization
- Omnibus, 172
- Open channel, 195
- Operating costs: of networks, 212 (table); of stations, 211 (table)
- Operator licensing, 326n
- Opinion leaders, 464
- Opinion studies, 464, 471, 472–473
- Optical sound recording, 62
- Option time, network, 364
- Origination, local CATV, 191–192
- Outdoor advertising, 257
- Owned-and-operated (O&O) stations, economic role of, 209, 214–215
- Ownership: of broadcast channels, 326–327; limitations on, 393–395; and rule of seven, 423; transfer of, 348, 426–427, 449. See also Licensees
- Pacifica Foundation, 159–160, 314; license renewal hearings, 314
- PAL, 56
- Paley, William, 122
- Paperwork, of licensees, 355–357
- Parasitism, 189–190
- Parsimony Principle, 140, 146–148
- Patents: AT&T, 87–88, 117–118; audion, 97; role of, 86–87, 92, 100. See also Cross-licensing
- Paternalism, 7–8
- Payoffs, of rival applicants, 348–349
- Payola, 260, 283–284, 332
- Pay TV, see Subscription television
- PBS, see Public Broadcasting Service
- Peace Corps, 14
- Penetration, 228
- "Pensions: The Broken Promise," 409–410
- Performance of licensee, past, 351–352
- Performer Q, 252
- Per inquiry (PI) advertising, 282
- Permissivism, 8–10
- Perry Mason, 174
- Persistence of vision, 45–46
- Personal attack rule: Red Lion case, 338–384; 399; WXUR case, 361–362
- Petitions, to deny renewal, see License renewal
- Philco Playhouse, 171
- Phone-in radio talk shows, 148–149
- "Phonevision," 198
- Phonograph, 60,
- Pickup tube, 47–49
- Picturephone, 203
- Picture processing, electronic, 47–49
- Piggyback announcements, 275
- Piracy: of CATV services, 203; of functional fm, 329
- Pirate stations, 11, 362
- Pitch advertising, 272
- Play function of media, 476, 509
- Plugola, 260, 283, 332
- Pluralism, trend toward, 10–14
- Point-to-point satellites, 68–69
- Poitier, Sidney, 171
- Political candidates, equal treatment of, 281n, 330–332, 395–397, 499n
- Politics: and FCC appointments, 414–415; uses of broadcasting for, 497–504. See also Nixon, Richard M.; Nixon administration
- Popoff, Alexander, 1
- Popular art: effects on high culture, 505–506; radio as, 148–149; television as, 176–178
- Portapak recorders, 195
- Poseidon Adventure, 175

- Post Office Department, 133, 337
- Power: AC supply, 132; of am stations, 39, 40; limitations on, 38; in television, 52
- Preemption: of advertising, 281; of programs, 364
- Preferred position, of advertising, 281
- Prefreeze stations, 164
- Presidential television, 402–403, 502
- President's Task Force on Communications Policy, 299, 330
- Press, distinguished from broadcasting, 334
- Press law, 338
- Press-Radio Bureau, 145
- Previous restraint, 384–386
- Prices, role in consumer choice, 261–262
- Prime-time access rule, 215–218, 276, 365
- Print media, impact of television on, 483–484
- Private enterprise: and distribution of stations, 37; v. government monopoly, 2 (table), 9, 102–103; laissez faire doctrine of, 390. See also Economic injury; Fairness doctrine; Fiduciary responsibility
- Privilege, of news media, 381
- Production, role in station organization, 219
- Professionalism, 159, 436–439
- Professor Quiz, 147
- Program analyzer, 251–252
- Program cooperative, PBS, 183, 188, 313–314
- Program guide, publication of, 484
- Program-length commercials, 273, 370
- Program log form, 344 (fig.)
- Programming function, in station organization, 219
- Program performance, of licensees, 322, 351–352
- Programs: cancellation of, 243, 246–247; cost of, 214 (table); criteria for, in licensing, 350–352; economic constraints on, 296–315; legal controls over, 330–332; licensee responsibility for, 356–357, 400–401, 409, 425, 453; live television, 170–172; logging of, 343, 344 (fig.), 345–347, 355; preemption of, 364; preferences for, 255 (table); promises v. performance in, 425–426; public broadcasting v. commercial, 366; public complaints to FCC about, 356 (table); and quiz scandals, 299–301; relevance of, 177–178; sources of, 216 (fig.); syndicated, 172–176; type definitions for, 345–347. See also News and public affairs; program type names and specific program names
- “Project Nassau,” 408
- Promos, 273
- Promotion: definition of, 260; of formula radio, 154; in station organization, 220
- Promotional announcements, 283
- Propaganda: v. advertising, 260n; external services, 3 (table); research on, 461–462
- Propagation theory, 133
- Prosocial behavior, 490
- Provocative programs, 314, 400
- Pseudoevents, 501
- Pseudotravel, 201
- Public broadcasting: as alternative to commercial broadcasting, 440–443; and ascertainment, 425; attacks on, 186–187; coverage of congressional hearings by, 503; economics of, 222–225, 311–315; editorializing in, 332; emergence of, 181–183; funding of, 224; licensees, types of, 185; origin of term, 182; and pluralism, 13–14; and political candidates, 332; regulation of, 365–366; role of strong network in, 314–315, 442–443
- Public Broadcasting Act of 1967, 158, 182–183, 333–335
- Public Broadcasting Service (PBS), 183–185, 188, 313–314, 335, 503
- Public file, contents of, 447
- Public interest standard: in comparative hearings, 351; and localness doctrine, 353; origin of, 322; representation before FCC, 429; role of, 323–324
- Publicity, 260
- Publicity crimes, 496
- Public relations, 220, 260
- Public service announcements (PSAs), 273, 347
- Puffery, 267–268
- Quadruplex recording, 64, 245
- Quiz scandals, 299–301
- RADAR, see Radio's All-Dimension Audience Research
- Radio Act of 1912: content of, 94, 103; failure of, 128–130; origin of, 127–128
- Radio Act of 1927, 130–131, 321–322
- Radio broadcasting: development of, 137–140; impact of television on, 152–153, 482; as popular art, 148–149; renaissance of, 153–157
- Radio Conferences of 1922–1925, 122, 131, 322, 327
- Radio Corporation of America, see RCA Corporation
- Radio Free Europe, 3

- Radio Group, 114–115, 118, 119, 120
- Radio Luxembourg, 8
- Radio receivers: all-channel, 157; development of, 96, 112 (photo.), 108–109, 132; production trends in, 154, 155 (fig.)
- Radio's All-Dimension Audience Research (RADAR), 250
- Radio services, types of, 35 (table)
- Radiotelegraphy: and first broadcast station, 109; newspaper use of, 144; origin of, 93–95, 101; in Titanic disaster, 104, 105 (photo.)
- Radiotelephony, 97–101, 107–108
- Radio Television News Directors Association (RTNDA), 437
- Random digit dialing, 238–239
- Rate cards, 278, 279 (fig.), 280
- Rate protection, 280
- Rates, advertising: bases of, 275–278; differential, 280–285, 297; network control of, 364; for political candidates, 331; terms of, 278–280
- Ratings: collecting data for, 238–243; concepts of, 231–232, 233 (fig.); disclosure of methods of, 245; as estimates, 236–238; as fetish, 152–153; report form of, 242 (fig.); methodological studies of, 245, 247–250; misuse of, 244–247; radio, 249–250; use of samples in, 232–235
- RCA Corporation: and cross-licensing, 106, 119–120; and fm, 149; as independent corporation, 141; origin of, 103–105; and television development, 161
- Rebroadcasting, 72
- Record industry, 482. See also Payola
- Recording: of picture, 62–64; of sound, 60–62
- Recordings: ban on, 142–143, 148; copyright of, 339; as syndication medium, 143–144
- Redeeming social value doctrine, 378, 379–381
- Rediffusion, 74
- Red Lion case, 383, 399–400
- Red Network, 120, 141
- Reeves, Rosser, 261, 293–294
- Registration, of picture, 49
- Regulation: of wire communication, 126–127; of wireless communication, 127–128. See also Communications Act; Federal Communications Commission; Federal Trade Commission
- Regulatory agencies, 411–412. See also Federal Communications Commission; Federal Trade Commission
- Reid, Charlotte, 418
- Reimbursement: of consumer groups, 453; of rival applicants, 348–349
- Reinvestment of profit, 360
- Relay exchange, 72, 74
- Relays: in international broadcasting, 72; in space, 66; terrestrial, 65–66
- Relevance in programming, 177–178
- Religion: and fair employment law, 338; as fairness doctrine issue, 406; program-length commercials for, 370; as program type, 345, 351, 354; and right-wing programs, 361–362, 383
- Remote pickups, 148
- Repeater amplifiers, CATV, 74; telephone, 97
- Representatives, national, 286
- Repressive tolerance, 387–388
- Reruns, 174
- Research: audience, 8, 9, 226–227, 251–252, 310 (see also Ratings); communication, 274–275, 460–466, 471–477; consumer, 293, 381; market, 227, 251, 265, 293
- Reserved channels: for am, 124–125, 150–151; for fm, 42, 151–152; for television, 181–182, 222–223
- Resolution of picture: in print, 44, 45 (fig.); in television, 160–161, 162–163 (photo.)
- Responsibility of licensees, for programs, 356–357, 400–401, 405, 425, 453
- Revenue, broadcasting, 209–210
- Richards case, 407–408
- Rigging: of news stories, 495–496; of quizzes, 300–301, 332, 349
- Rock-and-roll, 156, 171, 354
- Room 222, 178
- Roosevelt, Franklin D., 133, 161, 498
- Rosenbloom case, 382–383
- Roster-recall interviews, 239
- Roth case, 377, 380
- RTNDA, see Radio Television News Directors Association
- Rules and regulations: of FCC, 341, 343, 345–347; of FRC, 133
- Sales function, in station organization, 219
- Sample size, effect of, 235–238
- Sampling, in audience research, 232–235
- Sanders Brothers case, 333
- Sarnoff, David: and “Music Box” memo, 107–108, 115; prediction of network by, 119–120; and RCA, 104–105; as telegrapher, 105 (photo.); in television demonstration, 166 (photo.)

- Satellites, 70 (photo.); and CATV, 77, 193; direct broadcast, 15–16, 69–71, 485; distribution, 69; domestic, 88; point-to-point, 68–69; technology of, 66–68
- Saturation, 288
- Saudek, Robert, 172
- Scanning: description of, 48–49; in magnetic picture recording, 63 (fig.); and resolution, 160–161
- Scanning disc, 164 (photo.)
- Scarcity doctrine, 319, 405–406
- Schenck case, 376
- Schramm, Wilbur, 460, 466, 472
- Scope, 306
- Scott case, 406
- Screen Actors' Guild, 174n, 222
- Scripps Howard case, 394
- SECAM, 56
- Secretary of Commerce, 128–132
- Secret Storm, 175–176
- Section 315 ("equal time" law), 330–332, 395–397, 499n
- See It Now, 171, 179–180
- Seldes, Gilbert, 148
- Selective exposure, 463–464
- Self-regulation: of industry, 432–436; professional, 436–437
- Self-righting process, 374, 391
- "Selling of the Pentagon," 385, 408–409, 496
- Senator, 177
- Sesame Street, 183, 184, 185, 312, 442
- Set tuning, as test of set use, 234
- Share of audience, 233 (fig.), 252
- Shopping guides, 272
- Short-wave broadcasting, 43–44
- Sideband: definition of, 26; single, 50; in standard broadcasting, 38; in television, 51 (fig.)
- Simplexing, 150
- Sinatra, Frank, 265
- Single-system sound, 61
- Siphoning, 192, 193, 310
- Sixth Report and Order, 165–166, 181, 441
- Sixty-Four Thousand Dollar Question, 299
- Sky waves, 32–34, 38–39, 44, 66
- Slander, 381
- Slow-scan television, 56–57
- Smothers Brothers Comedy Hour, 177–178
- SMSA, see Standard Metropolitan Statistical Area
- Soap operas, 147–148, 176
- Socialization, media role in, 467–468, 488–490, 509
- Sonderling case, 378–379
- Song lyrics, 155, 356, 380
- SOS, 128
- Soul, 312
- Sound recording technology, 60–62, 482
- Soundtrack, types of, 46 (photo.)
- Southwestern Cable case, 367
- Spectrum: CATV and overload of, 76–77; electromagnetic, 27–29, 30 (fig.); management of, 34–36, 424
- Sponsor identification, 260n, 332, 343, 369
- Sponsorship, 271–272, 277, 345
- Spot participation commercials, 272, 277
- Staging: by news media, 495; by news subjects, 496
- Standard broadcasting, 38–42
- Standard Metropolitan Statistical Area (SMSA), 228n
- Standard Rate and Data Service (SRDS), 278, 279 (fig.), 280
- Standing to intervene, legal, 358
- Stanton, Frank, 251, 385
- Stanton-Lazarsfeld Analyzer, 251–252
- Star Trek, 174
- Static, 23, 27
- Station authorizations: broadcast, 36 (table); by type of service, 35 (table)
- Station-break spots, 272
- Station identification, 271n, 345
- Station representatives, 286, 365
- Stations: administration of, 219; anonymity of, 154; growth of, 139 (fig.), 140, 170; marginal, 296–298; organizational structure of, 218; ownership of, early, 114 (table). See also *station call letters*
- Stephenson, William, 476, 509
- Stereophony, 150
- Sticks and Bones, 307, 421
- Storecasting, 150
- Storefront Lawyers, 177
- Strike applications, 348–349
- Studio One, 171
- Subscription television (STV): on CATV, 192, 197–199; definition of, 73; "Phonevision" method, 198; siphoning by, 310
- Subsidiary Communications Authorizations, 150, 329
- Substantiality of performance in the public interest, 351–352
- Suburban case, 353
- Sue and Irene, 147
- Sullivan, Ed, 163, 265
- Superheterodyne circuit, 10u, 132

- Superpower, 392
 Surgeon General's violence study, 493–494
 Sustaining programs, 273
 Switzerland, 6
 Symbiosis, media, 482
 Symbolic speech, 376
 Synchronization, in television, 49, 50, 53, 54 (fig.)
 Synchronizing rights in copyright law, 339
 Syndicated programming, 172–176
 Syndication: and consumerism, 451; economics of, 213; effect on local production, 222; inexorability of, 172; by networks, 365; networks as form of, 140–141; of news, 85; and prime-time access rule, 215–218; program consultants and, 156; by recordings, 143–144; technology of, 58–59; use of video tape in, 222n
 Synthesizing of wants, 262

 Talent raid, by CBS, 142
 Tape recording, see Magnetic recording
 Technical functions, in station organization, 220
 Telegraphy, 83–85, 89, 126
 Telephone Group, 114–115, 118
 Telephone interviews, 238–239
 Telephone recall method, 249
 Telephone-talk program, 148–149
 Telephony, 84–85
 Teleprompter CATV interests, 194, 195, 203
 Television: all-channel receivers, 167; emergence as mass medium, 162–163; freeze of 1948–1952, 162–197; impact on radio, 149; live decade of, 170–172; network rivalry in, 168–170; news and public affairs in, 178–181; picture processing for, 47–49; program formats in, 171; quest for higher resolution, 160–161; receivers, 54; signal, 49–51, 53; syndicated programs on, 172–176; system components for, 54 (fig.); transmission of, 53–54; uhf problem of, 167–168; “vast wasteland” of, 176–178; world technical standards for, 52, 53 (table). See also Broadcasting; Public broadcasting
 Telex, 200
 Territorial exclusivity, of networks, 364
 Texaco Star Theater, 163
 Theater television, 73
 Therapy, television as, 508
 Thirty-second commercials, 268–269, 274
 Time classes, commercial, 277–278
 Time-Life Films, 172
 Titanic disaster, 94, 105, 127–128

 Toast of the Town, 163, 177
 Today, 168, 410
 Tonight, 168, 171
 Top 40 formula, 154
 Topless radio, 378–379
 Town Crier, 301
 Toynbee, Arnold, 262–263, 266
 Tradeouts, 282
 Traffic function, in station organization, 220, 347
 Trafficking: of commercials, 271; in licenses, 426–427
 Training, broadcasting, 438–439
 Transistor, 95–96
 Transitcasting, 150
 Translators, 36 (table), 72
 Transponder, 68
 Trial balloons, 501
 Trinity Methodist Church case, 137
 Triode, 97
 Tropospheric propagation, 66
 Tubes: kinescope, 54, 57, 62; pickup, 47–48. See also Audion
 Tuning behavior, 234, 252–255
 TV Guide, 484
 TvQ, 252
 Twentieth Century Reform Hour, 361
 Twenty-One, 299
 Two-step flow, 463–464
 ZK, 110

 Uhf television, 51–52, 167–168, 424
 Ultra high frequency (uhf) band, 30 (fig.), 31 (table), 32 (fig.), 33 (fig.), 34, 51, 52 (table), 167
 Ulysses decision, 377
 Underground television movement, 159, 195
 Underwriting, of public broadcasting programs, 188, 223, 224 (table)
 Unions, 138, 222, 303
 Uniqueness of broadcasting: as advertising medium, 262; as concept, 107–108; and criticism, 510; under First Amendment, 374–375; in law, 327–329, 334; and obscenity laws, 378–379; and public investment, 258
 Unique selling proposition (USP), 294
 United Church of Christ, 445, 446, 447
 United Nations, 3
 United Press, 144
 United Press International, 85
 United States Information Agency (USIA), 14n, 179
 United States Information Service (USIS), 14

- Unlisted telephones, 249
 Usage levels, 253, 254 (fig.), 255
 USSR, 1, 69, 74
- Vacuum tube, 95
 "Vast wasteland" concept, 176–178, 298
VD Blues, 136, 312–313
 Velocity: of radio waves, 25–26; of sound, 25
 Very high frequency (vhf) band, 30 (fig.), 31 (table), 32 (fig.), 33 (fig.), 34, 42, 51, 52 (table), 167
 Viacom Enterprises, 173
 Victory at Sea, 171
 Video tape recording (VTR), 62–64, 170
 Vietnam War, 486, 487–488
 Viewing, amount of, 253–255
 Violence, in television, 298–299, 491–494
 Voice of America (VOA), 14, 44
 Voice of Firestone, 246
 Volkswagen, 291–292
- WAAB, 397
 WAAM, 288
 WABC, 121
 Wallace, Mike, 171
 Wants, of consumer, 262–267
 Warehousing of programs, 193
 Washington Week, 188
 Watergate Committee hearings, 355n, 486, 503
 Waveguide, 77
 Wavelength, 24 (fig.), 25, 26, 29
 Wave motion, 23, 24 (fig.), 25
 Wave propagation, 29–31, 32 (fig.), 33–34
 Waves: direct, 32–34; ground, 32–34, 38–39; radio, 25–26; sky, 32–34, 38–39, 44, 66; sound, 23–25
 WBAI, 159
 WBKB, 168
 WCBS, 121
 WCVB, 306n, 363
 WEA, 109–110, 112–113, 120, 146, 287, 288
 Weaver, Sylvester: innovations of, 168–169, 171; on ratings, 235, 244, 246–247; and subscription television, 198
Wednesday Night Dance, 123
 Welles, Orson, 138, 463
 Western Electric, 88, 96, 119
 Westinghouse: and cross-licensing, 106; origin of, 89; and radio broadcasting, 101, 108–112, 156; and RCA, 141; and television research, 161
 WETA, 184
 WGBH, 184
- WGLD-FM, 378–379
 WGN, 142, 147
What's My Line, 172
 WHCT, 198
 WHDH-TV, 306n; loss of license, 350n, 358, 362–363, 394–395, 398
 White House Office of Communications, 419
 White House tapes, 498n
 "Who says what . . ." formula, 466
Wild, Wild World of Animals, 172
 Wilson, Woodrow, 103
 Wire communication, 83–85, 134
 Wired city concept, 199–200
 Wired radio, 74, 107
 Wireless, 89
 Wireless Ship Act of 1910, 127
 Wireless telegraphy, 93–95
 Wire services, news, 85
 Wiseman, Frederick, 180
 WJAZ, 129
 WJZ, 114, 118
 WLBT, 172; license renewal hearings of, 358, 445–446
 WLW, 142, 392
 WMAF, 118
 WMAL-TV, license renewal negotiations of, 452–453
 WNAC, 117
 WNBC, 120
 WNET, 181, 184, 223
 WNEW, 147
 Woollcott, Alexander, 301–302
 WOR, 142
World Premiere, 175
 World's Fair of 1939, 166
 World War I, 101
 World War II, influence of, 138, 146, 161, 162
 Writers' Guild of America, 222
 WTAF, 167
 WTQX, 450
 W2XMN, 149
 WWJ, 111
 WXUR, 361–362
 WXYZ, 142
- X-rays, 29, 30 (fig.)
- Young, Owen D., 104
Young Lawyers, 177
- Zapple rule, 397
 Zenith case, 129–130
 Zworykin, Vladimir, 1, 160–161, 165 (photo.)

