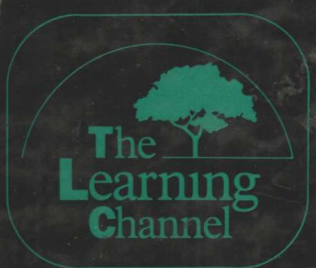
SECOND EDITION

Cable Communication

THOMAS F. BALDWIN
D. STEVENS McVOY



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PRENTICE HALL
Englewood Cliffs, New Jersey 07632

Library of Congress Cataloging-in-Publication Data

Baldwin, Thomas F.
Cable communication / Thomas F. Baldwin, D. Stevens McVoy.
448 p. 15.2 × 22.9 cm.
Includes bibliographical references and index.
ISBN 0-13-110263-X
1. Cable television. I. McVoy, D. Stevens. II. Title.
HE8700.7.B35 1988 87-16109
384.55'56—dc 19 CIP

Editorial/production supervision and
interior design: Fred Dahl
Manufacturing buyer: Edward O'Dougherty

Printed in the United States of America

10 9 8 7 6 5 4 3 2 1

ISBN 0-13-110263-X

Prentice-Hall International (UK) Limited, *London*
Prentice-Hall of Australia Pty. Limited, *Sydney*
Prentice-Hall Canada Inc., *Toronto*
Prentice-Hall Hispanoamericana, S.A., *Mexico*
Prentice-Hall of India Private Limited, *New Delhi*
Prentice-Hall of Japan, Inc., *Tokyo*
Prentice-Hall of Southest Asia Pte. Ltd., *Singapore*
Editora Prentice-Hall do Brasil, Ltda., *Rio de Janeiro*

Preface

The second edition of *Cable Communication* updates all of the original material and adds two chapters. Major changes were required in the chapters dealing with public policy to reflect the 1984 Cable Act. A new section discusses cable's emergence as a First Amendment speaker. Greater emphasis is now placed on renewal of franchises since so much of the U.S. will be in that process in the next few years. With advertising sales developing rapidly as a function in the cable industry, a separate chapter treats the unique character of cable as an advertising medium. Another new chapter, by Joseph Straubhaar, describes cable development outside the United States.

Appendices include the Cable Act of 1984, FCC Rules for local origination, sample access rules, local origination rules, descriptive information on the basic and pay satellite networks, sample advertising production rates, a set of typical operating cost figures for cable systems, procedures for assessing cable-related communication needs and cable audience survey methods.

A great many people made substantial contributions to this book. Georgella Muirhead, public information office for the City of Southfield, Michigan, supplied information about the operation of government channels. Randy VanDalsen, former national coordinator of local origination programming for United Cable, and Robert DiMatteo, *CableVision* magazine, provided material used in the public access and community channels sections.

Barry Litman, in the Department of Telecommunication, Michigan State University, read the original pay cable chapter, making a number of suggestions. Dave Hanson, HBO Chicago, was very helpful in supplying information. Involved in the Michigan State University, Rockford, Two-Way Cable Project were James Cragan, former Rockford, Illinois, Fire Chief; James Wright, then with Rockford Cablevision; and Martin Block, John Eulenberg, Bradley Green-

berg, and Tom Muth. This project provided technical and applications knowledge reported in Chapters 5 and 9. Geoffrey Gates, Cox Cable Communications, read the original Chapters 5 and 9, making numerous useful suggestions.

The National Science Foundation supported work reported in Chapters 5, 9, and 18. Charles Brownstein was the program manager.

Robert Yadon, now with Ball State University, read several sections on business organization and made suggestions that were incorporated. Gil Hernandes, Brian McNamara, formerly of Coaxial Communications, and Frank Prosen, Continental Cablevision, contributed parts of that chapter on business organization. Glenn Friedly, Horizon Cablevision, helped write the section on cable finance, reflecting new business conditions and tax laws. Genelle Armstrong, Director of Customer Service, and Harry Cushing, Director of Field Operations, Coaxial Communications, provided the basic information for the section on customer service. Harry Cushing also reviewed the original chapter on distribution plant design and construction. Doug Grace, Chief Engineer for Coaxial Communications, reviewed the original chapter on headends.

Scott Westerman, Regional Marketing Manager, Continental Cablevision, made numerous contributions to the chapter on marketing. Carol Mackey of AT&T and Ronald Paugh of Ashland College also made contributions to the marketing chapter. Kensinger Jones of Michigan State University, Martin Block of Northwestern University, David Gettys of Coaxial Communications, and Shirley Szabadi of HBO, Los Angeles, contributed to the development of the advertising chapter.

Bruce Franca, of the FCC, responsible for developing the FCC response to the 1984 Cable Act, read all of the public policy sections and made very helpful comments. Robert Whitehead, Bobby Baker, and Rick Kalb of the FCC Cable Branch were also helpful. Wesley Heppler, a communications attorney with Cole, Raywid and Braverman, read parts of the public policy chapters making useful contributions. Todd Simon of Michigan State made numerous suggestions on the interpretation of cable status under the constitution. Sharon Briley of the FCC and Jim Ewalt of NCTA were helpful in the section on state government.

Jean-Luc Renaud, Megumi Komiya, and Charles Steinfield, all of Michigan State University, made contributions to Chapter 17 on cable development outside the United States.

We drew on the work of Carrie Heeter and Bradley Greenberg, both of Michigan State, in the chapter on audiences.

Several people were most helpful in searching out photographs and illustrations: Jessica Baron, Warner Amex, Cincinnati; Sally Cahur, HBO; Linda Holland, Tocom; Shirley Leslie, FCC; John Feight, Scientific Atlanta; Leo Murray, Warner Amex; Harry Cushing, Coaxial Communications; David Anderson, Cox; John Reinhart, Continental; Whit Sibley, X-Press; Sandy Neuzil, Electronic Program Guide; Jim DeBold, Cable Television Network of New Jersey; Lawrence Pike, Silent Network; Caroline Bock, USA Network;

Barbara Shulman, MTV Networks, Inc.; J. I. Taylor, Zenith Electronics Corporation; Marilyn Bellock, CTSS Cable Connect; Dennis Melton, Channelmaster; Alan Taylor, Channelmatic; Molly Seagrave, HBO; Rob Maynor, Disney; Kitsie Bassett, CNN; Susan Swain, C-SPAN; Terri Luke, A. C. Nielsen; Tola Murphy-Baran, Showtime; Kazie Metzger, Group W.

John Duhring recognized the need for this book and was responsible for its original publication by Prentice-Hall.

Reviews of the manuscript for the second edition, by Dan Agostino of Indiana University, Morleen Getz Rouse of the University of Cincinnati, and Manjunath Pendakur of Northwestern University, were extremely helpful.

Ann Alchin handled much of the manuscript typing in East Lansing; Phyllis Podkin in Columbus. Peggy Wong, in Hong Kong, worked on the index. Again, we acknowledge the patience of our families with this continuing project.

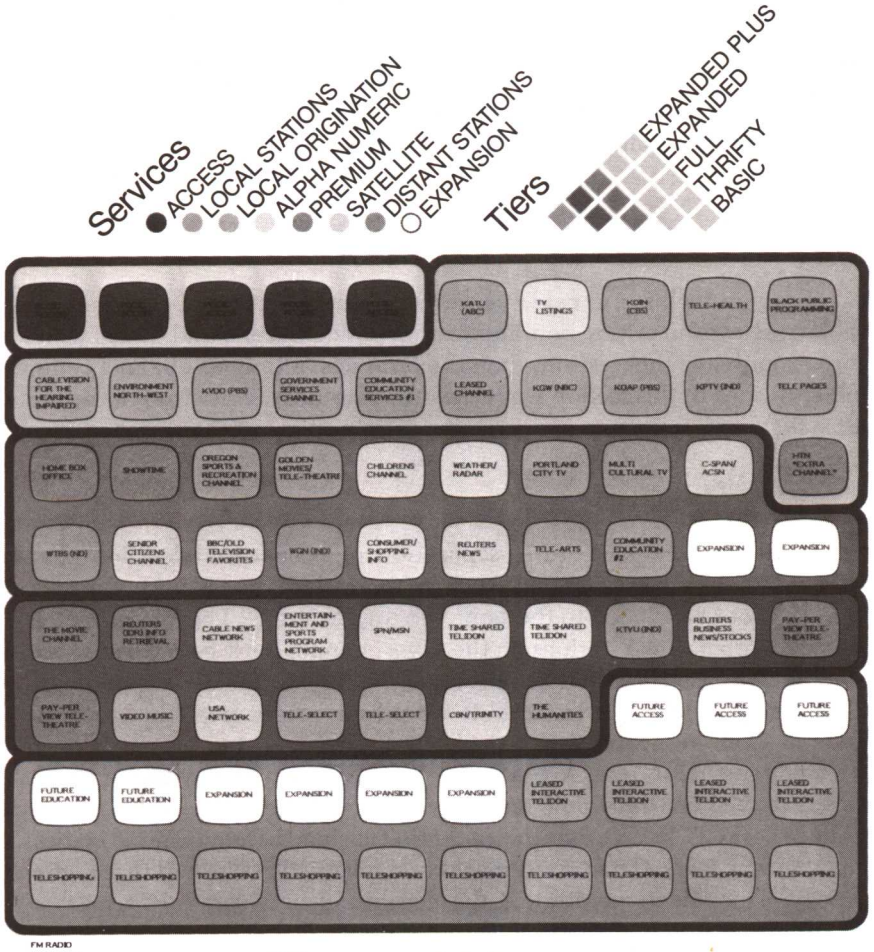
To all these people, we are very grateful.

Contents

CHAPTER 1

Introduction

Channel lineup, Portland, Oregon



Channel Lineup

Starting as a means of capturing broadcast television signals for people at too great a distance from a transmitter or blocked by mountains, cable has grown to be a proliferating television delivery system in cities as well as remote areas. It owes its more recent growth to what economists have called a *consumer under-investment* in television. According to Noll, Peck, and McGowan, "The available evidence from both STV [subscription TV] and cable experience suggests the existence of a considerable unfulfilled demand for television programming, both of the conventional type and a few categories not well represented in the present programs logs."[1] The extent of the unfulfilled demand was not fully appreciated until the late 1970s when satellite-delivered movies, superstations, and other satellite cable networks came into being and cable began selling a wide range of nonbroadcast services. The discovery of this new appetite for television went far beyond the broadcast retransmission business of the original community antenna television (CATV) operators.

Now cable television is everywhere in the United States with the exception of very low-density housing areas where it is not practical and some major cities that are now being franchised and built. Elsewhere in the world, cable is also developing or under consideration.

CABLE PROMISE

Early in its history, cable captured the imagination of communication scholars, television critics, communication policymakers, and others who saw more promise for the medium than the products of limited-channel commercial television. In this section we review the traditional criticisms of the broadcast system and suggest various promises of cable purported to respond to each.

Diversity

Technical factors require separation of broadcast television channel assignments. Adjacent channels (such as channels 7 and 8), with some exceptions, cannot be assigned to the same geographic area.[2] They would interfere with each other. Two stations on the *same* channel must be separated by 150 miles or more, so that their signals don't overlap and make a muddle of the signals for people in the middle. It would have been possible for the FCC (Federal Communications Commission) to have created a system of high-powered regional stations so that every household would have six or more stations available, but this would have sacrificed *local* service, which was a crucial goal of the FCC in creating the table that assigned frequencies to cities. As the table was worked out, most places in the United States had three or fewer stations. This effectively limited the number of networks to three.

In programming television networks, it made better economic sense for each of the networks to aim for the mass audience with similar tastes, that

is, to create the "lowest-common-denominator" programs that would attract a one-third share of the majority.[3] Following this strategy, the networks, and also individual stations programming their own option time, imitated each other's successes, and all television stations were pretty much alike. People who didn't conform to the interests of the mass audience were under-served. Critics and intellectuals railed at this development, but the economic incentives of the commercial television system, under the table of assignments, all favored the system as it existed.

Cable offered an answer—*unlimited* channels: 12, 35, 54, even more. With this abundance, new networks could arise, and, since the commercial broadcast networks served the mass audience well, at least some of the new networks would *have* to be more specialized. With signals beamed from communication satellites to cable system earth stations, this hope for diversity has actually been realized to a degree.

New Opportunities

Another complaint against the broadcast television system arising from the limited-broadcast-channel assignments was the monopoly of communication and market power it gave to a few corporations. The three commercial broadcast networks controlled prime time and much of the rest of the day. This presented a tight market to creative talent. Very few could break in. There was no room to experiment with new ideas. Some felt that, in news and public affairs, television was dominated by a few *white men* in New York and Washington, and in entertainment by *white men* in New York and Hollywood.

Cable could loosen the hold of the networks and their affiliates, as well as open television to new talent and fresh ideas. Certainly cable has provided new options in prime time as the satellite cable networks have emerged. As cable reaches a higher proportion of U.S. homes more new entertainment material will be produced originally for cable, thereby increasing the market for talent and ideas. Now there is a Cable News Network (CNN) with headquarters, not in New York, but in Atlanta, Georgia.

More News

Many have said there is no breadth or depth to broadcast news. Broadcast television is only a headline news service that is not always offered at convenient viewing times. Commercial television stations have expanded news time to what they believe to be the tolerable limits, economically. Only for crisis news events can entertainment programming be sacrificed to news broadcasts.

Cable can devote whole channels to news. A cable system may have CNN and CNN Headline 24-hour news services, local information channels, and two or three full-time text news channels. Cable can present *raw* (unedited)

news—gavel-to-gavel coverage of the U.S. House of Representatives, city council meetings, school boards, trials, special events, and so on.

Many neighborhoods and communities within metropolitan areas are too small to win the attention of the big media—newspapers, broadcast television, and radio—that must cover the entire metro market. Cable can offer community news and information in either full audiovisual or alphanumeric text format.

Access

Critics of broadcast television have lamented the fact that, under the constraints of spectrum scarcity, not everyone can own a station. There is no access to the airwaves comparable to the freedom to print a newspaper or a handbill. Efforts to impose some elements of free expression on broadcast television produced the FCC's Fairness Doctrine and other federal rules that encroached on the freedom of the broadcaster and were not an entirely satisfactory solution.

Cable can provide a community soapbox, giving over one or more channels to the public. Many cable franchises require a public access channel.

Less Commercial Intrusion

Some people are offended by television commercials, although Americans are generally tolerant. The critics say that commercials interrupt program flow, influence television content, are tasteless, and invade viewer privacy.

The cable subscriber can experience commercial-free television on several cable channels in addition to PBS.

Education and Government

Educators and public service providers note that in most countries TV first serves public communication and education needs and then commercial interests, if at all. In the United States it is the other way around. Commercial broadcasting dominated the system and took the best channels first. Education was second, and government public service channels operated in only a handful of cities.

Cable has room for government, education, and library channels. Some cities and cable systems are proud of the innovative uses and accomplishments of these channels.

Interactive Television

Finally, almost everybody is somewhat uneasy about hours of passive television viewing. It doesn't seem healthful for kids, and adults feel guilty about their own viewing.

Interactive two-way cable can offer a modicum of involvement to the television user. Through polling and instant feedback, viewers can have some sense of the rest of the audience. Television can be used as a reference service where the user may order text and graphic information to serve a variety of individual needs.

HISTORY

The origins of cable are humble. There was no vision of its current services and impacts. When broadcast television became a reality for many areas of the country in 1948, people in remote or shielded areas felt a sense of deprivation. Appliance stores and radio repair shops in these areas were denied the booming new business in television. The most imaginative of the appliance dealers and repair persons began to look for a way into the market. Several of them laid claim to the original community antenna television (CATV) system.

One is Robert J. Tarlton of Lansford, Pennsylvania, a radio sales and service person. Lansford was only 65 miles from Philadelphia, close enough to receive weak television signals, but cut off by the Allegheny Mountains. A few venturesome people bought television sets. The reception was terrible. Tarlton went to the top of the mountain in 1949 and tried to set up individual antennas for the set owners. It worked, but it would have resulted in a mountain-top forest of antennas and rivers of cable coming down the hill with tributaries all over town.

Tarlton thought of a better way. He found some friends to invest with him in a company called Panther Valley Television. They built a master antenna at the mountain summit, amplified the weak signals from Philadelphia, and distributed them house-to-house by coaxial cable hung on poles. Panther Valley charged an initial installation fee of $125 and $3 per month. The system brought in the three Philadelphia television stations clearly, and Tarlton began selling television sets.[4]

At the same time, in Astoria, Oregon, Ed Parsons at KAST radio was experimenting with antennas to get television from Seattle for his wife. He ran the wire from his home to a hotel lobby across the street and to a nearby music store. Even earlier, in 1948, John Walson, a power and light maintenance employee and appliance dealer in Mahanoy City, Pennsylvania, claimed to provide a master antenna-cable system. However, all his records were wiped out in a fire.

From 1949, the number of cable systems grew slowly but steadily. By 1961 there were 700 community antenna TV systems. Growth accelerated so that in 1971 there were 2,750 systems serving nearly six million homes.[5] During this period, cable was first providing television to homes that were entirely out of rooftop antenna range of any television stations. Later, cable came